PowerSpec Training Manual

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11/2019

Public

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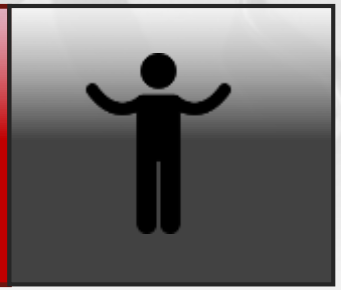
Introduction



Introduction

❑ Purpose

PowerSpec was created by Cummins to be the primary automotive marketing/sales tool, that is used by our customers and sales force to help correctly configure purchased vehicles to optimize performance and fuel economy to best satisfy the customer.

❑ Target Users

Cummins Engine Dealers, Distributors, Customers, Fleets and Truck Factory Engineers.

❑ Supported Engines (On-Highway only, no Industrial support)

- 2007 engine products (ISX, ISM, ISL, ISC, ISB),
- 2010 engine products (ISX15, ISX12, ISL9, ISC8.3 and ISB6.7)
- 2013 engine products (ISX15, ISX12, ISL9, and ISB6.7)
- 2017 engine products (X15 Efficiency, X15 Performance, X12, B6.7N, L9N, ISX12N)
- Some of the Natural Gas products (ISL G and ISX12 G)

❑ Program Distribution

Download at //www.cummins.com/parts-and-service/digital-products-and-services/powerspec

Also available from Cummins Software Shelf.

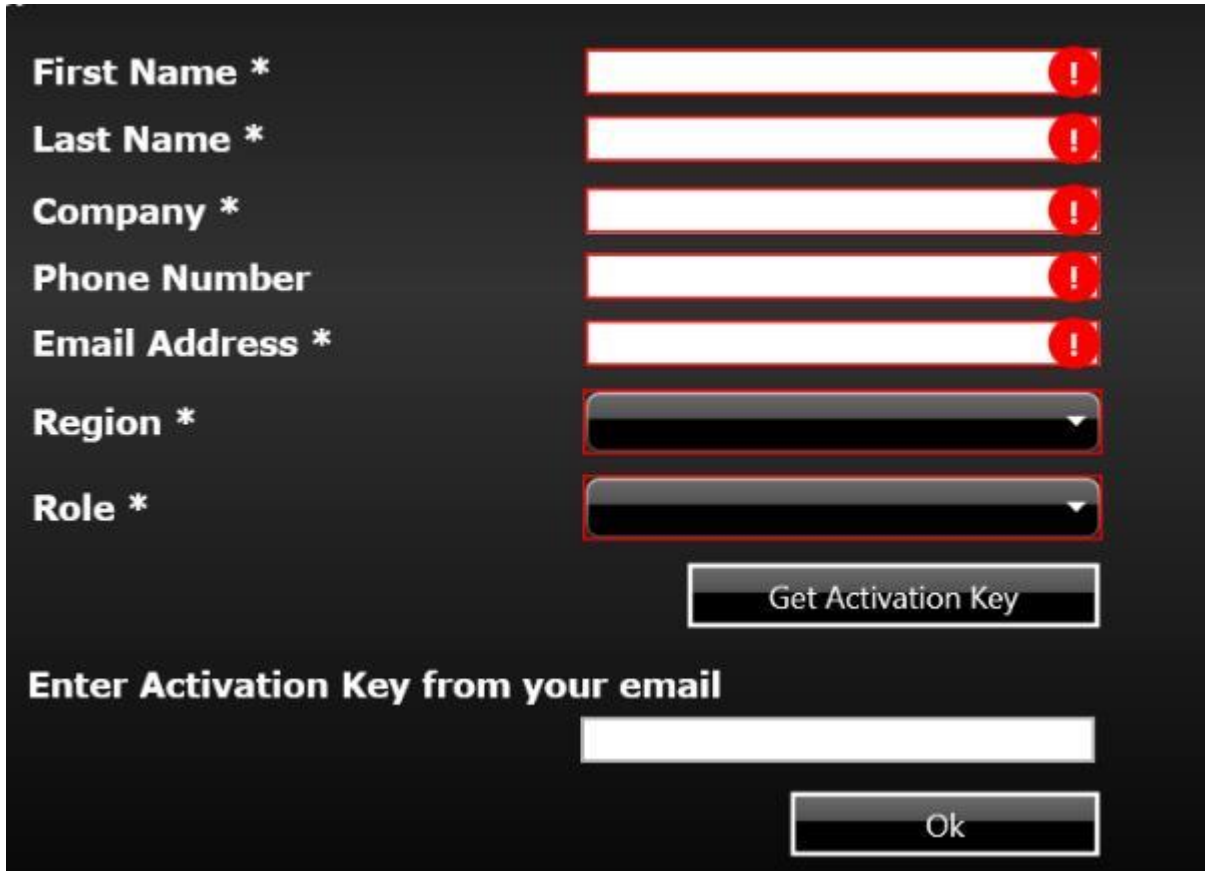
Registration

Registration

- PowerSpec requires users to complete registration when first opening the program
- Menus on the left-hand side will be unavailable until registration is complete
- Registration helps Cummins understand who our customers are and their location
- Internet connection is required

Registration – Continued..

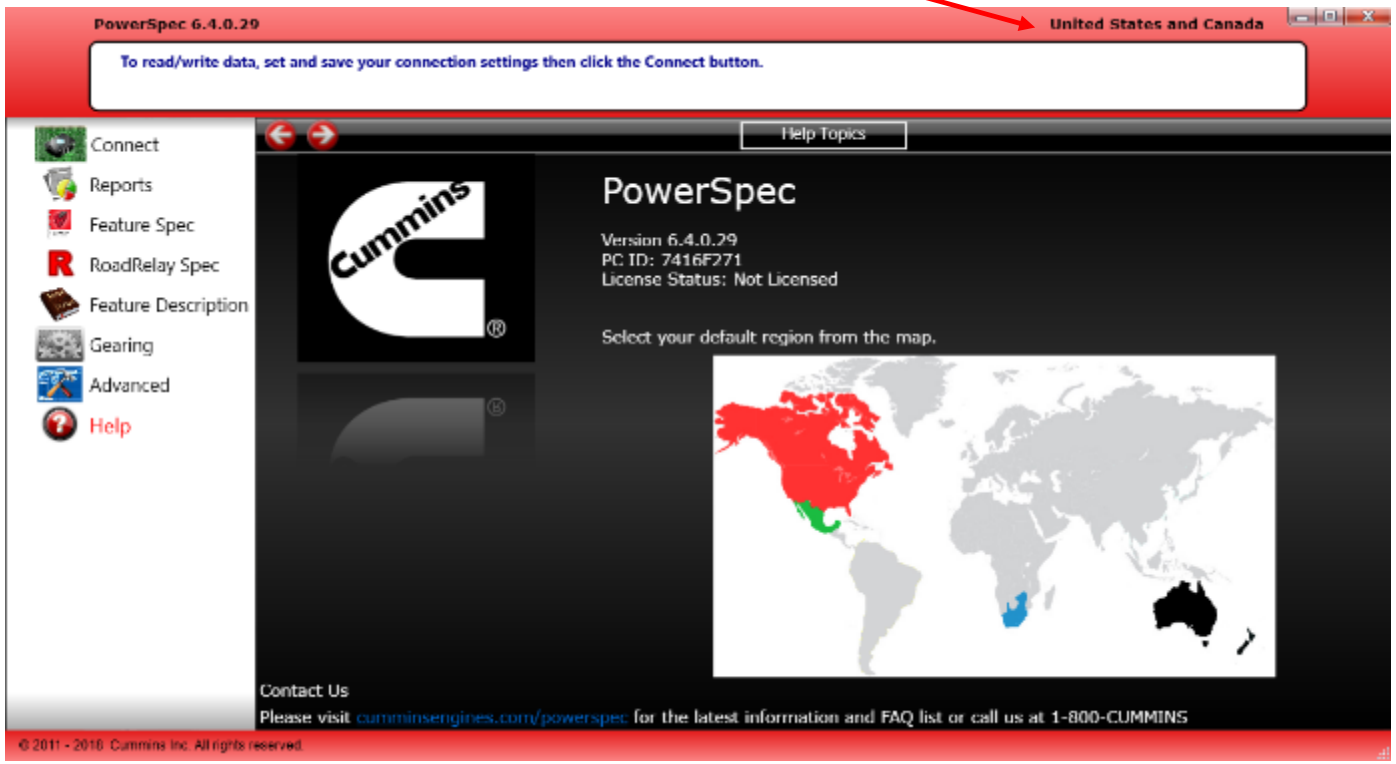
1. Enter **First Name** and **Last Name**
2. Enter **Company** name
3. Enter **Phone Number** name
4. Enter your **Email Address**
5. Select your **Region** from dropdown selection
6. Select your **Role** from dropdown selection
7. Click “**Get Activation Key**” button
8. Retrieve activation key from email
9. Enter activation key
10. Click **OK**



Note: Selections made for Region and Role DO NOT affect access to PowerSpec features.

Registration – Continued..

- Registration is complete and needs to be renewed every year. PowerSpec will notify you when it is time to renew.
- Select your Region by clicking on the region in the map. Your current region setting is displayed in the top right corner.



Configuration Settings

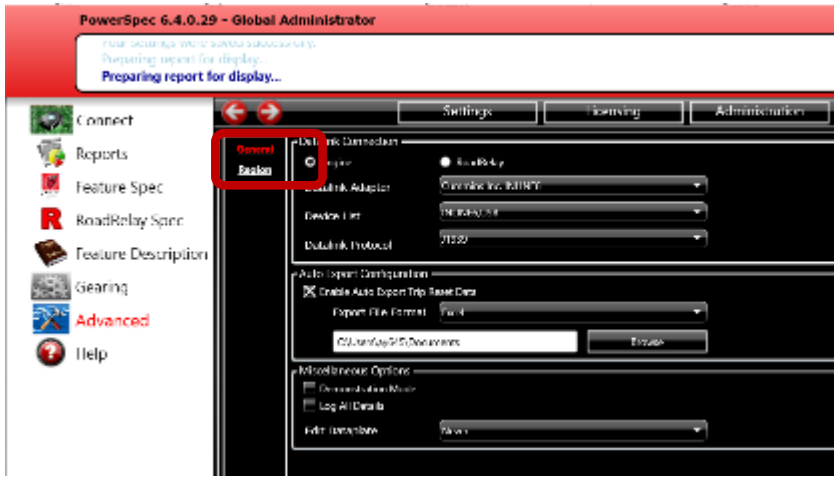
- Data Link Connection
- Auto Export Report
- Miscellaneous Options
- Regional Settings
- Auto Download

Configure Settings – Datalink Connection

❑ Follow the steps below to work on configuration settings:

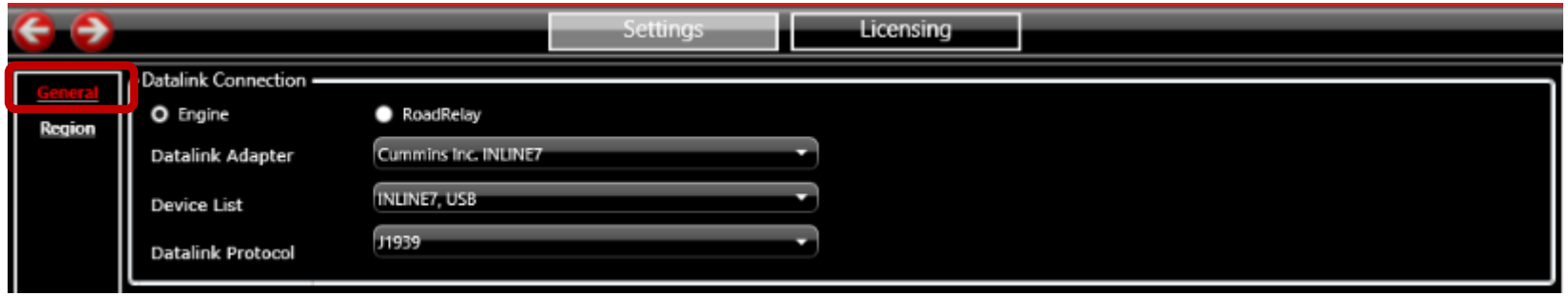
1. Click on the "**Advanced**" menu
2. Click on the "**Settings**" button at the top of the page

3. The Configuration Setting page contains two pages: "**General**" and "**Region**". By default, the "**General**" page will be displayed. In the following slides, the instruction will mention the name of the page when works on a specific configurable item



Configure Settings – Datalink Connection / continued

- Datalink connection needs to be configured prior to connecting to a vehicle
- Follow the steps below to configure datalink settings:
  1. On the "**General**" page, select the type of datalink adapter you are using by clicking on the arrow on the right side of the box. In order to select a datalink adapter, you must first install the driver for the adapter. Contact the adapter manufacturer for the driver.
  2. Select an item from the "**Device List**", it could be the item with USB most of time
  3. Select an item from the "**Datalink Protocol**". If you don't know which one to pick, you can select "**Auto Detect**".



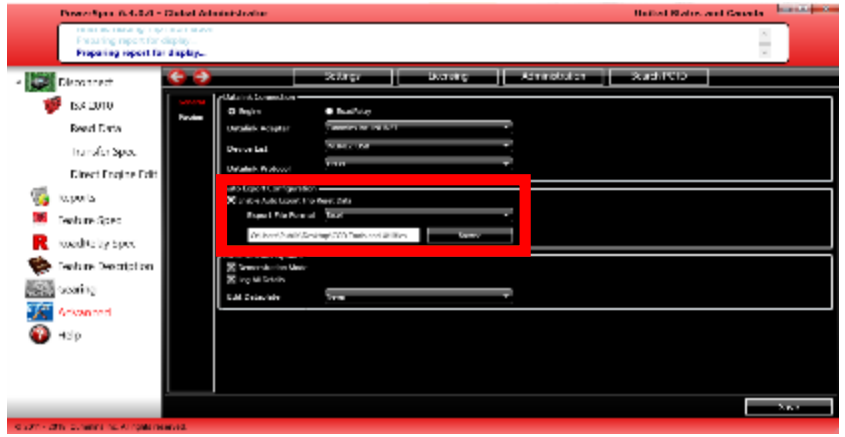
  4. Click the "**Save**" button.

Note : PowerSpec is compatible with the following RP1210 devices:

- Inline
- Noregon
- Nexiq
- Dearborn

Configure Settings – Auto Export Report

- By enabling this feature PowerSpec provides ability to save engine trip report data into desired location automatically when Trip data is read and reset
- The report will be exported, only the reset Trip data is exported
- Follow the steps below to set this configurable item
  1. On the "**General**" page, click "**Enable Auto Export Trip Reset Data**" check box
  1. Select file format
  2. Click the "**Browse**" button to specify your file location
  3. Click the "**Save**" button



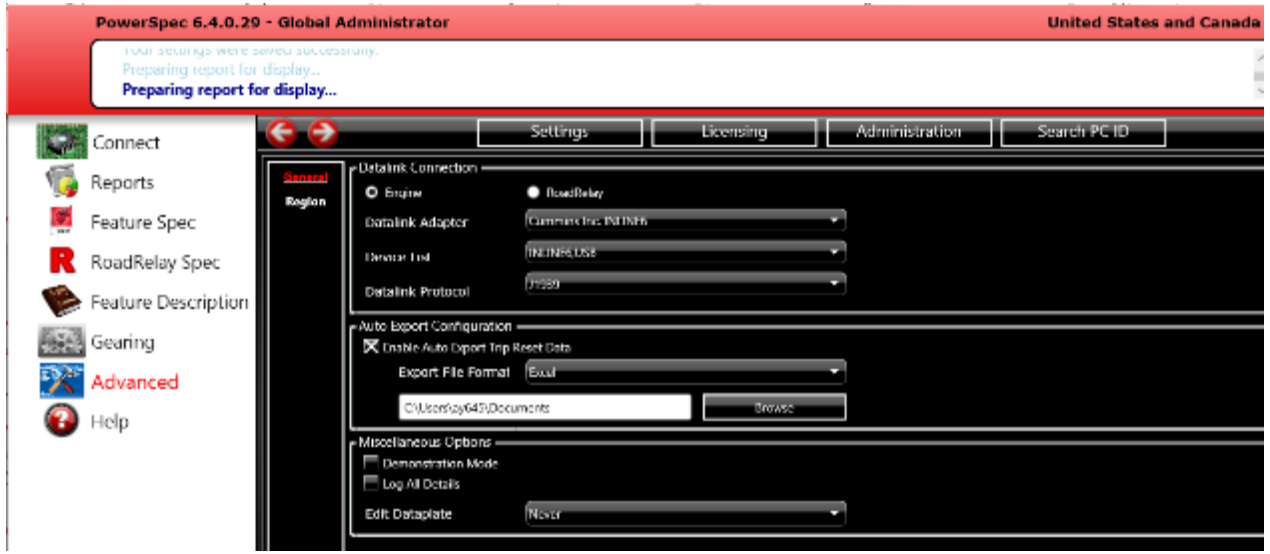
- PowerSpec will display the file name and location after Trip is reset when this feature is enabled

Configure Settings – Miscellaneous Options

On the "**General**" page, there are some options to set the following configurable items:

❑ Demonstration Mode

- ❖ With demo mode, user can learn PowerSpec functions without connecting to a truck
- ❖ Follow the steps below to set demo mode:
  1. Click "**Demonstration Mode**" checkbox
  2. Click "**Save**" button
  3. A virtual engine is now connected



❑ Log Details

- ❖ This function allows user to log more information for troubleshooting purposes
- ❖ Follow the steps below to log detailed information:
  1. Click "**Log All Details**" checkbox
  2. Click "**Save**" button

Note: The log file is located under C:\ProgramData\Cummins\PowerSpec5, file name is Powerspec_log.txt.

❑ Edit Dataplate

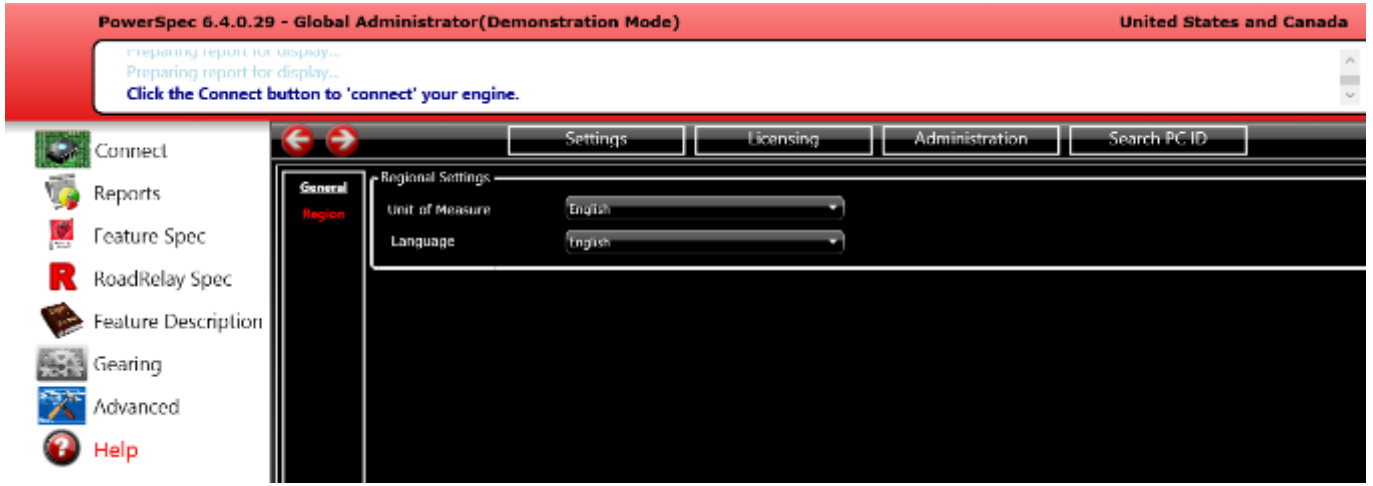
- ❖ With this feature, user can edit dataplate during spec transfer if the unit number is blank
- ❖ Follow the steps below to automatically edit dataplate when Unit Number is blank:
  1. Click "**If blank unit#"** next to Edit Dataplate
  2. Click "**Save**" button

Configure Settings – Region Setting

Click the “**Region**” sub menu, there are two options to set the following configurable items:

- Unit of Measure
  - Follow the steps below to set Unit of Measure:
    1. Click on the arrow on the right side of the box to select the “**Unit of Measure**”
    2. Click “**Save**” button

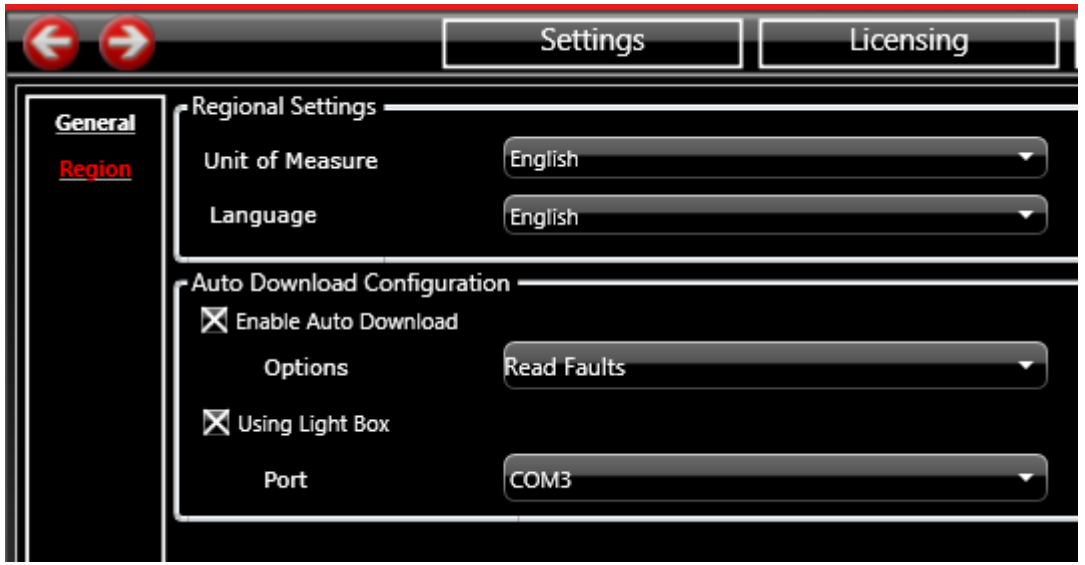
- Language
  - Follow the steps below to set it:
    1. Click on the arrow on the right side of the box to select the “**Language**”
    2. Click “**Save**” button



Configure Settings – Auto Download

- This option is for the Mexico region only.
- The function allows user to connect to a truck automatically and read/reset configured engine data.

- Follow the steps below to set this configurable item:
  1. On the "**Region**" page, click "**Enable Auto Download**" check box
  2. Click the arrow on right side of the **Options** box to select which options will be executed when AutoDownload ran
  3. If a LightBox is to be used, click the "**Using Light Box**" checkbox, and select the "**Port**" the Lightbox is connected to
  4. Click "**Save**" button

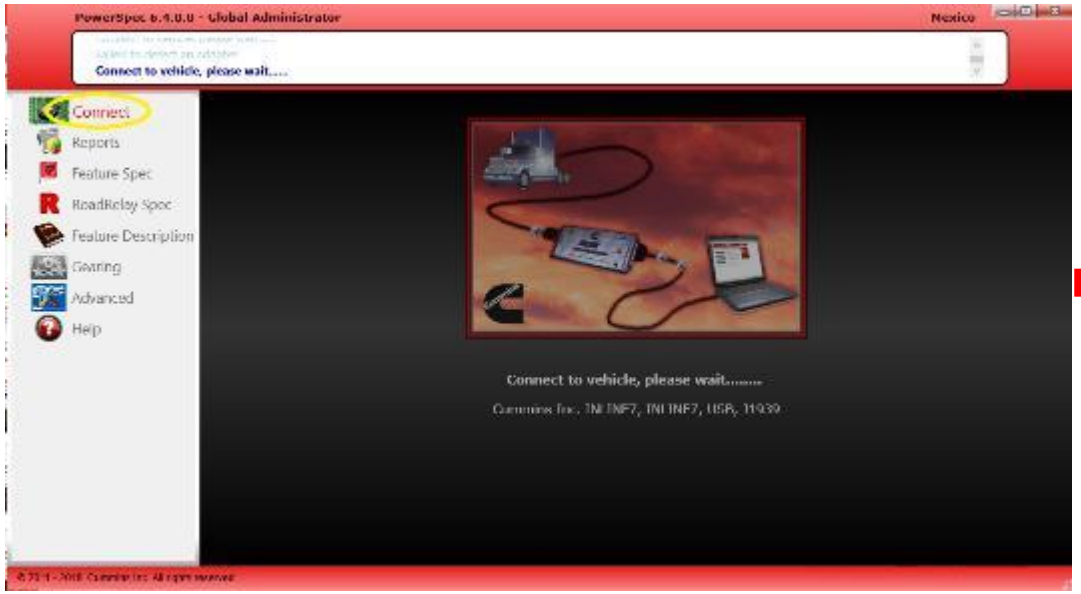


Note: A LightBox is a optional piece of equipment that is mounted outside of the download location and gives feedback to the driver on the download process.

Make Engine Connection

Make Engine Connection

- To perform any operation like read data from engine or write data to engine, first the user needs to connect to the engine with PowerSpec. Below are the necessary steps to make an engine connection –
  1. Select desired configuration setting options as described in the "**Configure Settings**" section.
  2. Click on the "**Connect**" button to establish connection with engine via a RP1210 data link device . When connected successfully, the engine name, Read Data, Transfer Spec, Direct Engine Edit(only for licensed PC) will display in left menu.



- Clicking the engine icon will display information including the engine type, ECM code, serial number and software phase. Action items will also be visible above the engine.

Read / Reset Engine Data

- ❑ Read / Reset Fault Codes
- ❑ Read / Reset Trip Information
- ❑ Read Feature Settings
- ❑ Read Sudden Deceleration Data
- ❑ Read Dataplate
- ❑ Read Duty Cycle
- ❑ Read Aftertreatment

Read / Reset Engine Data

- ❑ After making a successful connection, the user can read data from engine. PowerSpec provides the ability to read data from engine in the form of reports.
- ❑By clicking on “**Read Data**” link, the user can read the following types of data:

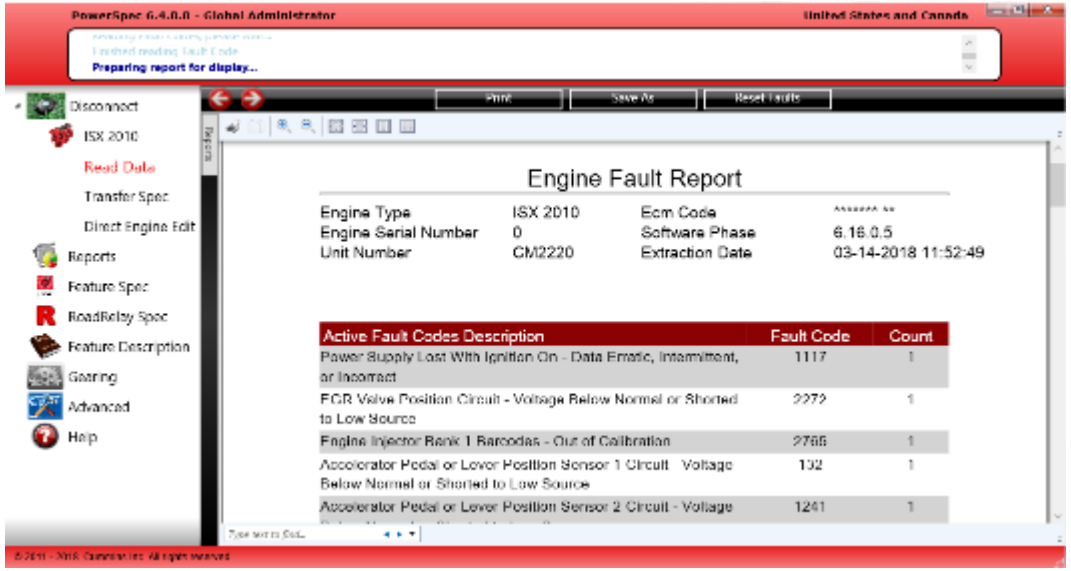
  - Fault Codes – Read/Reset
  - Trip Information – Read/Reset
  - Feature Settings
  - Sudden Deceleration
  - Data Plate
  - Duty Cycle
  - After Treatment reports.

Note: Some reports are not available for some engine programs

- ❑ All data that is read is automatically saved for later access. The reports will be under the “**Reports**” menu option
- ❑ Additionally, reports can be saved in other file formats (eg. excel, pdf, csv) by clicking the “**Save As**” button
- ❑ Reports may be printed by selecting the “**Print**” button when viewing the report

Read / Reset Engine Data – Fault Codes

- Read Fault codes – Follow the below steps to read Fault Codes from the connected engine –
  1. Click "**Read Data**" from left menu
  2. Click on "**Fault Codes**" icon(Highlighted in yellow),PowerSpec will display Cummins fault codes (active and inactive) report.

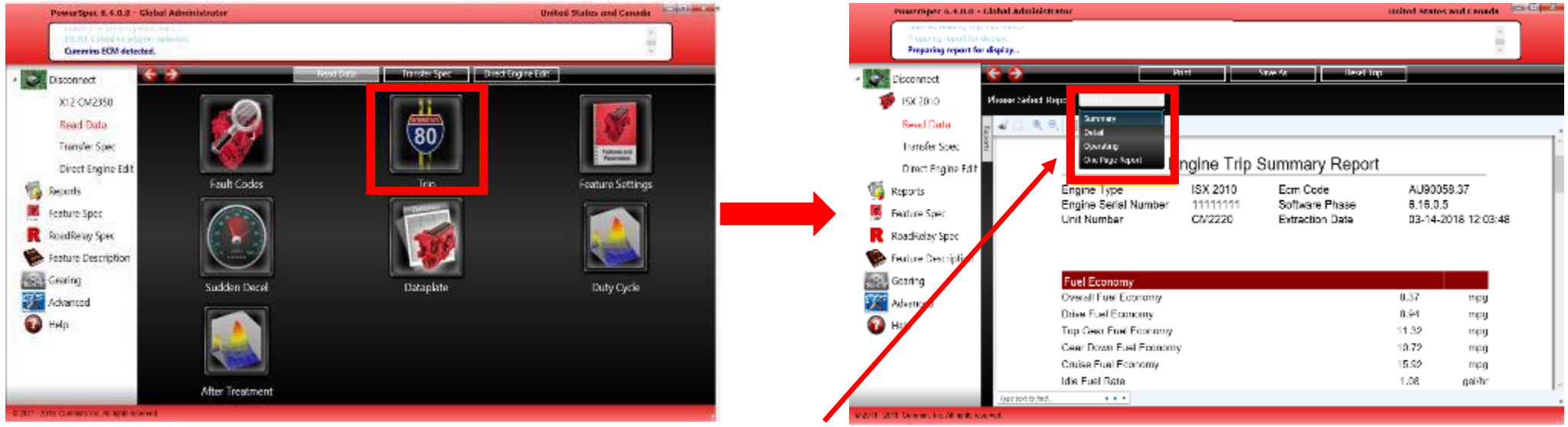


- Reset Fault Codes – Click the "**Reset Faults**" button on the top of the Fault codes report page, PowerSpec will reset the inactive Fault codes. Next time when you again click on Fault Codes for the connected engine you can see only active fault code.

Read / Reset Engine Data– Trip Information

❑Read Trip Information – Follow the below steps to read Trip Information report from the connected engine:

1. Click “**Read Data**” from left menu
2. Click on “**Trip**” icon(Highlighted in yellow), PowerSpec will display the trip report (Summary, Detail, Operating Mode, One Page).



3. Select the report type to display. The trip report has 4 different formats available:
   - Summary (default)
   - Detail
   - Operating
   - One Page

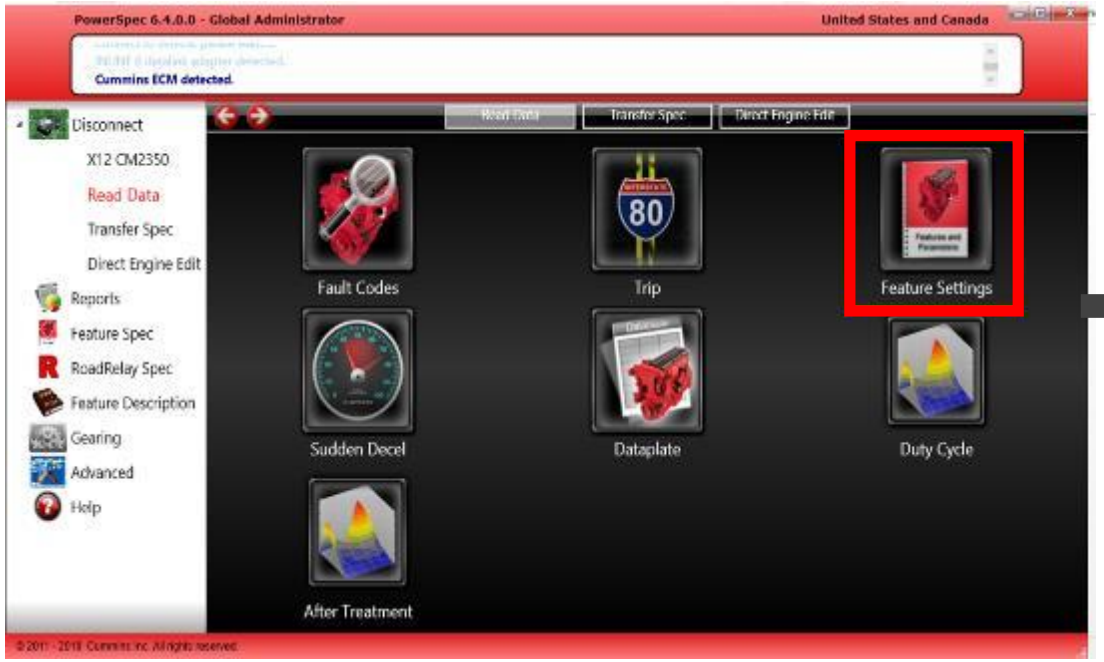
❑Reset Trip Information – Click the “**Reset Trip**” button on the report page. PowerSpec will reset the trip information.

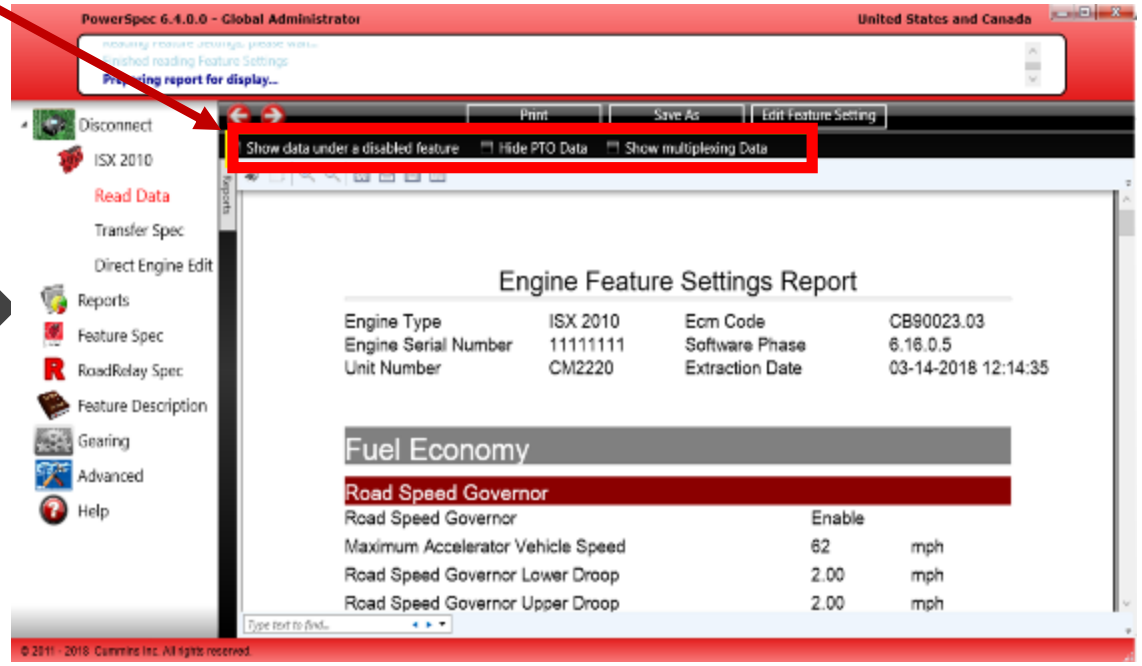
Read / Reset Engine Data– Feature Settings

- Read Feature Settings – Follow the below steps to read Feature setting report from the connected engine:

. 1. Click "**Read Data**" from left menu
2. Click on the "**Feature Settings**" icon(Highlighted in yellow), PowerSpec will display the Engine Feature Setting report.

- User can select the options below from the report to make certain data hide/show.
  - Show data under a disabled feature
  - Hide PTO Data
  - Show multiplexing Data

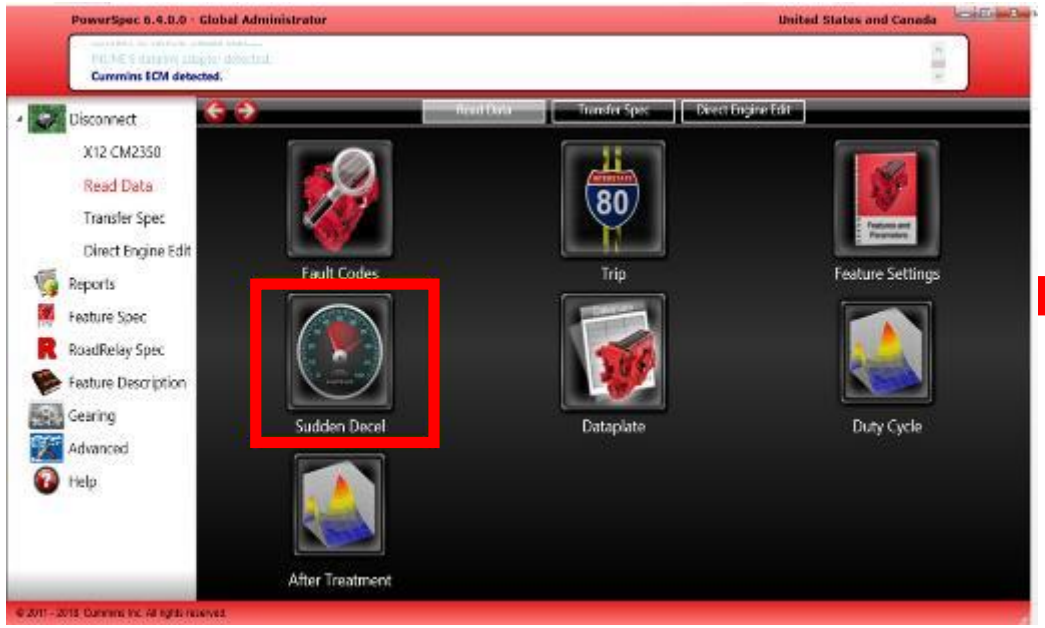


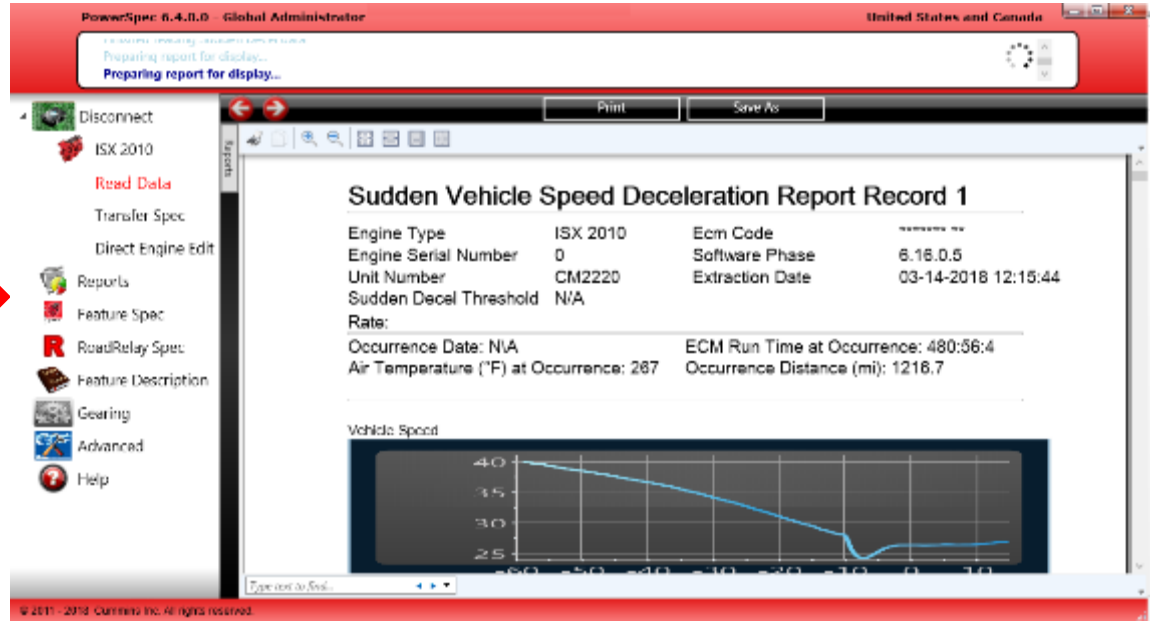


Read / Reset Engine Data - Sudden deceleration

- Read Sudden deceleration data – Follow the below steps to read sudden deceleration report from the connected engine:

1. Click “**Read Data**” from left menu
2. Click on “**Sudden Decel**” icon(Highlighted in yellow), PowerSpec will display the Sudden Deceleration data report.



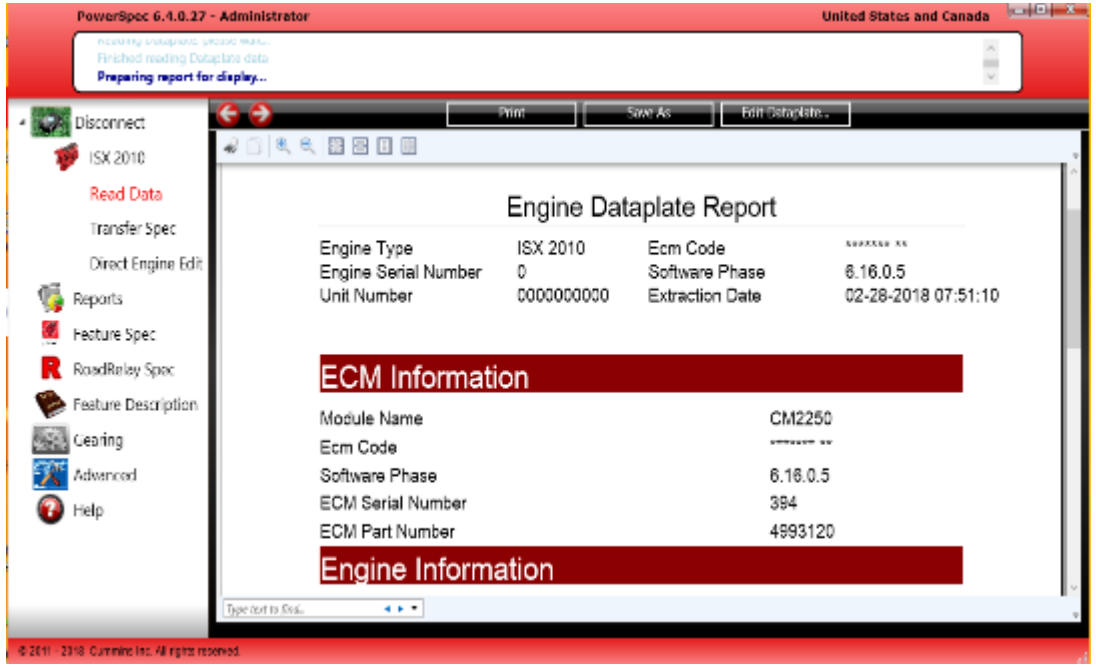


Note: The Sudden Decel report will contain between 1-3 records.

Read / Reset Engine Data - Dataplate

❑ Read Data Plate - Follow the below steps to read Dataplate report from the connected engine:

1. Click “**Read Data**” from left menu
2. Click on “**DatePlate**” icon(Highlighted in yellow), PowerSpec will display the Engine Data Plate report.

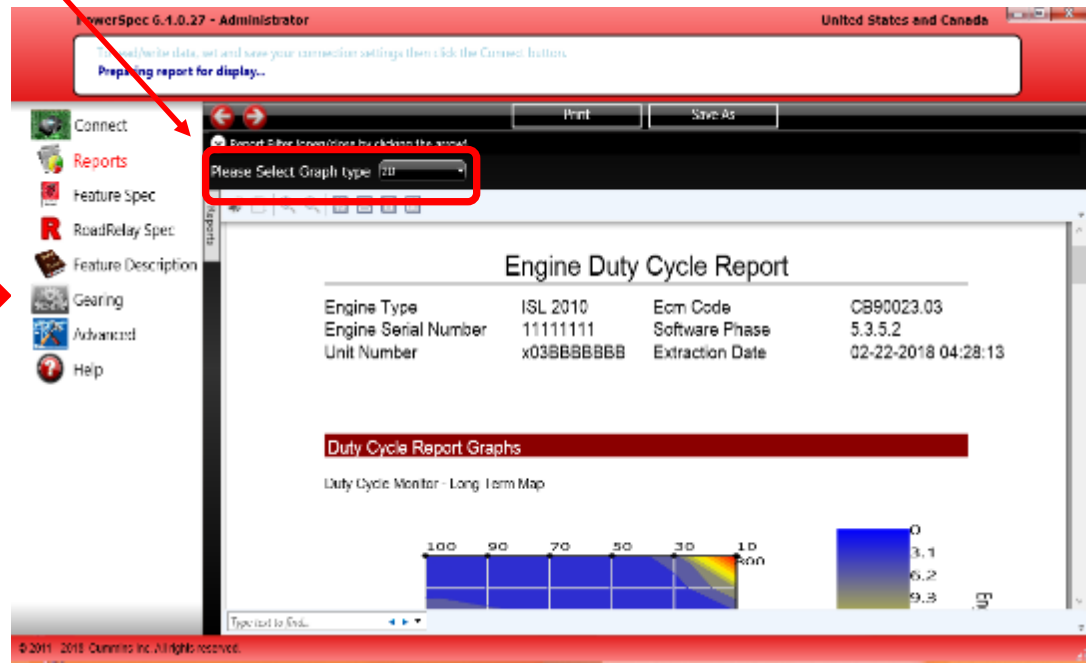


Read / Reset Engine Data –Duty Cycle

❑ Read Duty Cycle – Follow the below steps to read Duty Cycle report from the connected engine:

1. Click “**Read Data**” from left menu
2. Click on “**Duty Cycle**” icon icon(Highlighted in yellow), PowerSpec will display the Engine Duty Cycle report.

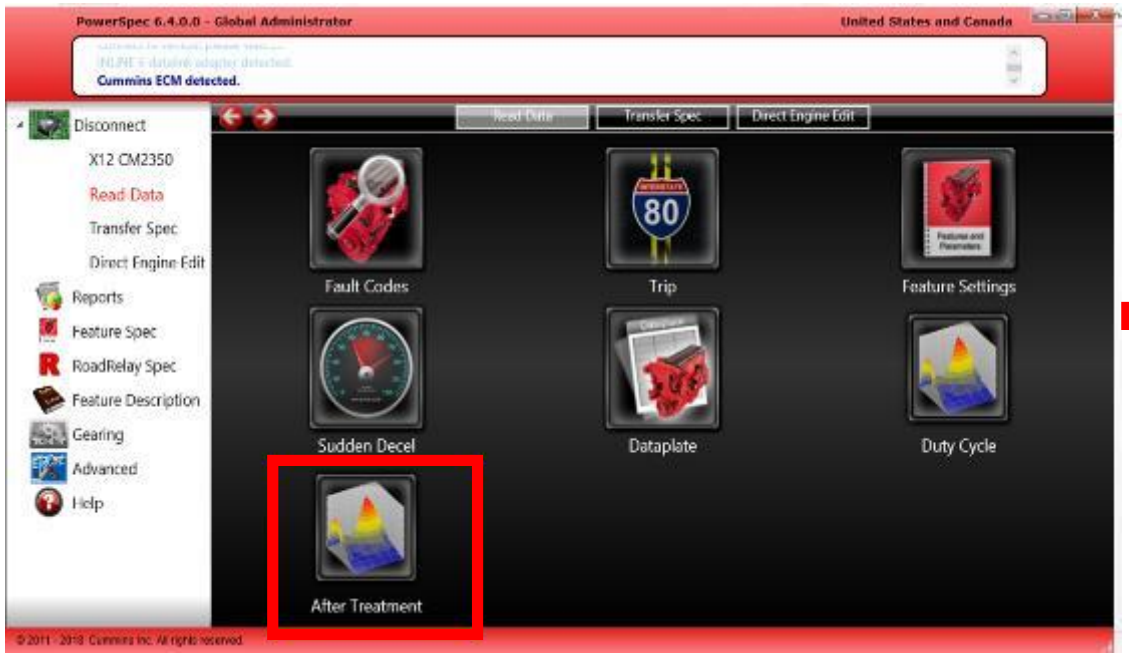
❑ User can set select to view the “2D” or “3D” report format.

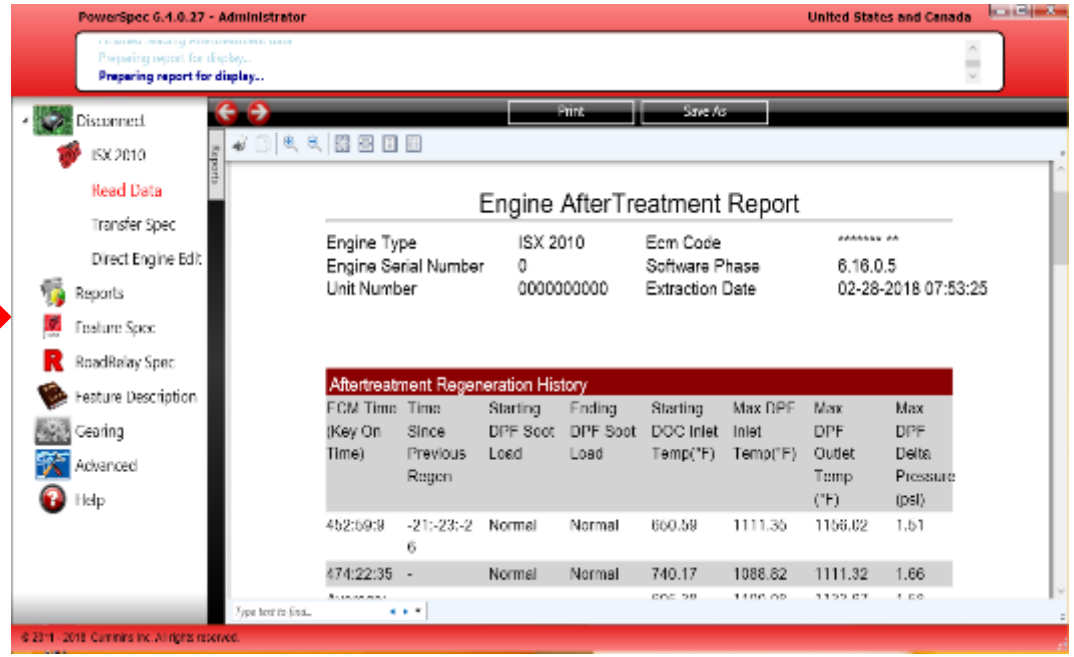


Read / Reset Engine Data – After Treatment

❑Read After Treatment – Follow the below steps to read Aftertreatment report from the connected engine:

. 1. Click “**Read Data**” from left menu
2. Click on “**After Treatment**” icon(Highlighted in yellow), PowerSpec will display the Engine After Treatment report.





Transfer Engine Data

- Create Spec and Transfer
- Direct Engine Edit
- Transfer Existing Spec
- Create and Transfer HotSpec

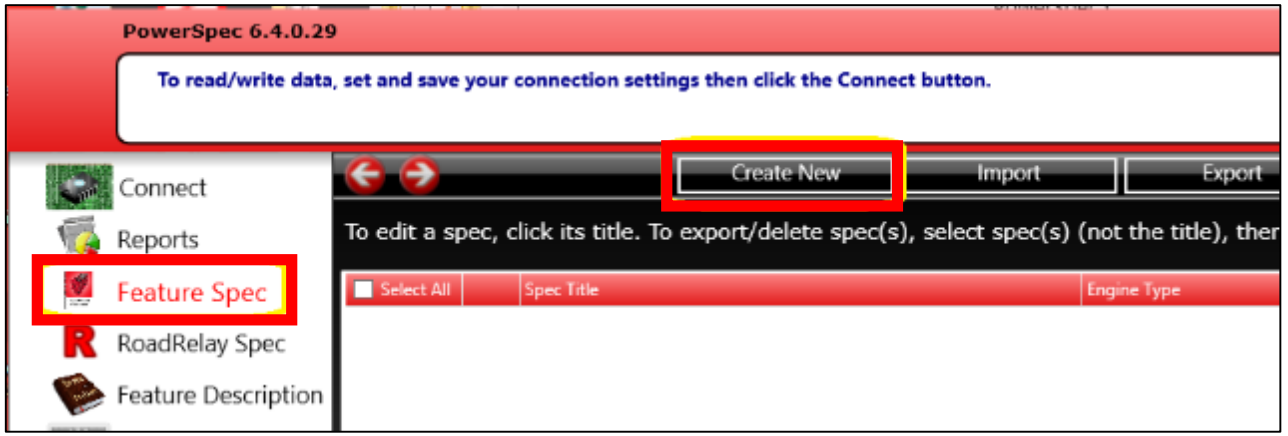
Transfer Engine Data

- PowerSpec enables users to tailor programmable engine features to optimize fuel economy and vehicle performance.
- Engine Features are changed by these 3 methods:

Transferring a Feature Spec	License Required
Direct Engine Edit	License Required
Transferring a Hot Spec	NO License Required

- Transferring a feature spec requires the user to first create a feature spec. Follow the steps below to create a feature spec:

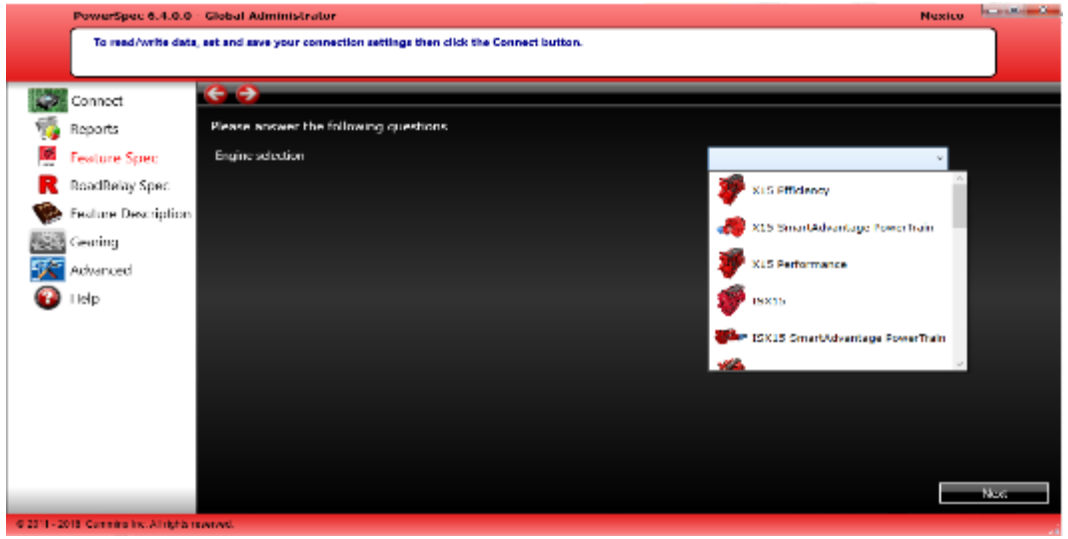
1. Click on “**Feature Spec”** in left menu
2. Click con “**Create New”** button



Transfer Engine Data – Create Spec and Transfer

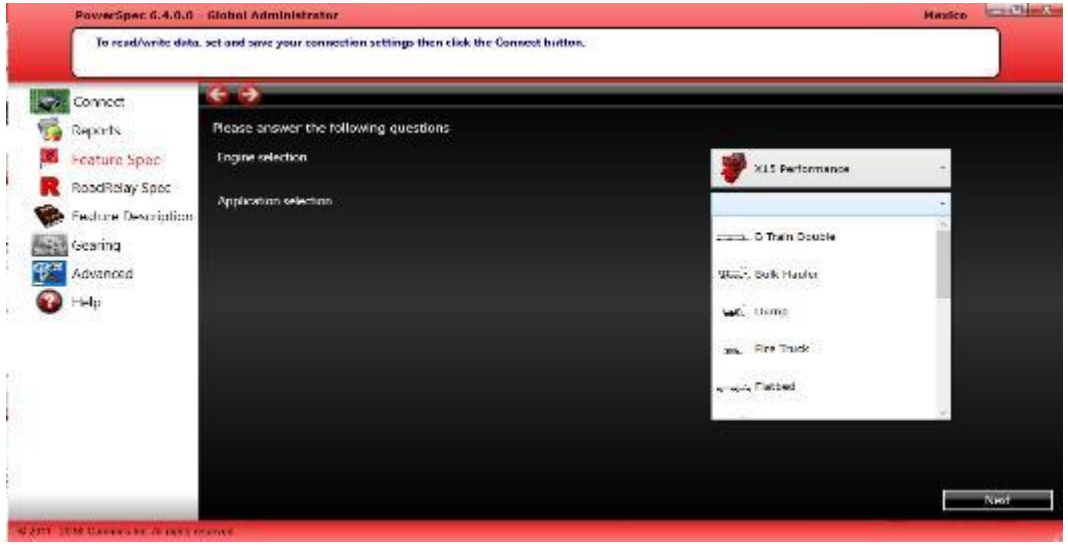
3. Select the engine type from the list by clicking the arrow on the right side of the “**Engine Selection**” box.

Note: The list of available engines may vary based on the Region selection.



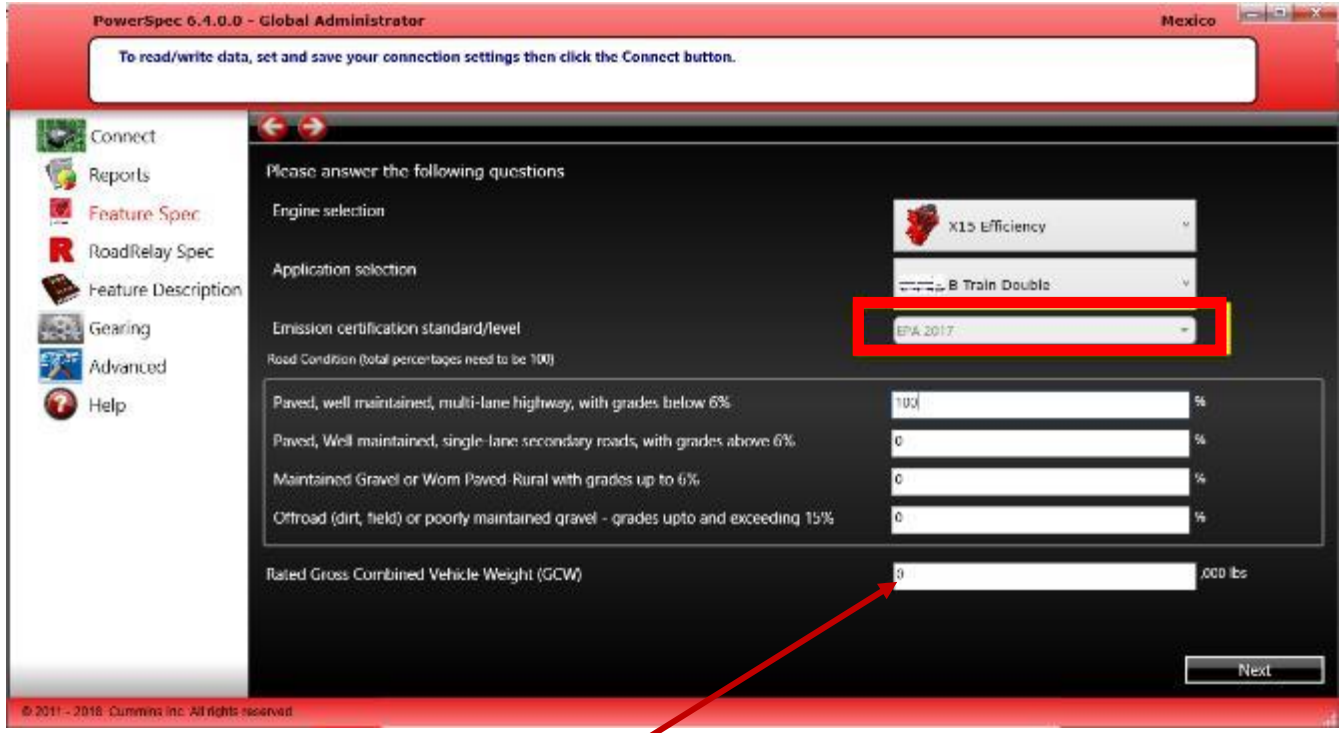
4. Select the application type from the list by clicking the arrow on the right side of the “**Application Selection**” box.

Note: The list of application types may vary based on the Engine selection.



Transfer Engine Data – Create Spec and Transfer

5. Select “**Emission certification standard/level**”. For some engines, this field is grayed out and may not be changed.
6. Select “**Road Condition**” (If Applicable) – Sum of Road Condition values must total 100%.



7. Enter “**Rated Gross combined Vehicle Weight(GCW)**” (If Applicable) – The minimum and maximum values for GCW will vary based on engine selection.

Transfer Engine Data – Create Spec and Transfer

8. Select “**Engine’s Horsepower**” (If Applicable)
9. Select “**Maximum (peak) torque of the engine**” (If Applicable)
10. Select Yes or No for “**ADEPT Feature Usage”**.

NOTE: “ADEPT Feature Usage” will only be displayed if engine type is X15 Efficiency, X15 SmartAdvantage Powertrain, ISX15 SmartAdvantage Powertrain, ISX12 SmartAdvantage PowerTrain, X12, X12 SmartAdvantage PowerTrain. The ADEPT features are added to the feature spec template when “Yes” is selected.

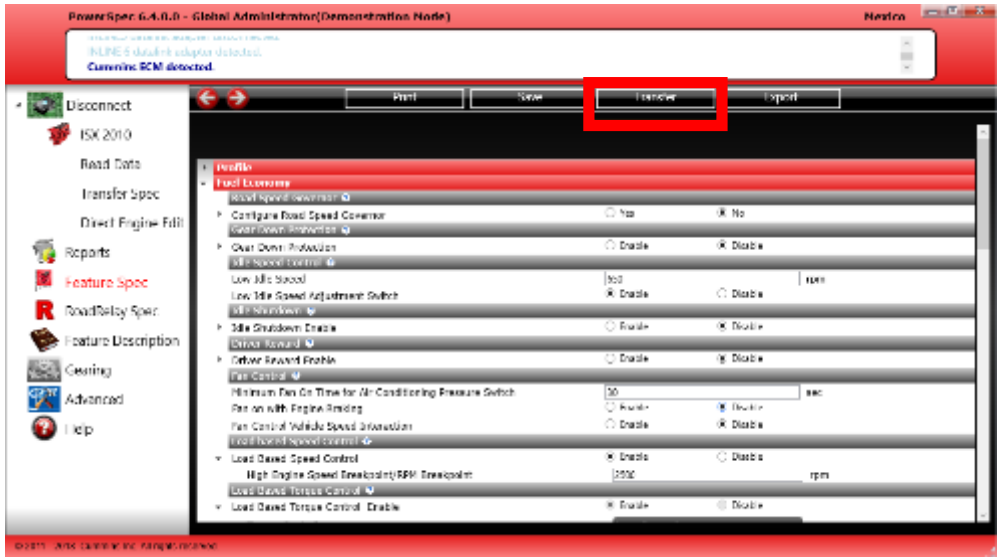
11. Select Yes or No for “**Predictive Cruise Control Feature”**

NOTE: The Predictive Cruise Control features are added to the feature spec template when “Yes” is selected.

12. Select “**Operational Objective**”
13. Click **Next**

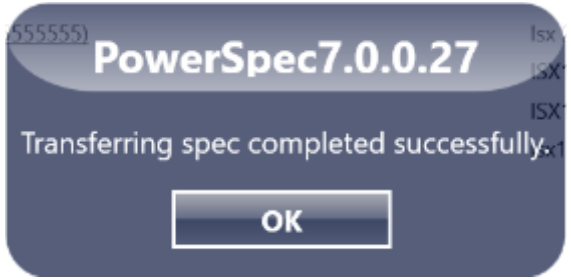
Transfer Engine Data – Create Spec and Transfer

14. PowerSpec will use the application information previously supplied to create a feature and parameter set. Review the page to confirm the parameter settings values. Make any needed changes.



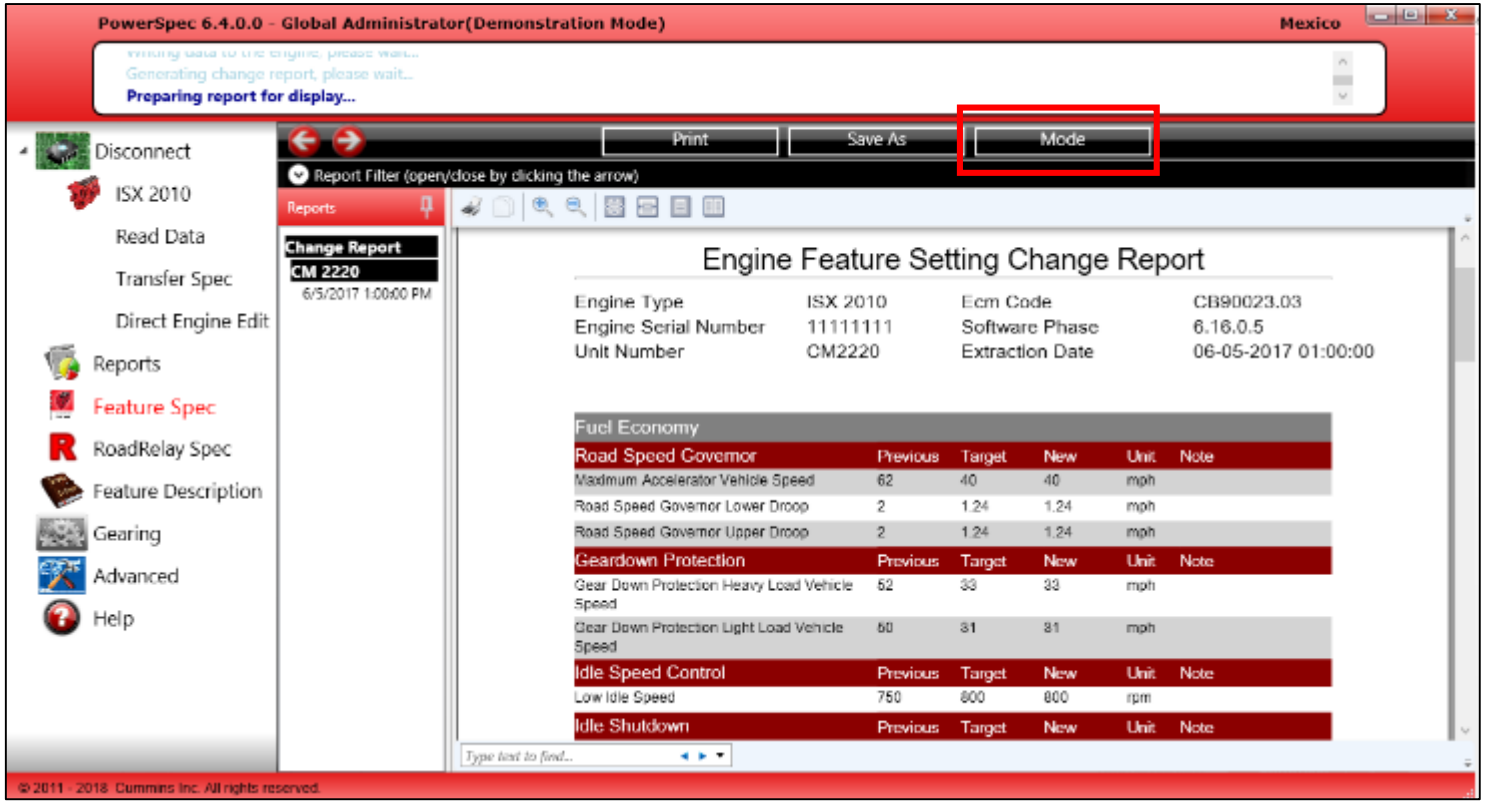
Note: The “Transfer” button will be disabled if you are not connected to a engine or not licensed

15. Click on the “**Save”** button.
16. Enter a name for the feature spec, click “**Save”** button.
17. Click on “**Transfer**” button at the top of the page to transfer the spec to the connected vehicle.
18. Once the transfer is finished, PowerSpec will show the message below. Click OK.



Transfer Engine Data - Create Spec and Transfer

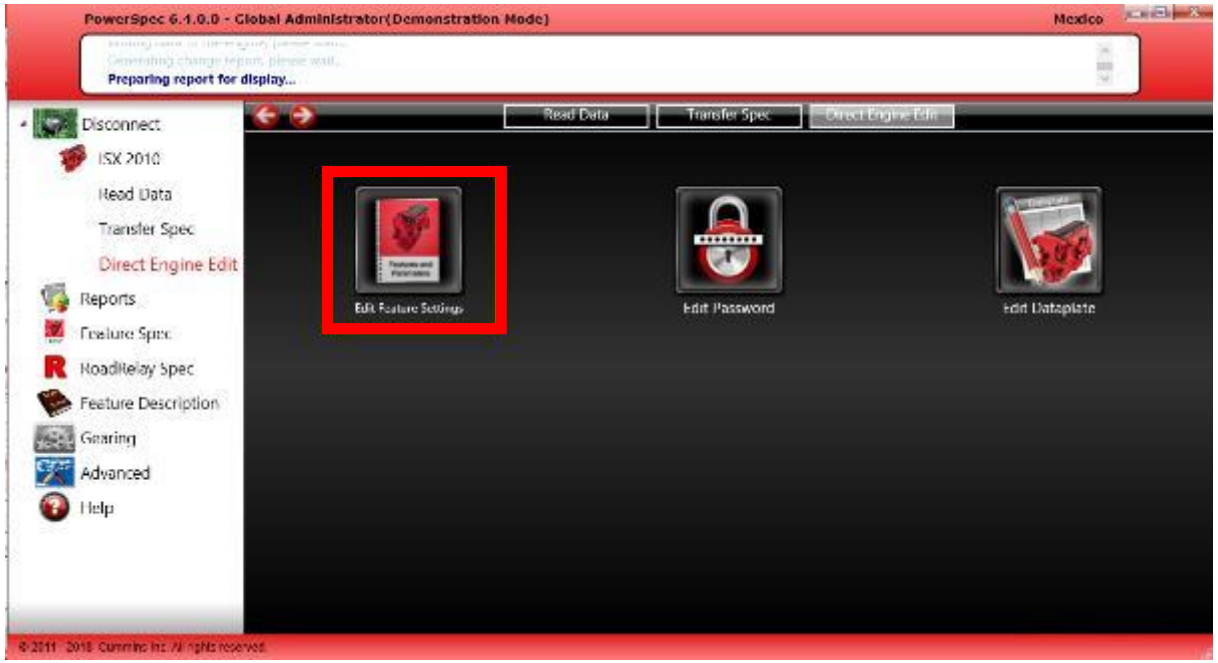
19. PowerSpec will generate a Change Report listing all the parameters that were changed. The report will show the Previous, Target, and New values. If a parameter cannot be changed, the **Note** field will contain an explanation.
20. Be default, the report will contain only the parameters that were changed. Click the "**Mode**" button to display a list of all parameters, including the ones that did not change.
21. Click the "**Print"** button to print the report
22. Click the "**Save As**" button to save the report in a different format type



Transfer Engine Data – Direct Engine Edit

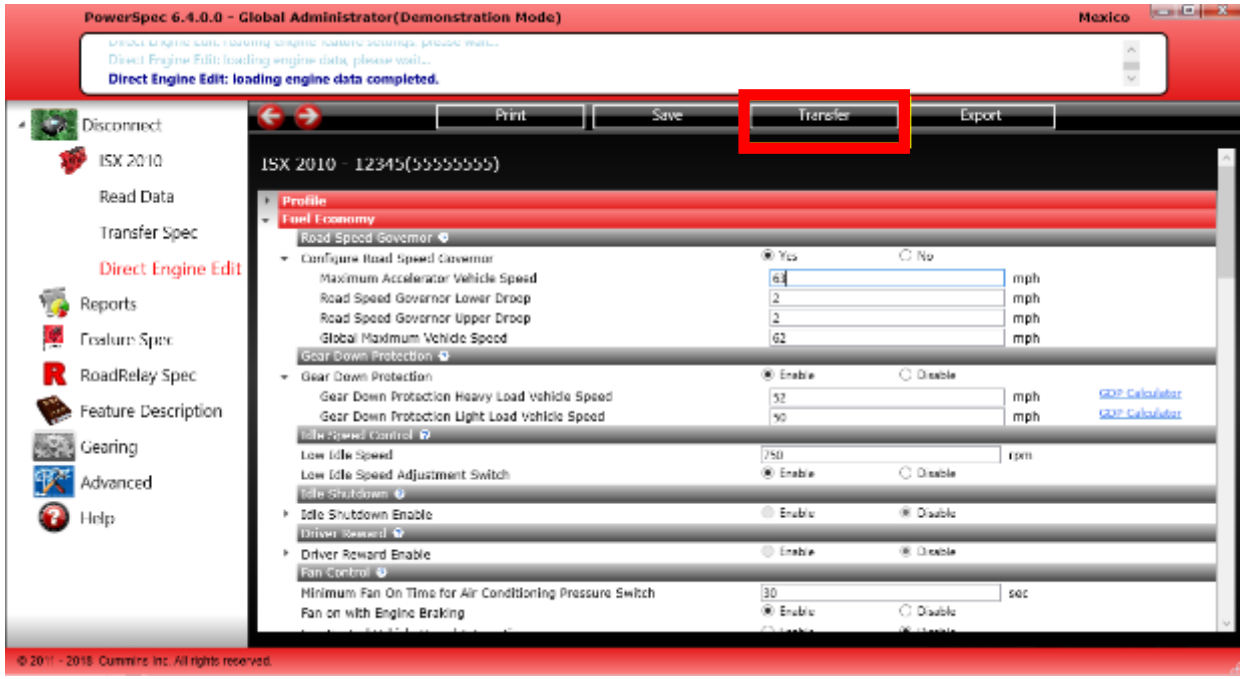
- The Direct Engine Edit feature allows a licensed user to select only the parameters in the connected engine they wish to change.
- PowerSpec reads the current parameter values from the connected vehicle and populates the template with them
- Follow the steps below to change parameters using Direct Engine Edit

1. Make a successful engine connection
2. Select "**Direct Engine Edit**" from the left menu
3. Click on "**Edit Feature Settings**"(highlighted in red).

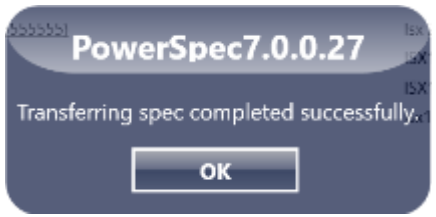


Transfer Engine Data - Direct Engine Edit

4. PowerSpec will read the parameter values from the connected engine and display them in the spec template.
5. Change the desired parameter values. You may chose to save the spec, but it is not required.
6. Click the “**Transfer**” button at the top of the page.

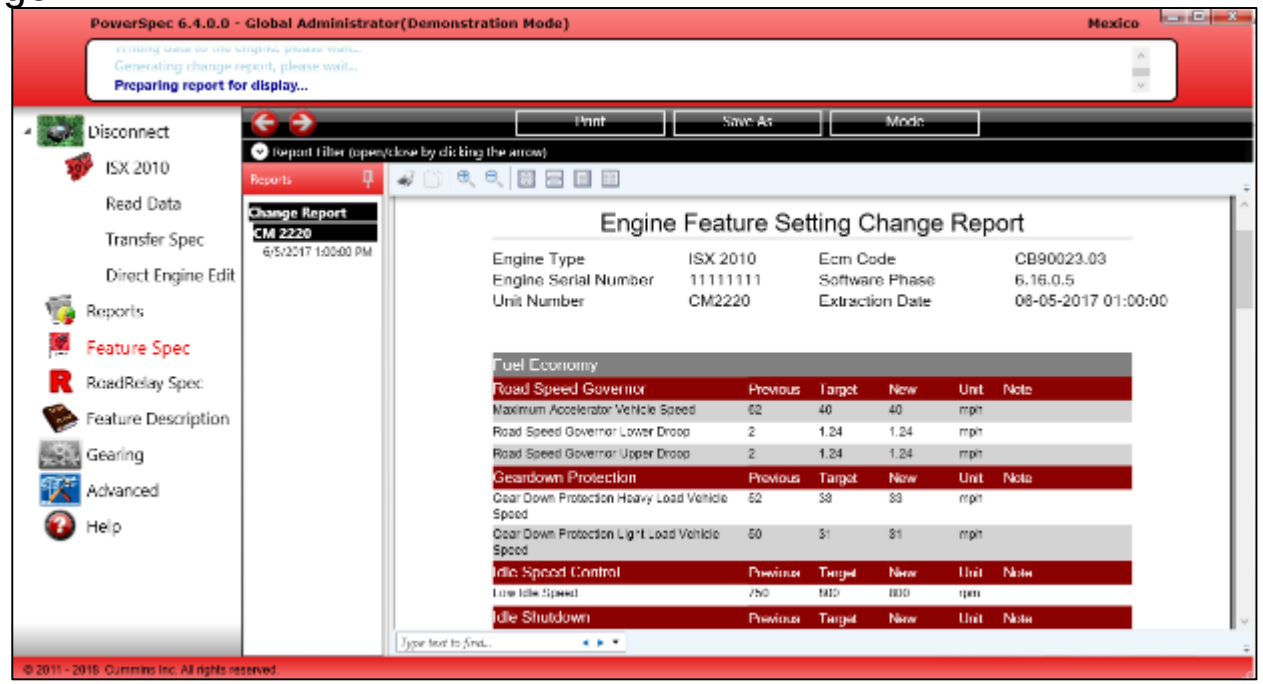


5. Once the transfer is finished, PowerSpec will show below message.



Transfer Engine Data - Direct Engine Edit

6. PowerSpec will generate a Change Report listing all the parameters that were changed. The report will show the Previous, Target, and New values. If a parameter cannot be changed, the Note field will contain an explanation.
7. Be default, the report will contain only the parameters that were changed. Click the "**Mode**" button to display a list of all parameters, including the ones that did not change.
8. Click the "**Print**' button to print the report
9. Click the "**Save As**" button to save the report in a different format type



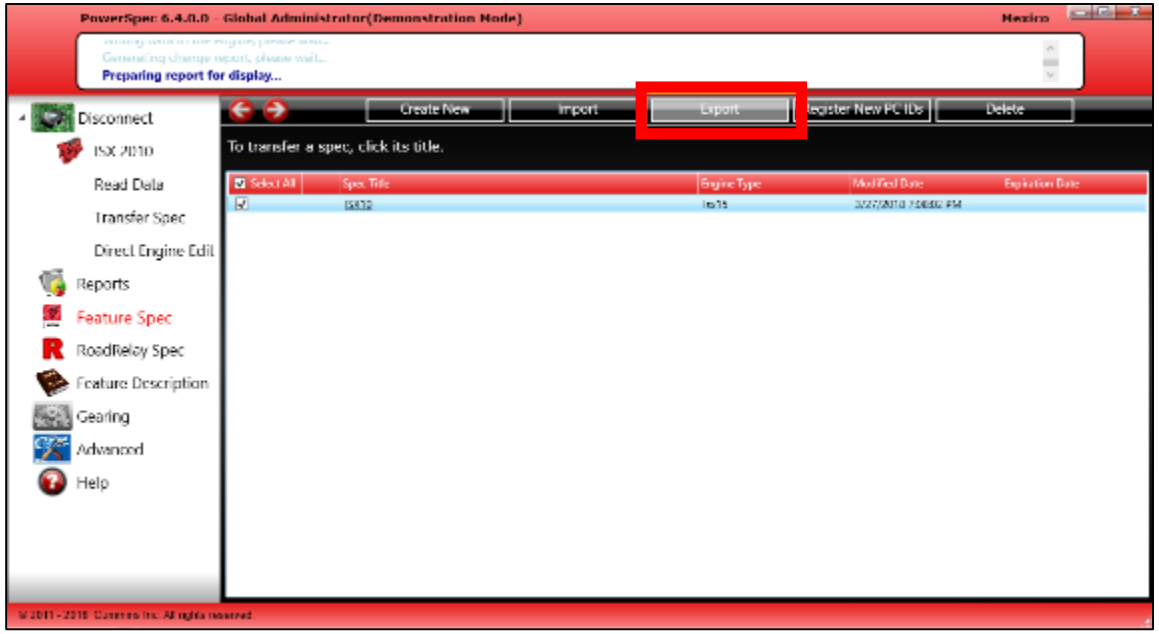
Transfer Engine Data – Transfer Existing Spec

- An existing feature spec may be transferred to a connected engine.
- Follow the steps below to transfer an existing feature spec.
  1. Make a successful engine connection.
  2. Select "**Transfer Spec**" from left menu.
  3. Select a spec from existing list of specs by clicking on the spec title.
  4. The transfer process will begin, a message will be displayed when complete.

Transfer Engine Data - HotSpec

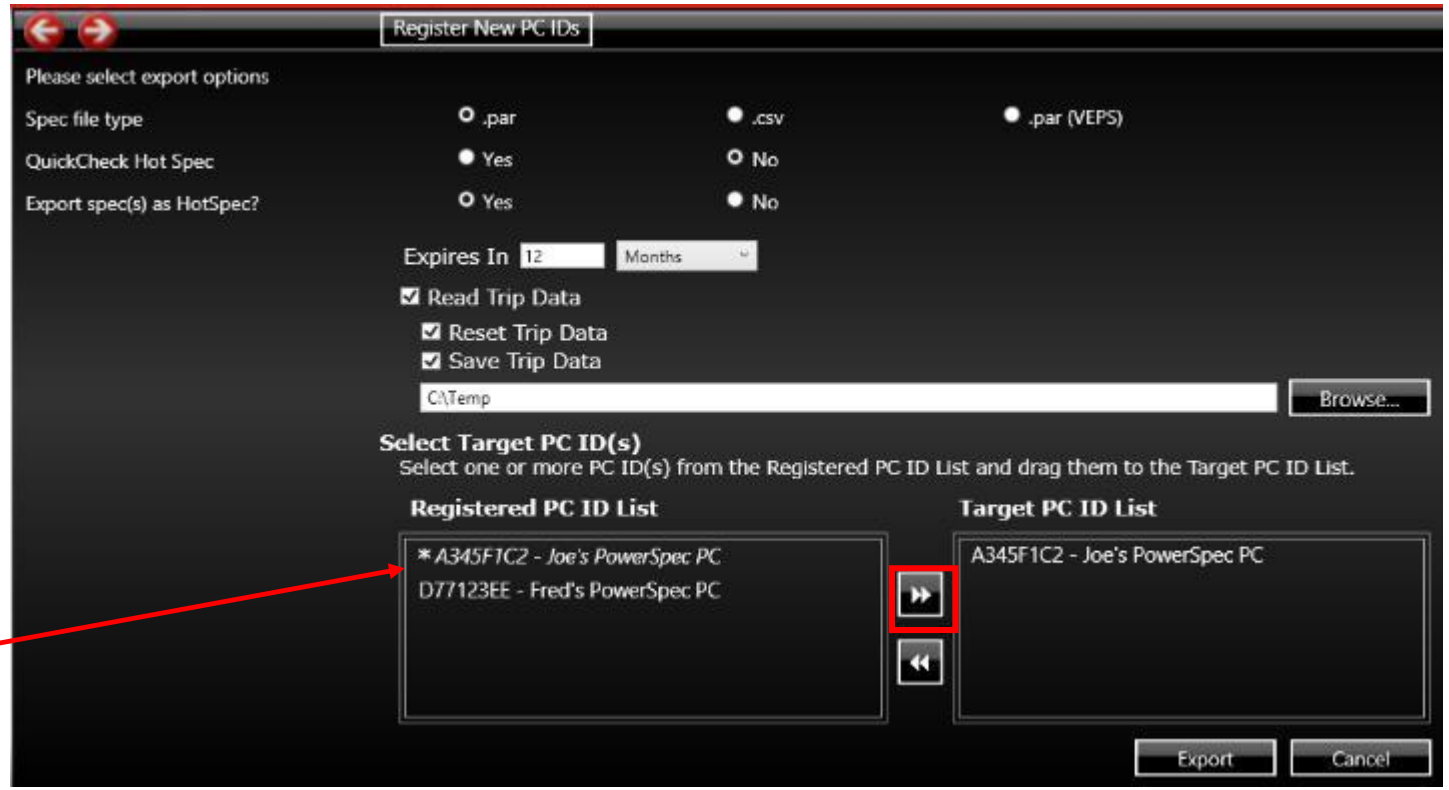
- PowerSpec offers the ability to create a HotSpec which can be transferred to an engine from a PC with NO license.
- HotSpecs can only be created from a licensed PowerSpec PC, and can only be edited by the HotSpec creator.
- The Hotspec may then be sent to a user with NO PowerSpec license and transferred to an engine
- Follow the below steps to create and transfer a HotSpec

1. Select "**Feature Spec**" from the left menu
2. Select a spec from the list you wish to make a HotSpec by clicking on the spec title.
3. The spec will open. Click on "**Export"** icon at the top of the page.
4. Select "**Export spec(s) as HotSpec**" option



Transfer Engine Data - HotSpec

5. Enter the expiration date for the HotSpec in the “**Expires In**” box. Expired HotSpecs cannot be transferred.
6. Check the “**Read Trip Data**” box to read the Trip data from the engine when the Hotspec is transferred.
7. Check the “**Reset Trip Data**” box to reset the trip data when the HotSpec is transferred.
8. Check the “**Save Trip Data**” box to save a copy of the Trip Report. Click the “**Browse**” button to selection the location for the Trip Report.
9. Select the PC IDs from “**Registered PC ID List**” that you want to attach to the HotSpec and move to the target PC ID list by dragging and dropping them.



Note:

To select all PC IDs, click the **>>** button. The **<<** button will remove all.

The HotSpec can only be imported to PCs with the PC IDs listed in the Target PC ID List.

Specs copied to the Target List will appear *italicized* and have an asterisk (*****) by the name.

Transfer Engine Data - HotSpec

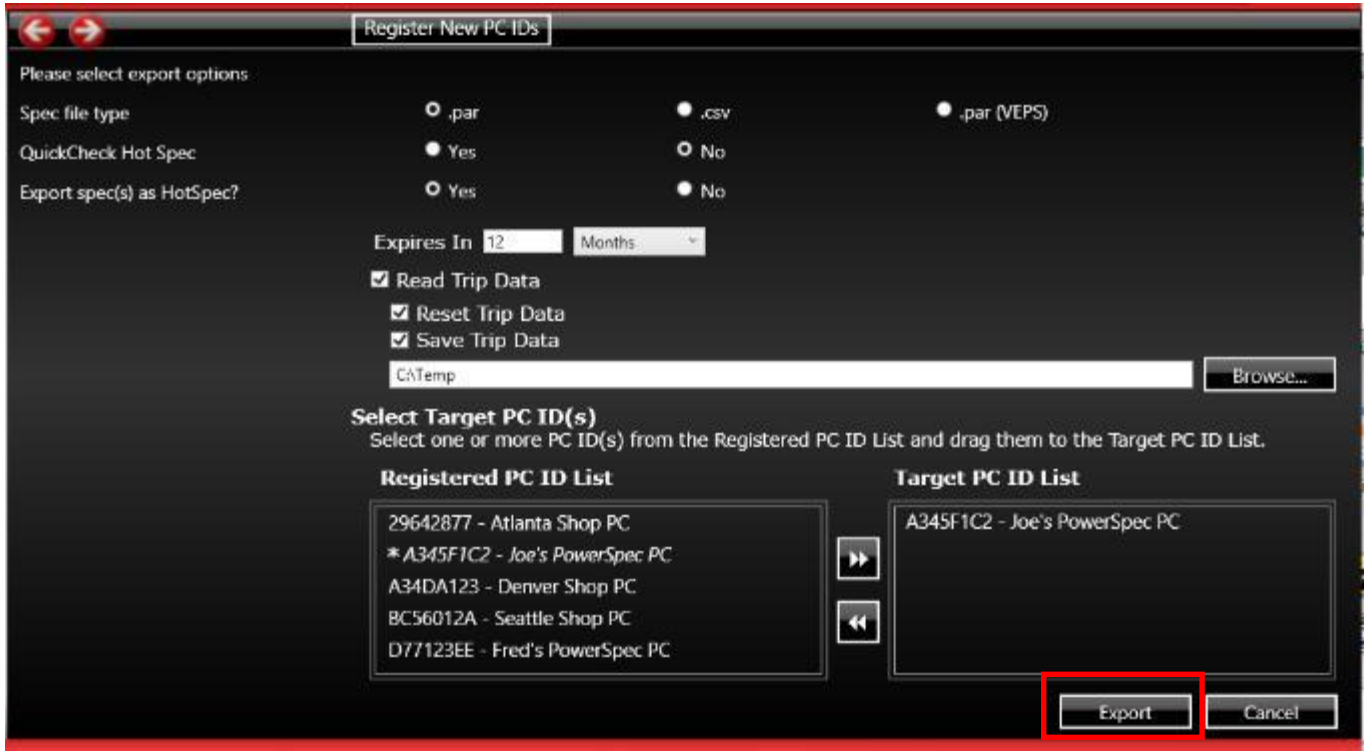
10. You can registered new PC IDs by clicking on “**Registered New PC IDs**” button at the top of the page.
11. The register PC ID window will open

12. Click on the “**Register PC ID**” button
13. Type in the PC ID in the “**Type PC ID**” box. After you enter 8 alpha-numeric characters, the cursor will tab to the description box.
14. Enter a description of the PC
15. Click the “**Register**” button when all new PC IDs have been entered.
16. PowerSpec will return to the Export HotSpec window

Transfer Engine Data - HotSpec

17. The newly added PC IDs will now appear in the Registered PC ID List
18. Click the "**Export**" button
19. Browse to the location to save the HotSpec, then click the "**Save"** button.

The HotSpec may now be sent to any PC listed in the Target PC ID list.

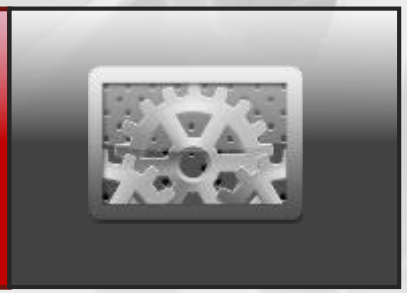


To import the HotSpec to another PC, follow these steps:

1. Select "**Feature Spec"** from left menu
2. Click on the "**Import"** button
3. Navigate to the location of the HotSpec
4. Select the HotSpec file
5. Click "**Open**" button
6. The HotSpec is now added to the feature spec list

Note: HotSpecs will have a special "hot" icon and are transferred the same way as regular specs

Spec’ing Vehicle



- Recommendations / Assessment / Performance Evaluator
- Manage Gearing Specs
- Compare Specs

Spec’ing Vehicle – Recommendations

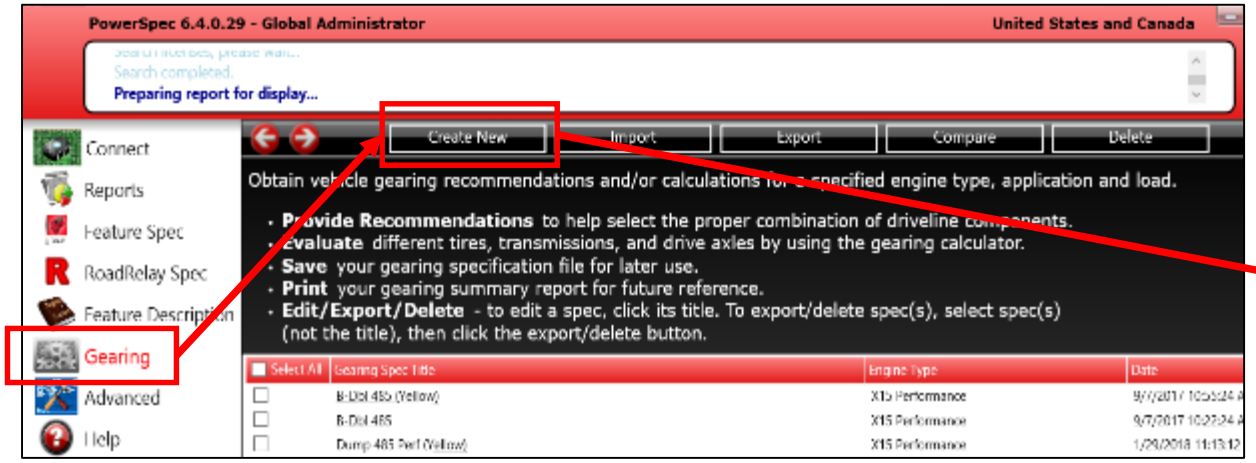
PowerSpec offers users the ability to create a gearing profile. Based on that, PowerSpec will generate a brief overview report with Cummins Gearing recommendations and guidelines. PowerSpec also evaluates the driveline combination with your profile, then provides assessment.

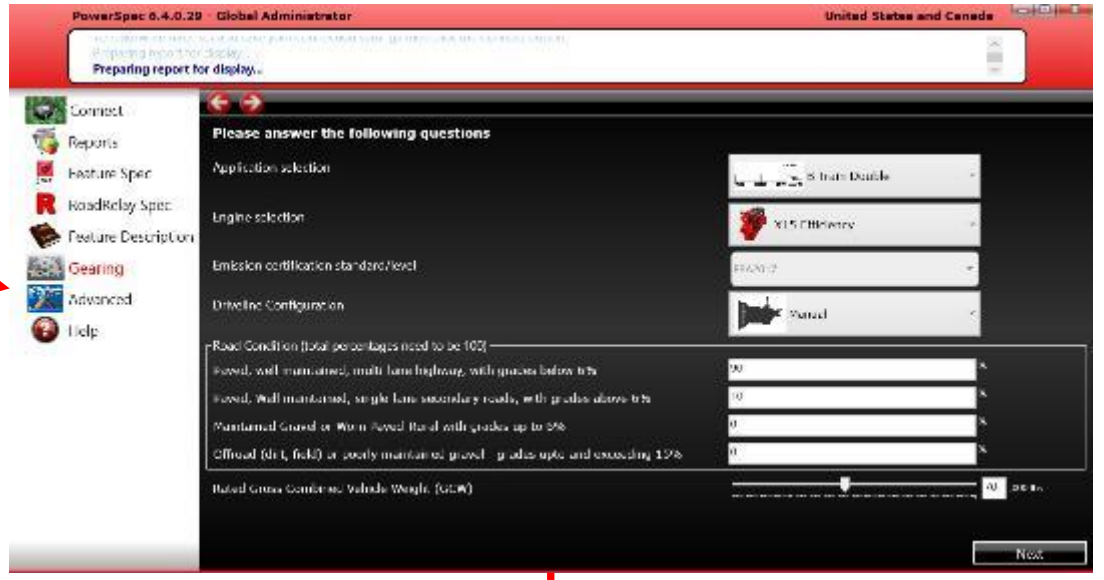
Follow the steps below to see a Gearing recommendations

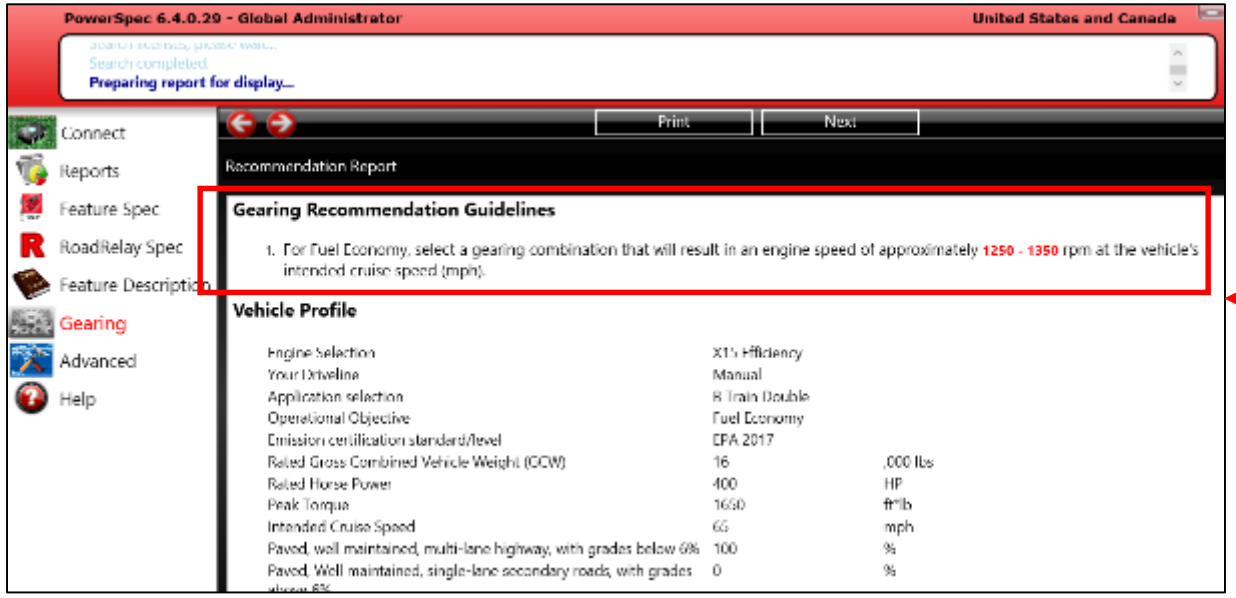
❑ Gearing Recommendations

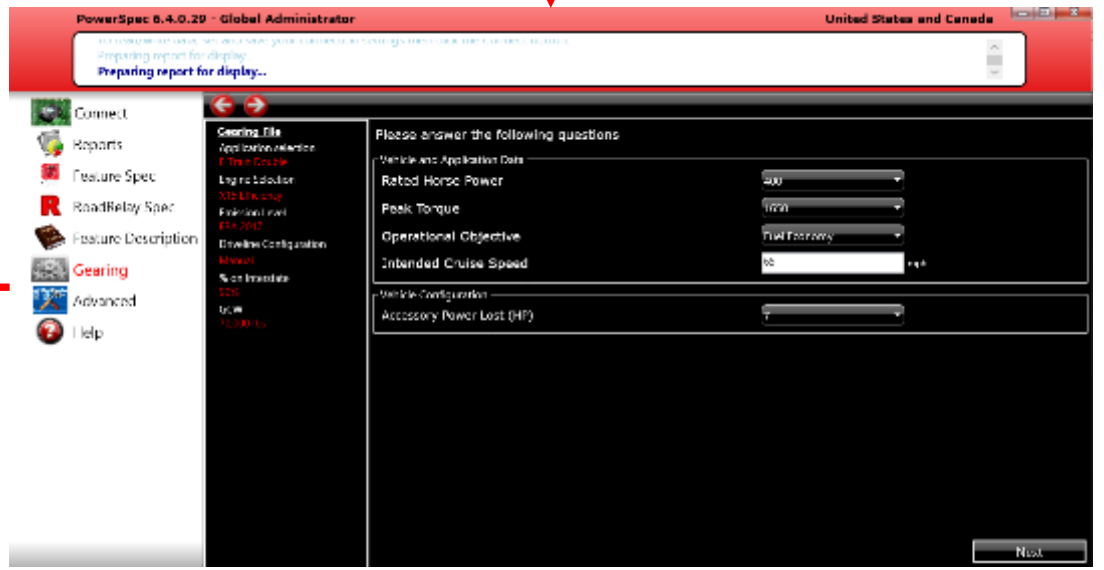
1. Run PowerSpec
2. Click “**Gearing**” link on the left menu. You will see Gearing Spec list page
3. Click “**Create New**” button
4. Make selection and enter data on the first page then click “**Next**” button
5. Make selections and enter data on the second page then click “**Next**” button
6. See next slide for screenshots
7. Click “**Next**” button to get assessment

Spec'ing Vehicle – Recommendations - continue



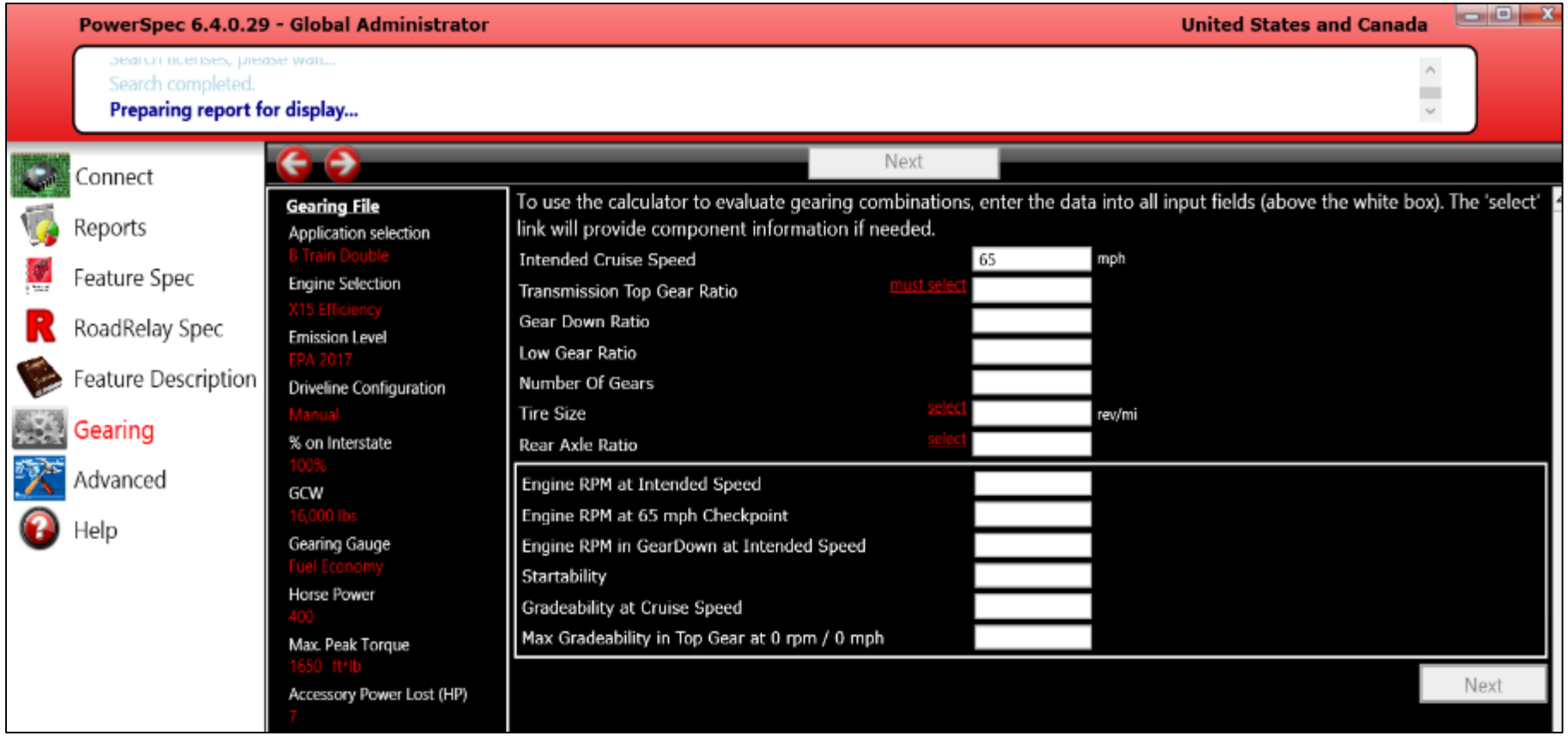






Spec'ing Vehicle – Assessment

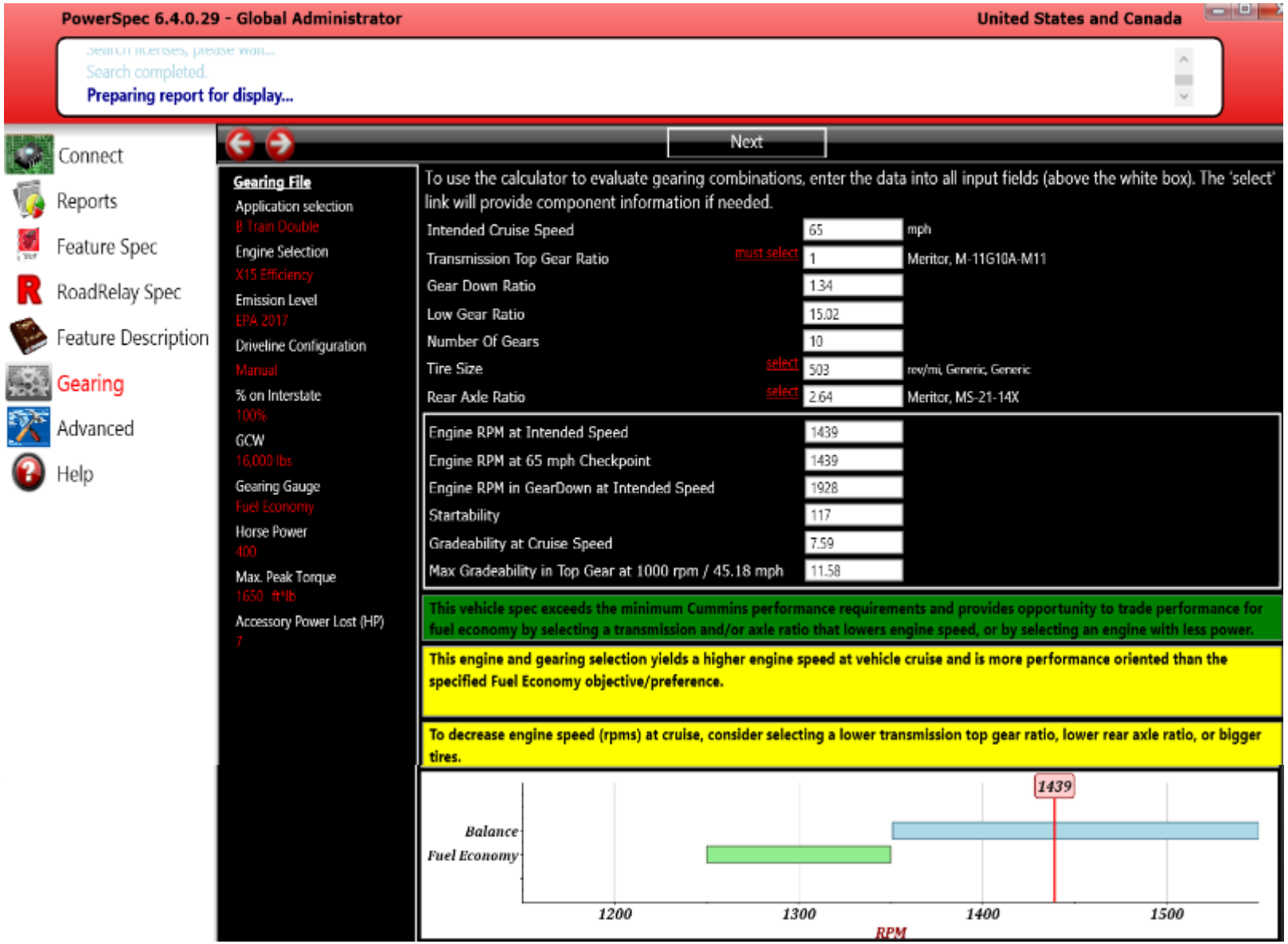
- Gearing Assessments
  1. Continue from previous slide
  2. Make selections for your drive line data (transmission, axle ratio and tire size)
  3. PowerSpec will display the assessments right below the output data. In this case, the spec meets the minimum requirements but didn't meet the operational objective. PowerSpec provides suggestions



Input data:

1. Cruise Speed
2. Transmission data
3. Tire Size
4. Axle data

Spec'ing Vehicle – Assessment - continue



Input data:

1. Cruise Speed
2. Transmission data
3. Tire Size
4. Axle data

Output data:

1. RPM at cruise
2. Startability
3. Gradeability

Assessment:

1. If a spec meet Cummins minimum requirement
2. If a spec meet the desired operational objective (in this case, it failed)
3. Suggestion

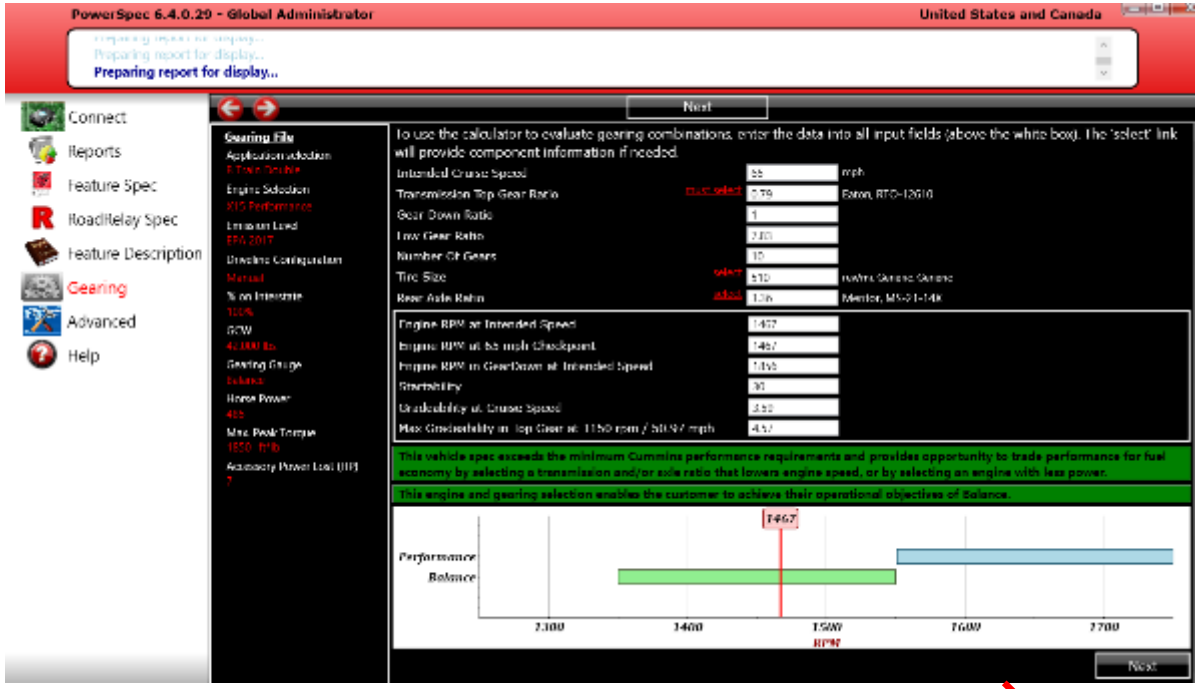
Engine RPM graph:
The engine RPM fall into balance, which does not meet user's operational objective (fuel economy)

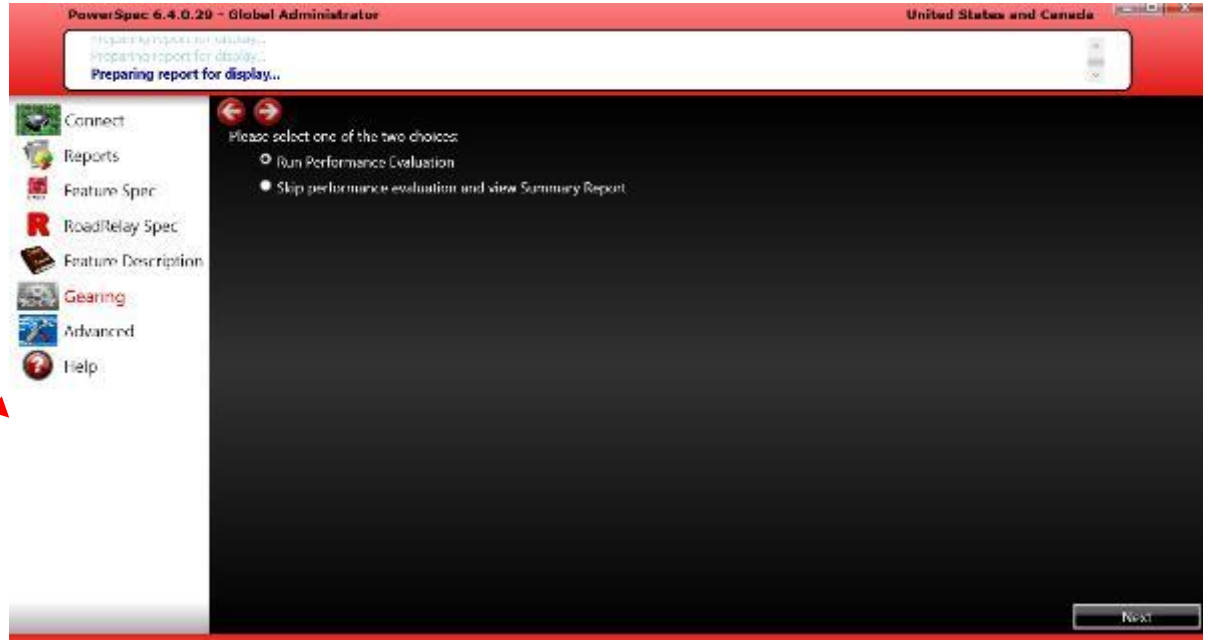
Spec’ing Vehicle – Performance Evaluator

❑ Performance Evaluator

1. Continue from previous slide
2. In order to use the evaluator, the assessments on the calculator page need to be all green
3. Click “**Next**” button
4. Select “**Run Performance Evaluation**” then click “**Next**” button
5. Drag the slide bar until a message pops up.
6. Click “**OK**” button
7. The evaluator provides top gear grade for maintaining cruise speed, the maximum grade at top gear and gear down
8. See next page for screenshots

Spec'ing Vehicle – Performance Evaluator - continue

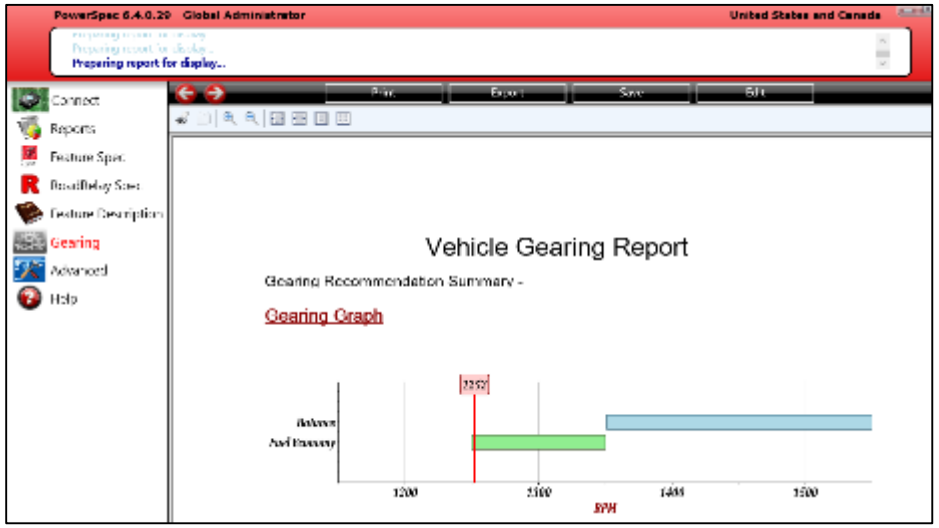




Spec'ing Vehicle – Manage Gearing Specs / Create – Edit spec

In order to share a spec with others or keep a record for your own use, PowerSpec allows the user to save the specs to its local database. The specs can be exported, imported, deleted or printed.

Follow the steps below to manage your Gearing specs:



❑ Create a Gearing Spec

1. You are 90% done to have a spec created from previous slides. From the calculator page, click the "**Next**" button. You can choose to skip the performance evaluation.
2. On the Vehicle Gearing report page, click "**Save**" button. Enter a name for your spec, click the "**Save**" button again.

❑ Edit a Gearing Spec

1. After saving a spec, you will return to the Gearing spec list page. You can click the spec name you just saved. PowerSpec will open the Vehicle Gearing report page with your spec.
2. You can click "**Edit**" button to go to the calculator page.

Spec'ing Vehicle – Manage Gearing Specs – Import / Export

❑ Export Gearing Spec

There are two ways to export a Gearing Spec

a. From Gearing Spec list page
   1. Pick a spec and click on it, but not title
   2. Click "**Export**" button and specify the file path.
   3. Click "**Save**" button

b. From Vehicle Gearing Report page
   1. Pick a spec and click its title
   2. Once on the Vehicle Gearing Report page, click "**Export**" button.
   1. Specify the file path then click the "**Save**" button

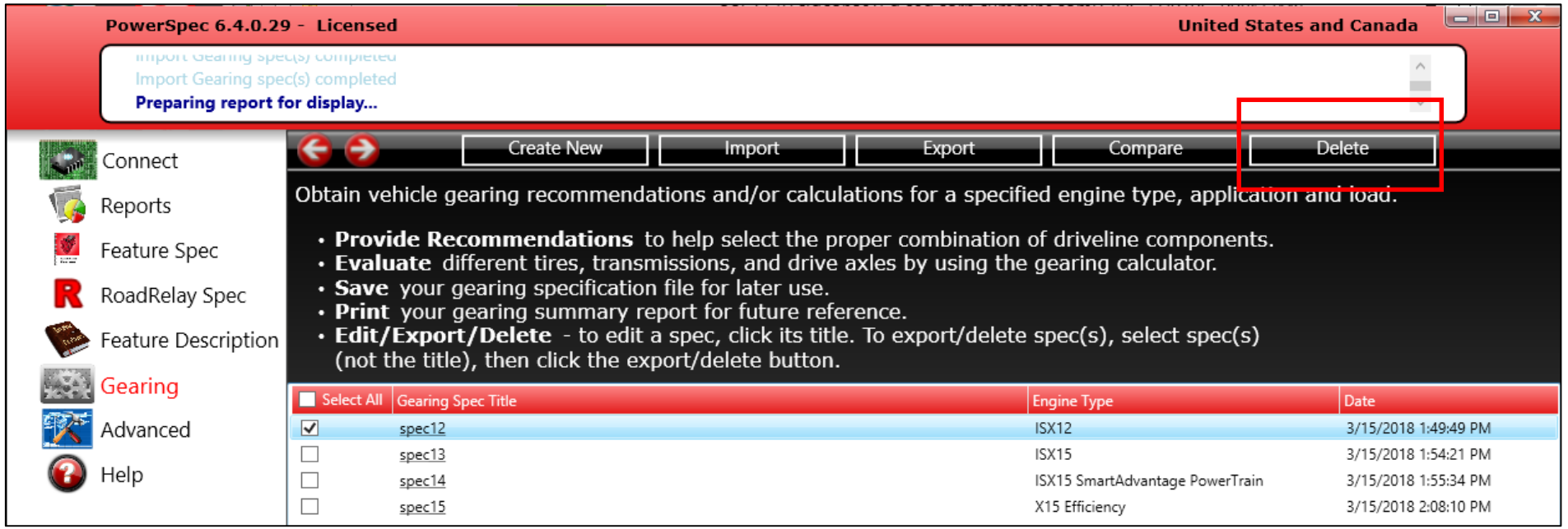
❑ Import Gearing Spec

1. From Gearing Spec list page, click "**Import**" button
2. Navigate to the folder where your Gearing spec located, and select a spec.
3. Click "**Open**" button

Spec'ing Vehicle – Manage Gearing Specs / Delete spec

❑ Delete a Gearing Spec

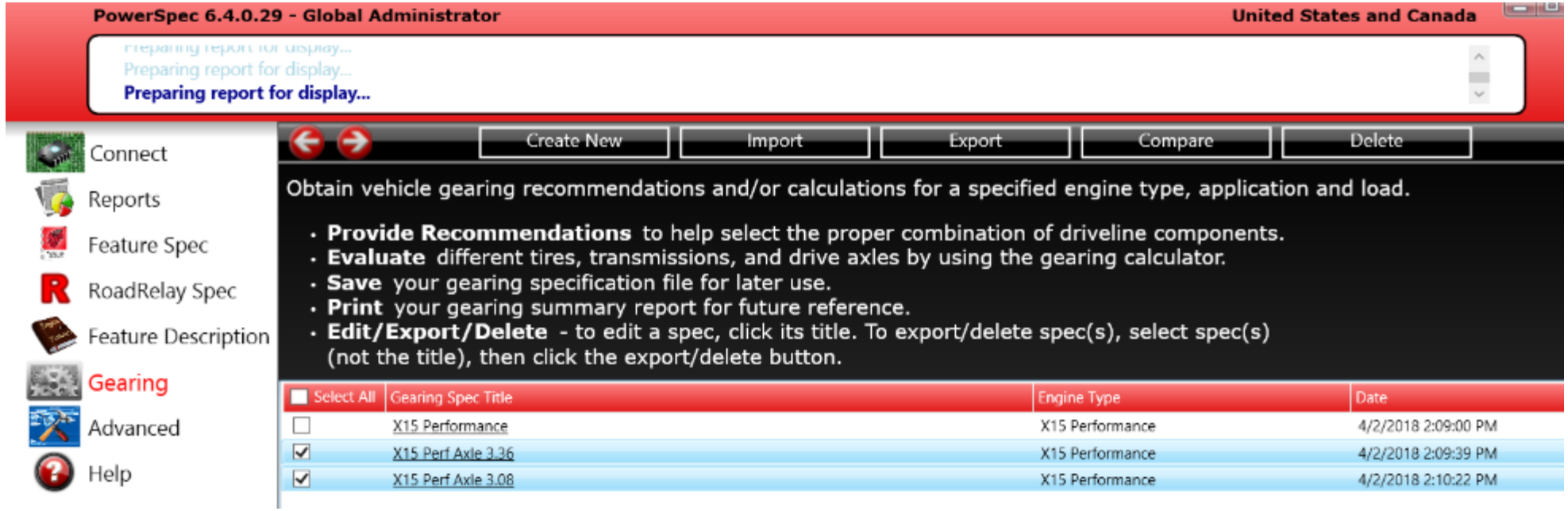
1. From Gearing Spec list page
2. Pick a spec and click on it, but not title. You can pick multiple specs too by clicking the check box at front of a spec
3. Click the "**Delete**" button
4. Click on "**Yes**" in message box asking are you sure you wan to delete the spec



Spec'ing Vehicle – Compare Gearing Specs

❑ PowerSpec allows user to compare two Gearing specs. Follow the steps below to do so

1. Run PowerSpec
2. Click "**Gearing**" link on the left menu. You will see Gearing Spec list page
3. Pick two specs that have the same engine type by clicking the check box at front of a spec
4. Click "**Compare**" button
5. PowerSpec will display the graphs on top of the comparing page vertically and the rest of data side by side

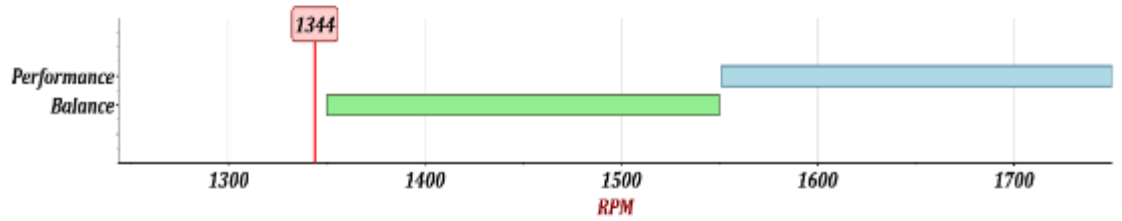


Spec’ing Vehicle – Compare Gearing Specs - continue

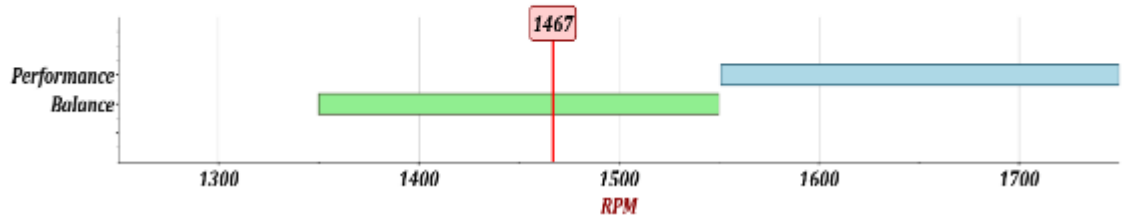
Vehicle Gearing Compare Report

Gearing Graph

Title : X15 Perf Axle 3.08



Title : X15 Perf Axle 3.36



Engine RPM graph comparison

Gearing Recommendation Guidelines

1	For Balance, select a gearing combination that will result in an engine speed of approximately 1350 - 1550 rpm at the vehicle's intended cruise speed (mph).	For Balance, select a gearing combination that will result in an engine speed of approximately 1350 - 1550 rpm at the vehicle's intended cruise speed (mph).

Profile comparison

Spec’ing Vehicle – Compare Gearing Specs - continue

Gearing Spec Title	X15 Perf Axle 3.36	X15 Perf Axle 3.08
Vehicle Profile		
Gearing Recommendation Type	Line Haul	Line Haul
Engine Type	X15 Performance	X15 Performance
Application Type	B Train Double	B Train Double
Your Driveline	Manual	Manual
Emission certification standard/level	EPA 2017	EPA 2017
Operational Objective	Balance	Balance
Rated Gross Combined Vehicle Weight (GCW)	42 ,000 lbs	42 ,000 lbs
Rated Horse Power	485	485
Peak Torque	1850 ft*lb	1850 ft*lb

Profile data comparison

Spec’ing Vehicle – Compare Gearing Specs - continue

Customer Gearing Input

Intended Cruise Speed	65 mph	65 mph
Gross Vehicle Weight	42 ,000 lbs	42 ,000 lbs
Transmission Top Gear Ratio	0.79, Eaton, RTO-12610	0.79, Eaton, RTO-12610
Low Gear Ratio	7.83	7.83
Gear Down Ratio	1	1
Number Of Gears	10	10
Tire Size	510 rev/mi, Generic, Generic	510 rev/mi, Generic, Generic
Rear Axle Ratio	3.36, Meritor, MS-21-14X	3.08, Meritor, MS-21-14X

Inputcomparison

Customer Gearing Output

Engine RPM at Intended Speed	1467	1344
Engine RPM at 65 mph Checkpoint	1467	1344
Engine RPM in GearDown at Intended Speed	1856	1702
Startability	30	27
Gradeability at Cruise Speed	3.59	3.3
Max Gradeability in Top Gear	4.57 (@1150 rpm / 50.97 mph)	3.81 (@1150 rpm / 55.6 mph)

Output comparison

Spec’ing Vehicle – Compare Gearing Specs - continue

Gearing Assessment

This vehicle spec exceeds the minimum Cummins performance requirements and provides opportunity to trade performance for fuel economy by selecting a transmission and/or axle ratio that lowers engine speed, or by selecting an engine with less power.	For this application, the selected gearing combination will result in low RPMS at vehicle cruise speed leading to poor gradeability, requiring excessive gear shifting to maintain speed.
This engine and gearing selection enables the customer to achieve their operational objectives of Balance.	For this application, the selected gearing combination will result in low RPMS at vehicle cruise speed leading to poor gradeability, requiring excessive gear shifting to maintain speed.
This engine and gearing selection enables the customer to achieve their operational objectives of Balance.	To increase engine speed (rpms) at cruise, consider selecting a higher transmission top gear ratio, higher rear axle ratio, or smaller tires.
This engine and gearing selection enables the customer to achieve their operational objectives of Balance.	To increase engine speed (rpms) at cruise, consider selecting a higher transmission top gear ratio, higher rear axle ratio, or smaller tires.
This engine and gearing selection enables the customer to achieve their operational objectives of Balance.	To increase engine speed (rpms) at cruise, consider selecting a higher transmission top gear ratio, higher rear axle ratio, or smaller tires.

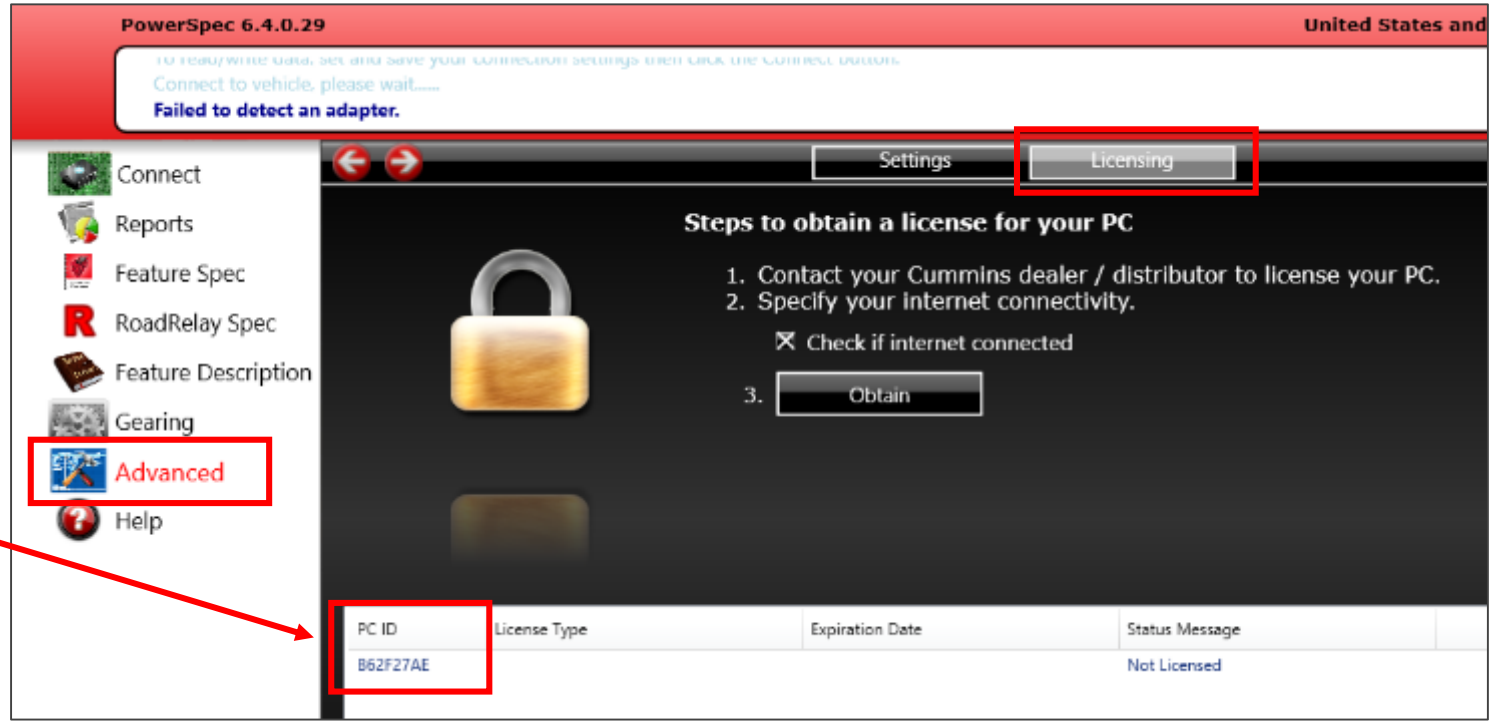
Assessment comparison

License PC

License PC

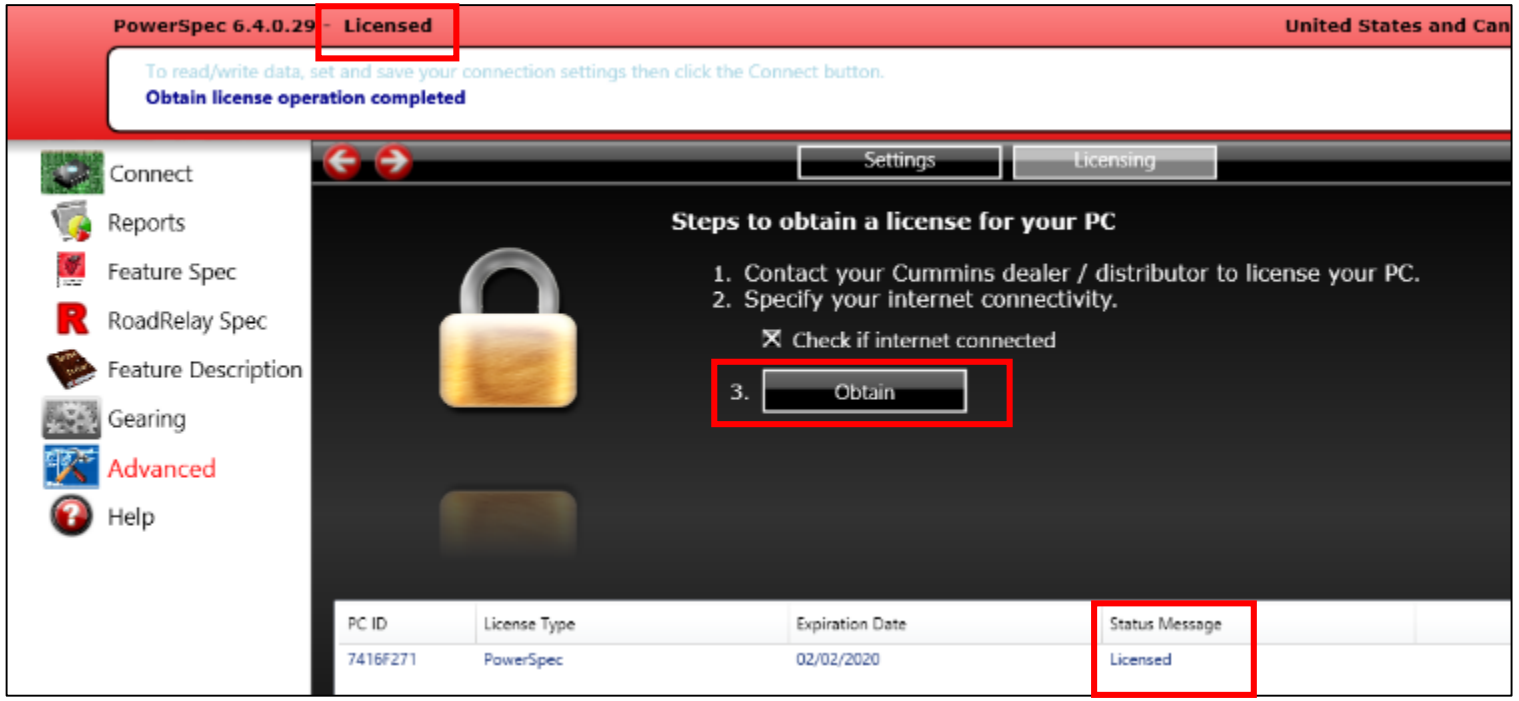
- PowerSpec requires a license to perform actions that write changes to the engine:
  - Transfer Feature Spec
  - Direct Engine Edit
- Unlicensed PowerSpec users can still connect to engines and read all data
- Follow the steps below to license PowerSpec PC

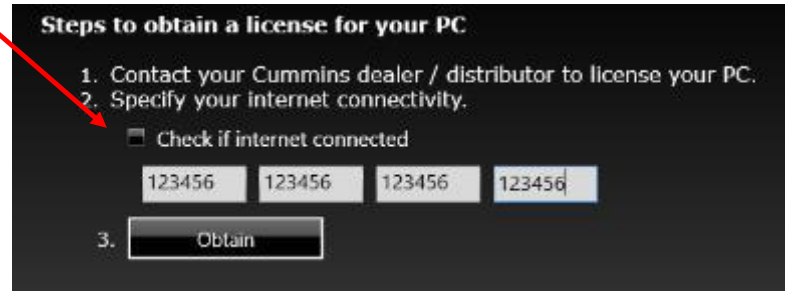
1. Install PowerSpec and complete the Registration
2. Click "**Advanced**" in left menu
3. Click on "**Licensing**" button
4. Note the PC ID
5. Contact your local Cummins Distributor/Dealer to request a license. They will need your PC ID.



License PC-Continued…

6. When notified your license has been created, click the "**Obtain**" button (internet connection required)
7. The License status should now show "Licensed"
8. The title bar should now show "Licensed"
9. <u>If you do not have an internet connection</u>, uncheck the box "**Check if internet connected**"
10. Request your 24 digit license key from the Distributor/Dealer and enter it into the 4 boxes
11. Click the "**Obtain**" button





Note: PowerSpec will notify you one month prior to the license expiration date.

Manage Licenses

- ❑ Create regular/administrator license
- ❑ Create an administrator license
- ❑ Search a license
- ❑ Edit a license
- ❑ Renew a license
- ❑ Delete a license

Manage Licenses

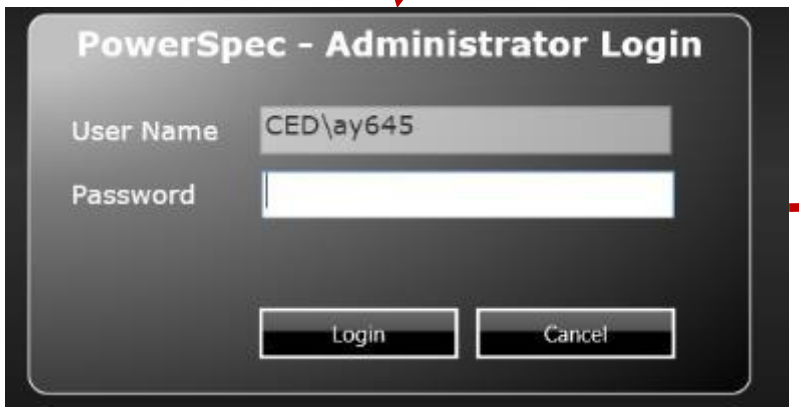
PowerSpec administrators are responsible for maintain licenses for their customers. They can create, edit, renew, and remove licenses. The following table maps the functions for each type of license.

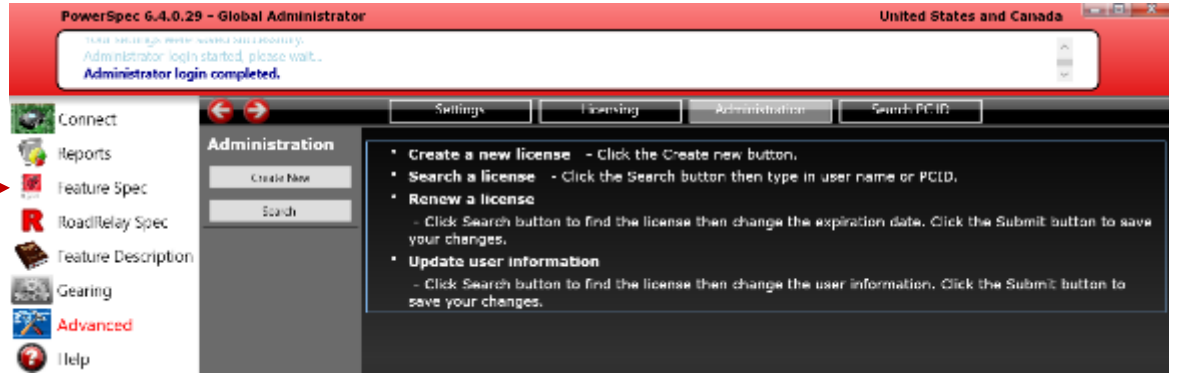
	Privilege	User Level					
	License Type	Default	RoadRelay License	PowerSpec License	PowerSpec Admin	Cummins Care	Global Admin
1	Read Data	x	x	x	x	x	x
2	Reset Trip and Faults	x	x	x	x	x	x
3	Transfer par file						
4	Transfer Hot Spec	x	x	x	x	x	x
5	Transfer RoadRelay Spec		x	x	x	x	x
6	Create RoadRelay Hot Spec		x	x	x	x	x
7	Create Engine Hot Spec			x	x	x	x
8	Create CE Hot Spec			x	x	x	x
9	Transfer Engine Spec			x	x	x	x
10	Direct Engine Edit			x	x	x	x
11	Create a regular License				x	x	x
12	Transfer license among Admins				x	x	x
13	Renew regular license				x	x	x
14	Renew Administrator Licenses					x	x
15	Transfer Licenses across a region					x	x
16	Search Admin info from a region					X	x
17	Create Admin license						x

Manage License – Log in

- Login is required for PowerSpec administrator to manage the licenses
- PowerSpec administrator uses their PC credential to log in
- Follow the steps below to login to PowerSpec administration page
  1. Run PowerSpec
  2. Go to “**Advanced**” then click “**Administration**” button
  3. Enter your PC password then click “**Login**” button

Manage License – Log in - continue

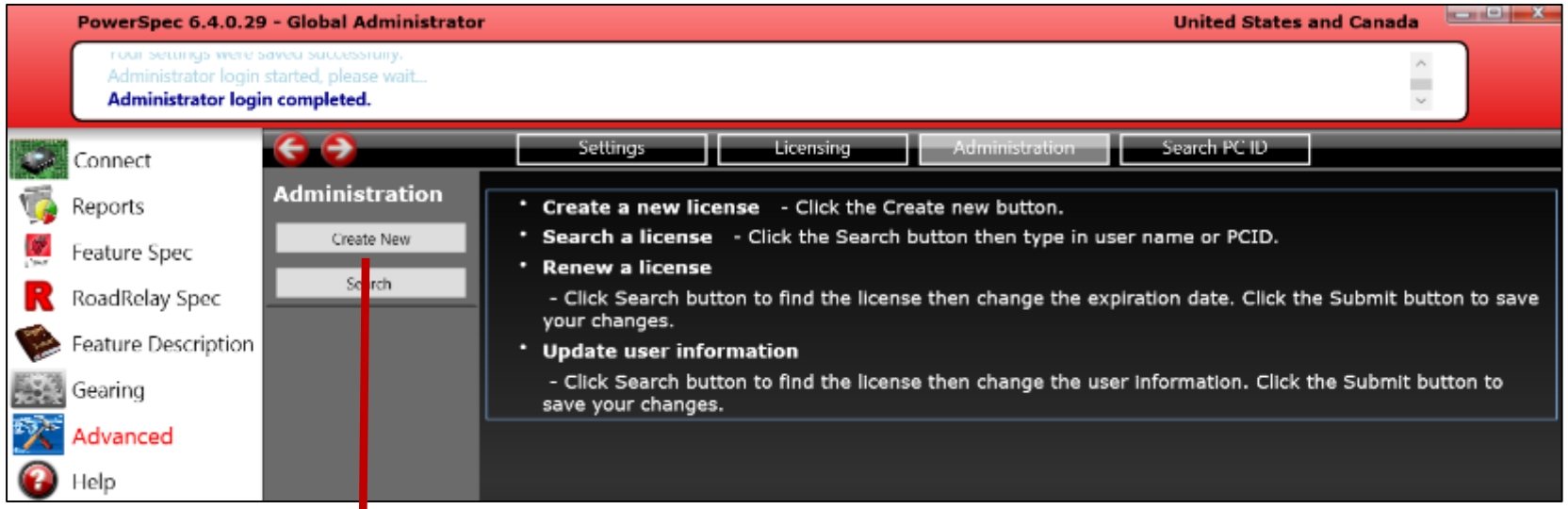


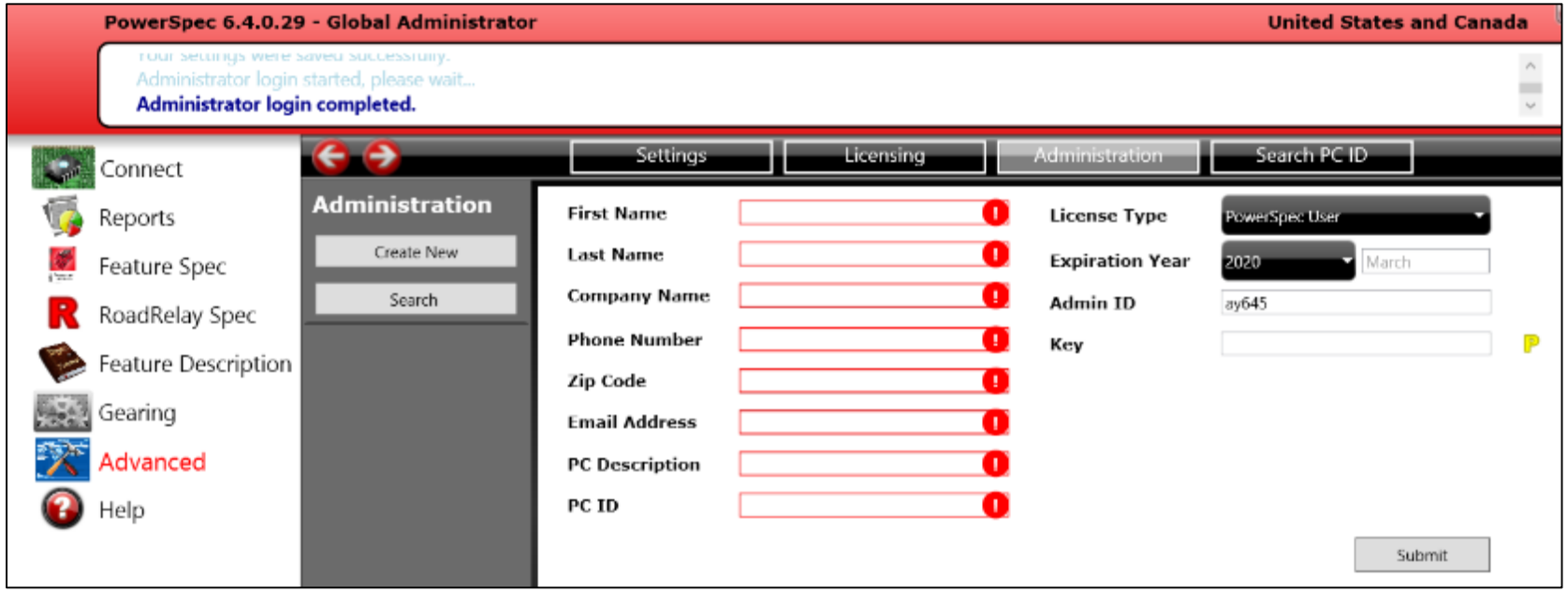


Manage License – Create regular / administrator license

- License is required for writing data to a truck
- Follow the steps below to create a license
  1. Run PowerSpec
  2. Go to “**Advanced**” then click “**Administration**” button
  3. Login
  4. Click “**Create New**” button
  5. Fill all fields. Make sure the license type is PowerSpec user.
  6. Click the “**Submit**” button

Manage License – Create regular / administrator license - continue

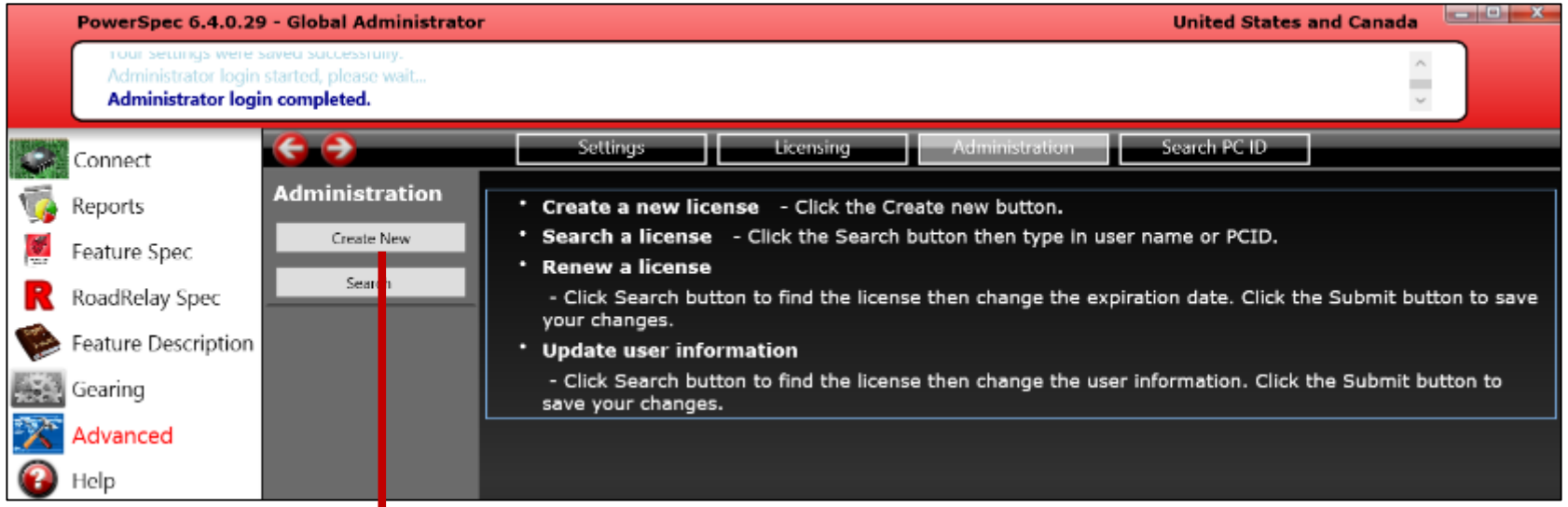


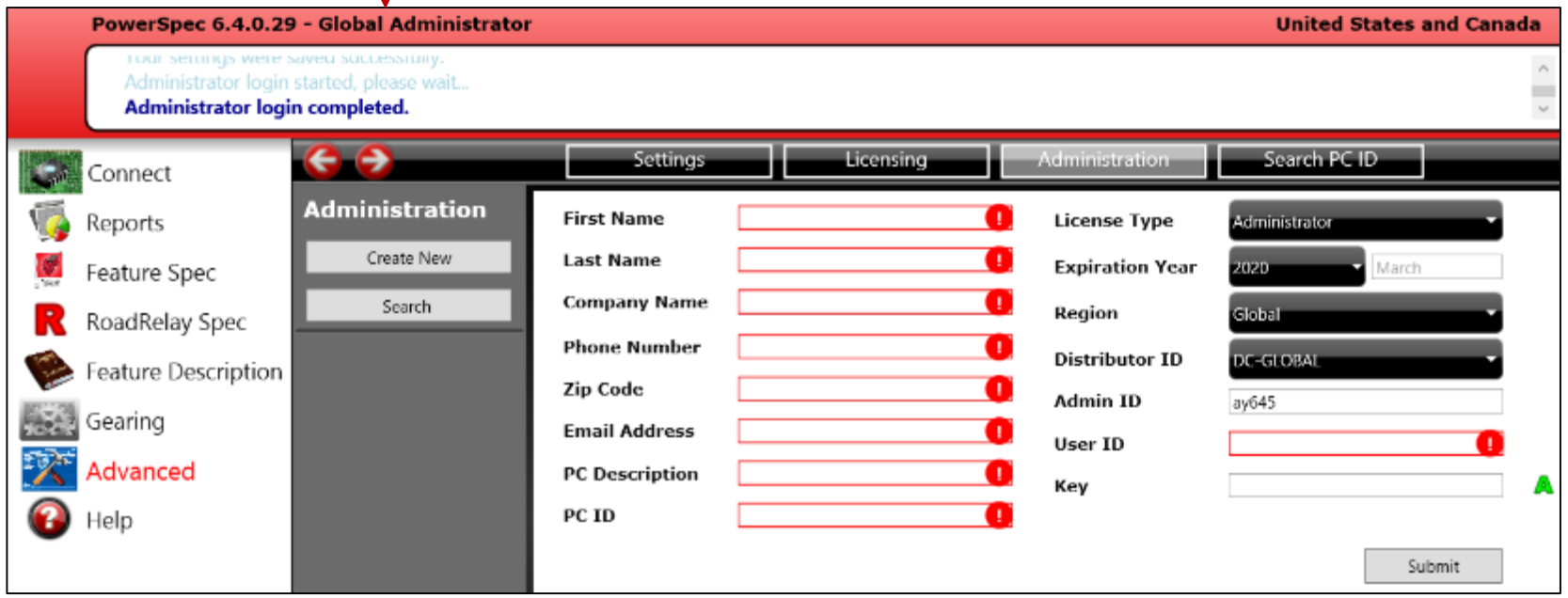


Manage License – Create an administrator license

- Administrator License requires additional info: WWID, distributor code and an approval from marketing
- Only PowerSpec global administrator can create an administrator license
- Follow the steps below to create an administrator license
  1. Run PowerSpec
  2. Go to “**Advanced**” then click “**Administration**” button
  3. Login
  4. Click “**Create New**” button
  5. Fill all fields.
  6. Set the license type as “**Administrator**”.
  7. Click the “**Submit**” button

Manage License – Create an administrator license - continue

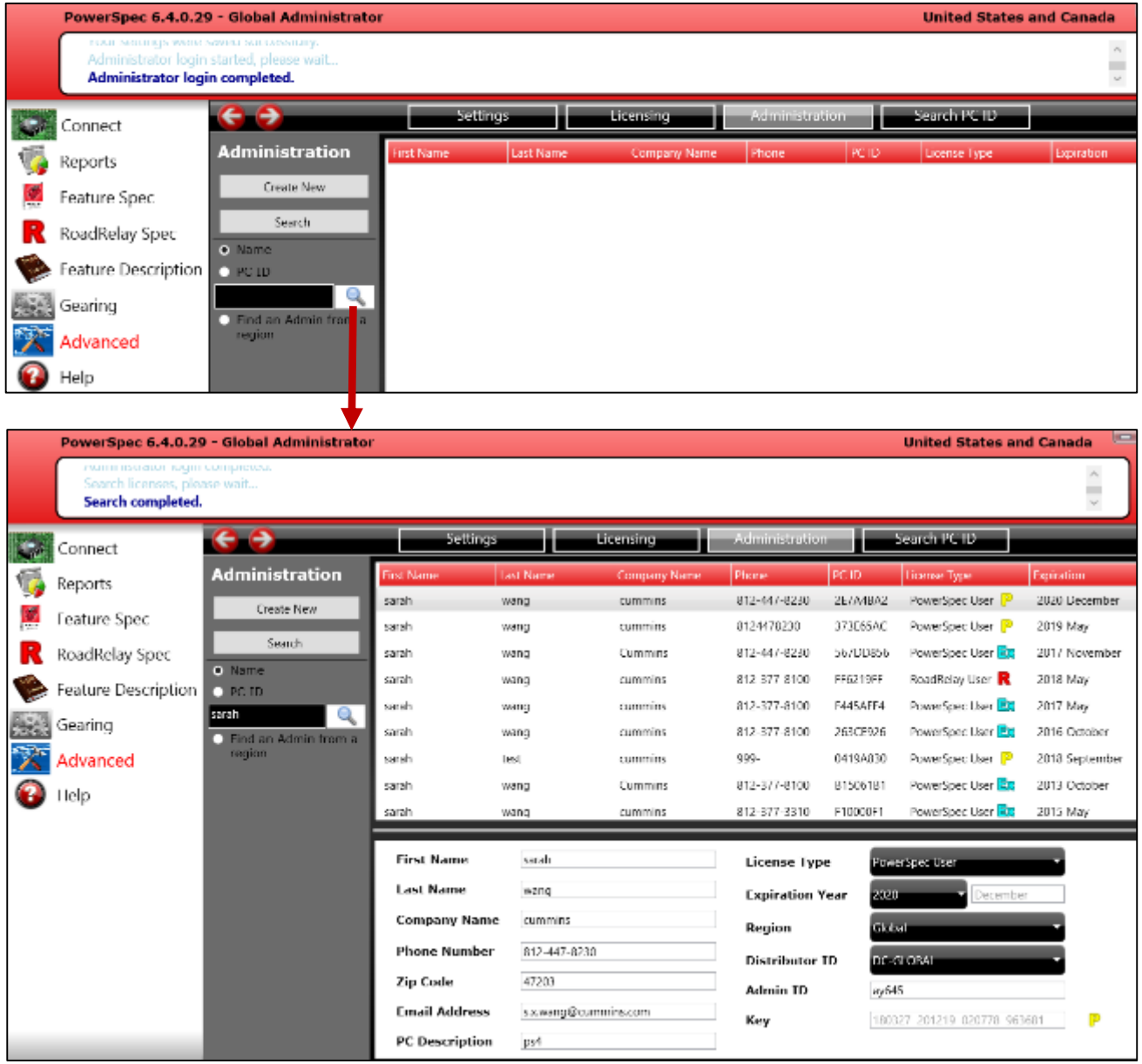




Manage License – Search License

- Follow the steps below to search a license
  1. Run PowerSpec
  2. Go to “**Advanced**” then click “**Administration**” button
  3. Enter your PC password then click “**Login**” button
  4. Click the “**Search**” button
  5. Enter a first/last name or phone number. You can also enter a PCID
  6. Click the magnifying glass button

Manage License – Search License - continue



Manage License – Edit License

- Follow the steps below to search a license
  1. Run PowerSpec
  2. Go to “**Advanced**” then click “**Administration**” button
  3. Enter your PC password then click “**Login**” button
  4. Click the “**Search**” button
  5. Enter a first/last name or phone number. You can also enter a PCID
  6. Click the magnifying glass button
  7. Once PowerSpec displayed the search result, click the license
  8. You can modify the fields that are editable
  9. Click the “**Submit**” button to save

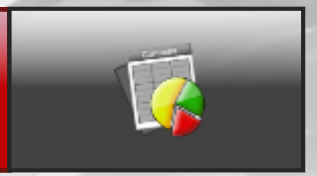
Manage License – Renew License

- Follow the steps below to search a license
  1. Run PowerSpec
  2. Go to “**Advanced**” then click “**Administration**” button
  3. Enter your PC password then click “**Login**” button
  4. Click the “**Search**” button
  5. Enter a first/last name or phone number. You can also enter a PCID
  6. Click the magnifying glass button
  7. Once PowerSpec displayed the search result, click the license
  8. Change the expiration year
  9. Click the “**Submit**” button to save

Manage License – Delete License

- Follow the steps below to search a license
  1. Run PowerSpec
  2. Go to “**Advanced**” then click “**Administration**” button
  3. Enter your PC password then click “**Login**” button
  4. Click the “**Search**” button
  5. Enter a first/last name or phone number. You can also enter a PCID
  6. Click the magnifying glass button
  7. Once PowerSpec displayed the search result, click the license
  8. Click the “**Remove**” button
  9. Click “**Yes**” button on the confirmation window
  10. Click “**OK**” on the successful window

View Reports



- View Reports
  - Fault Codes
  - Trip Information
  - Feature Settings
  - Sudden Deceleration
  - Change
  - Fuel Economy
  - Compare
  - History
  - Duty Cycle
  - AfterTreatment
- Setup
  - Fleet for Engine
  - Trip Template
  - Trip Report
  - Trip Group
- Manage
  - Export Engine Trip Report
  - Delete Report

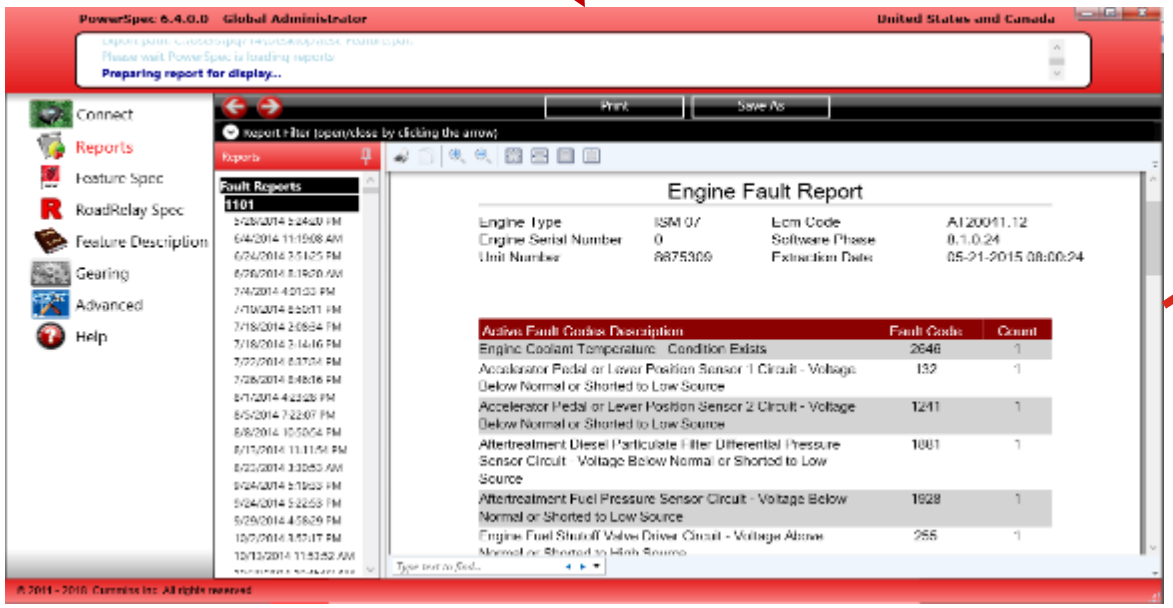
View Reports

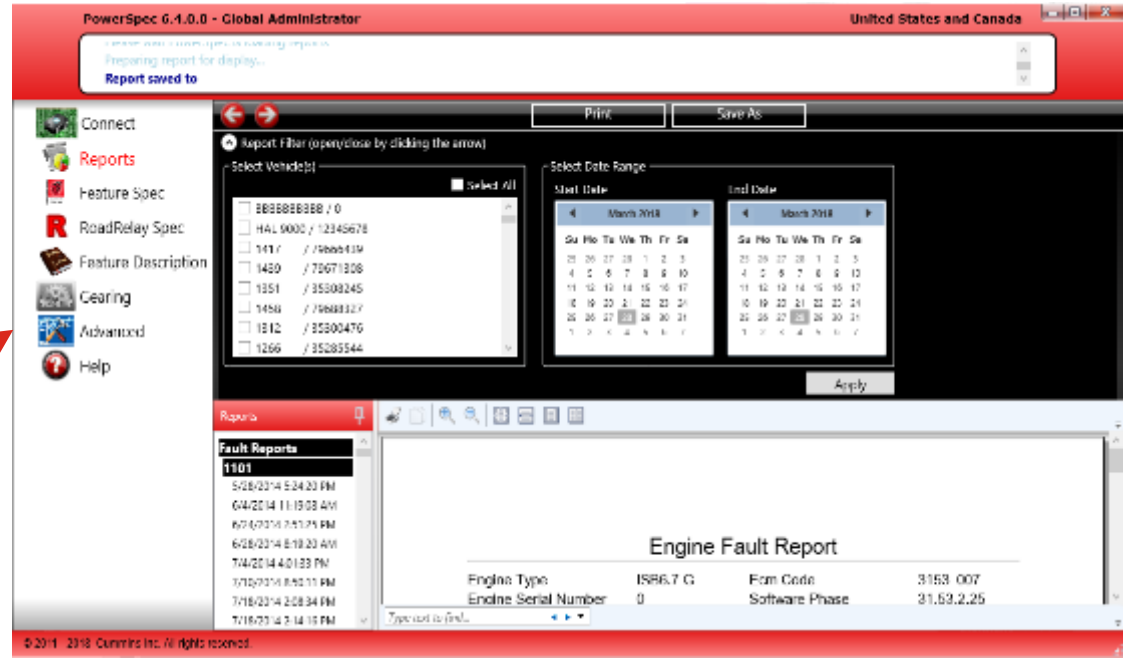
- PowerSpec also allows you the ability to read different types of engine data. When user read data from connected engine, PowerSpec save this data into local database for future reference.
- After reading reports ,user can save report into various available file format (eg. excel, pdf, csv) by clicking on “Save As” button and can take hard Print out also.

View Reports – Fault Codes

- A “Fault code” is an alphanumeric value that corresponds to a particular type of fault that engine experienced.
- Follow the below steps to access “**Fault codes**” report-
  1. Select “**Reports**” from left menu.
  2. Select “**View**” from the top of the page.
  3. Then click on “**Fault Codes**” icon.
  4. User can filter Fault Codes report by selecting vehicle and date range.

View Reports – Fault Codes - continue

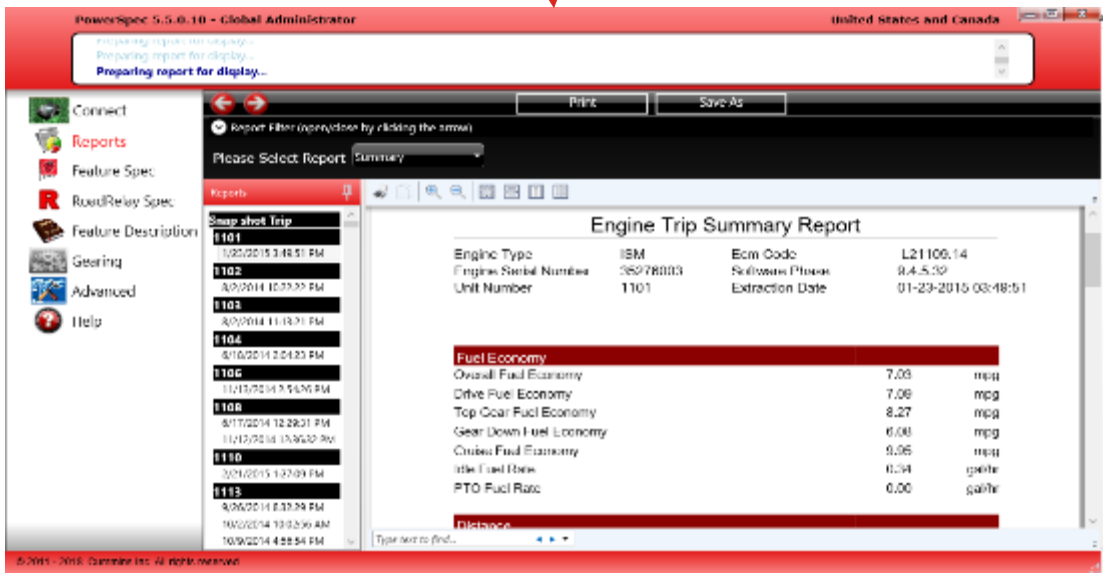


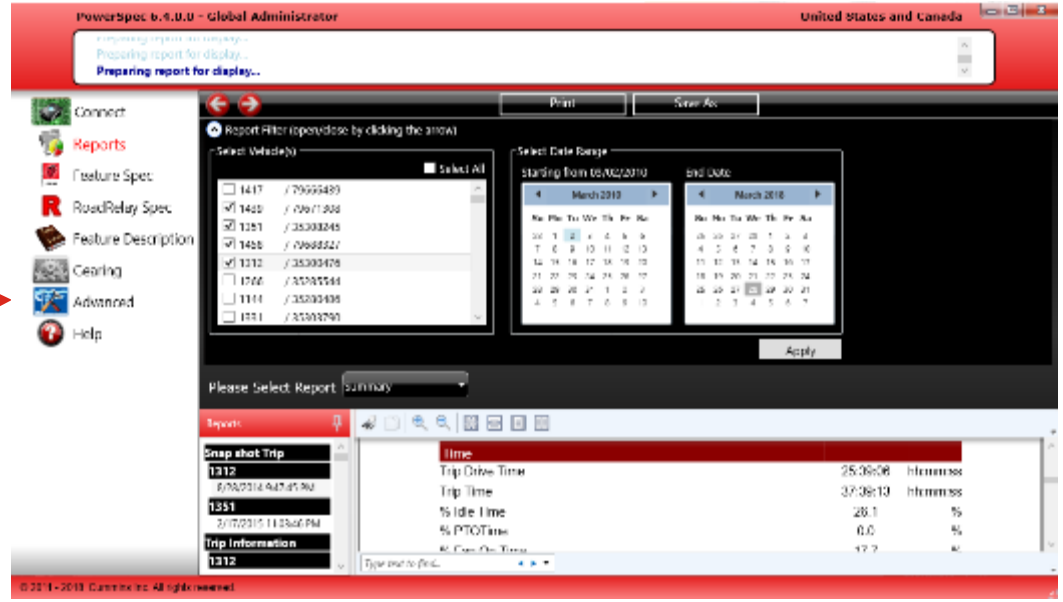


View Reports- Trip Information

- Trip information can then be downloaded and organized into useful reports using PowerSpec.
- Trip Information - Trip information can be viewed in summary, detail, operating and one page reports. Summary will give a high level overview of fuel economy, distance traveled, time travelled and other averages. Follow the below steps to access "**Trip Information**" report-
  1. Select "**Reports**" from left menu.
  2. Select "**View**" from the top of the page.
  3. Then click on "**Trip Information**" icon.
  4. User can filter "**Trip Information"** report by selecting vehicle and date range..

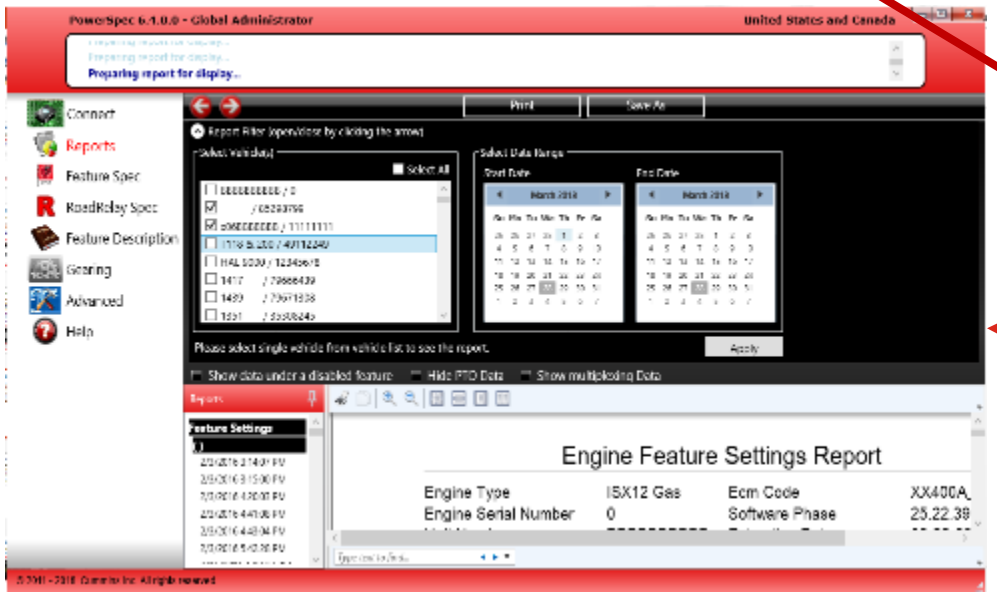
View Reports- Trip Information

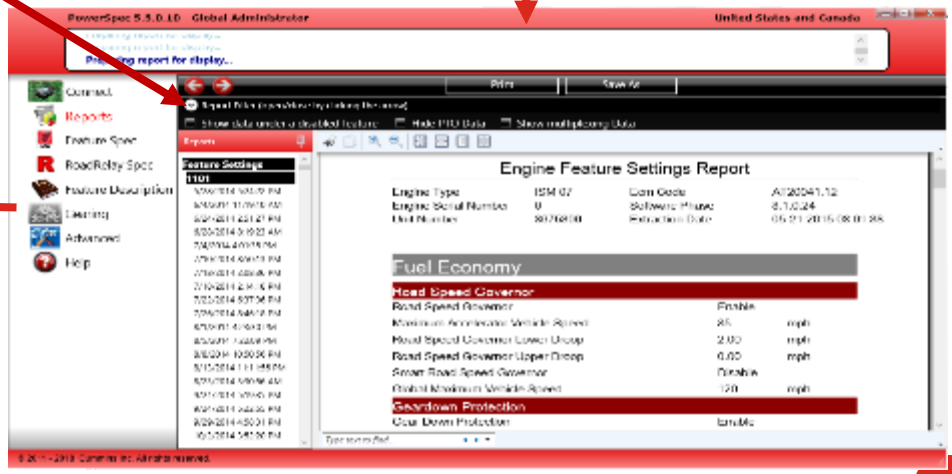




View Reports- Feature Settings

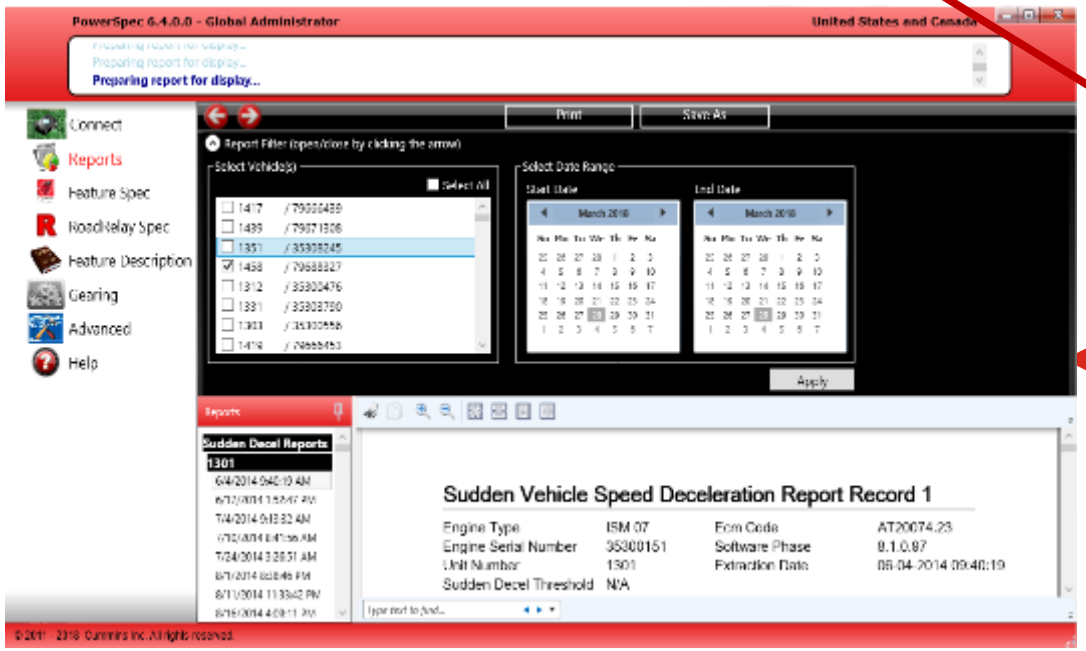
- Feature Settings - User can easily check a list of the feature settings of each engine selected in Feature settings Report. This includes data on disabled features, multiplexing data and hide pto data, if selected at the top of the report. Follow the below steps to access "**Feature Settings"** report-
  1. Select "**Reports**" from left menu.
  2. Select "**View**" from the top of the page.
  3. Then click on "**Feature Settings**" icon.
  4. User can filter "**Feature Settings"** report by selecting vehicle and date range.

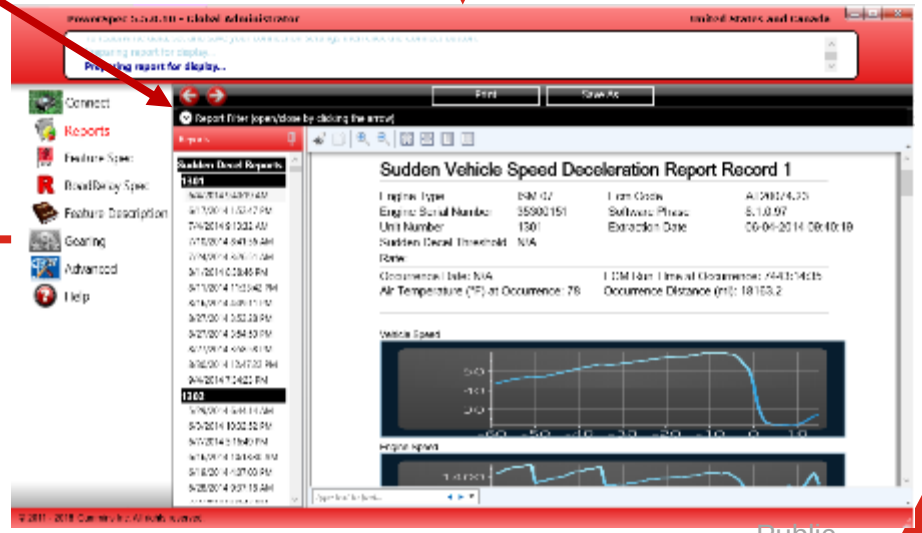




View Reports- Sudden Deceleration

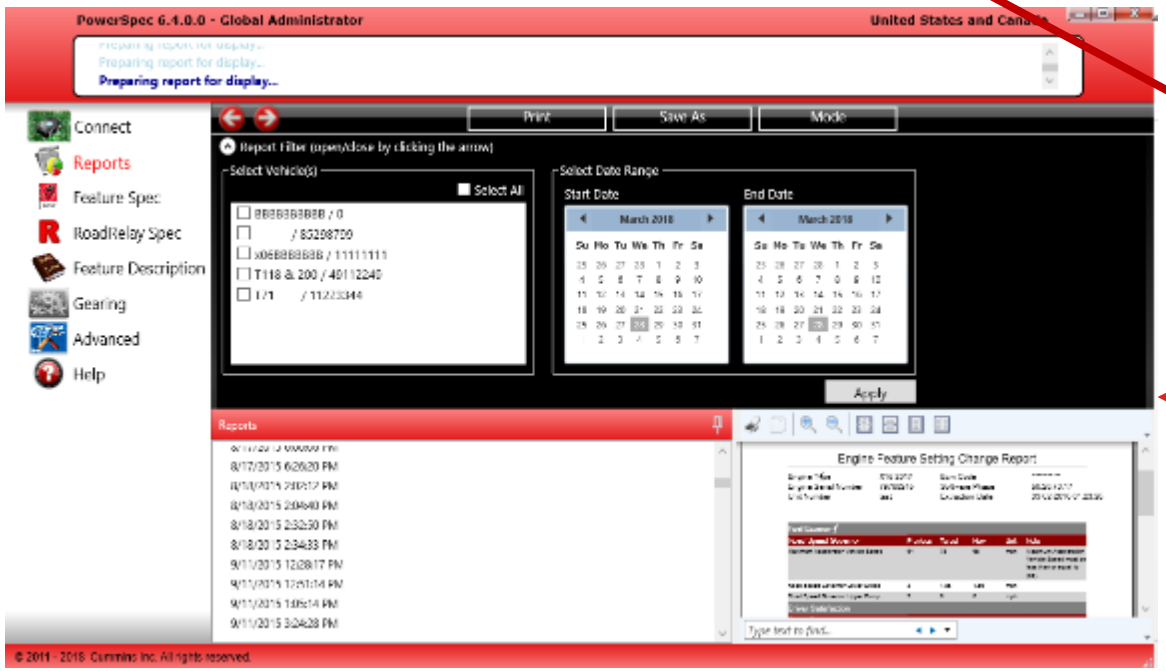
- Sudden Deceleration - PowerSpec displays graphically sudden decal events. The report includes the time, vehicle speed, engine speed, engine load, and throttle during an event. Follow the below steps to access "**Sudden Deceleration"** report-
  1. Select "**Reports**" from left menu.
  2. Select "**View**" from the top of the page.
  3. Then click on "**Sudden Deceleration**" icon.
  4. User can filter "**Sudden Deceleration"** report by selecting vehicle and date range.

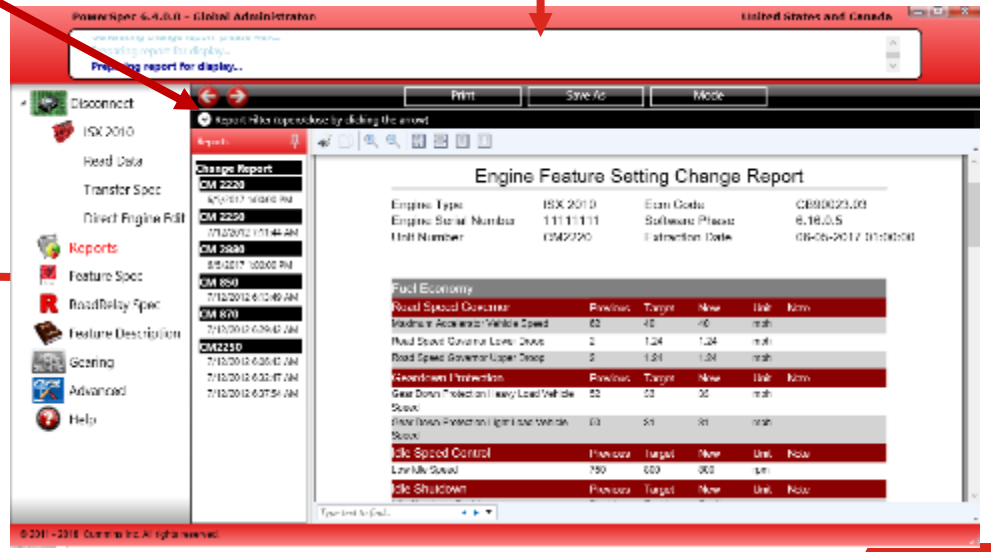




View Reports- Change Report

- Change Report – Change report shows the history of changes made to an engine's feature settings. Follow the below steps to access "**Change Report"** report-
  1. Select "**Reports**" from left menu.
  2. Select "**View**" from the top of the page.
  3. Then click on "**Change**" icon.
  4. User can filter "Change" Report report by selecting vehicle and date range.

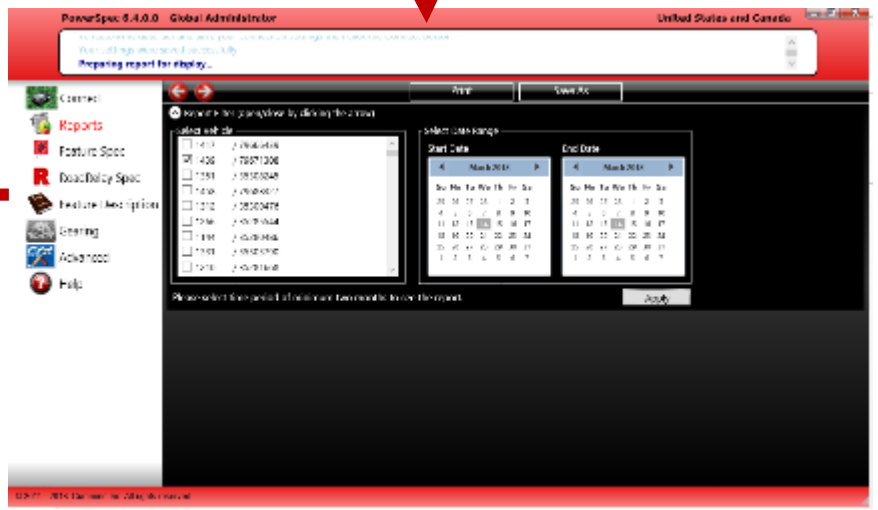


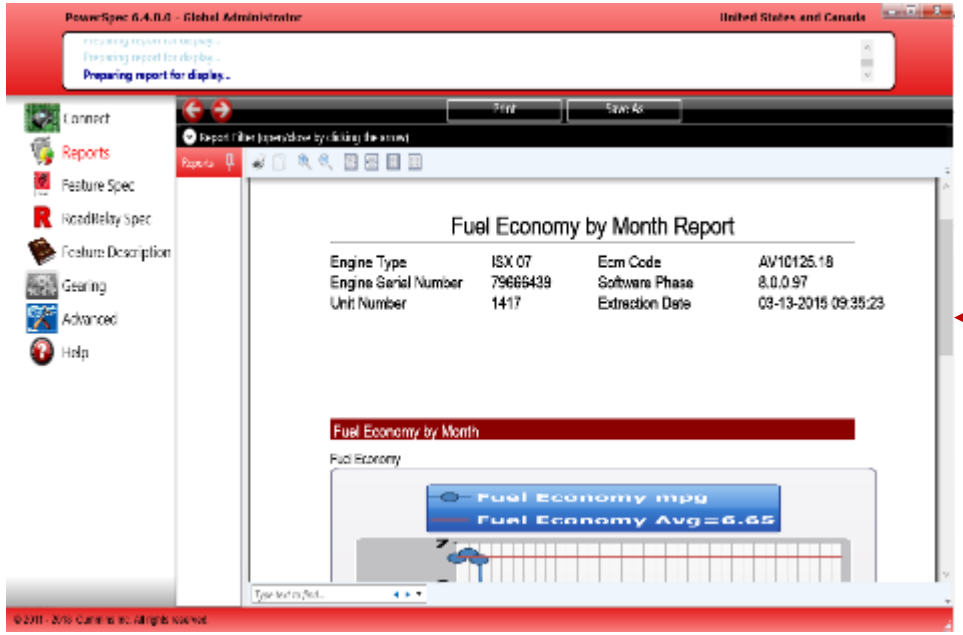


View Reports- Fuel Economy

- Fuel Economy - The ”Fuel Economy” reports shows the relationship between the distance traveled and the amount of fuel consumed by the vehicle. Follow the below steps to access “**Fuel Economy”** report-

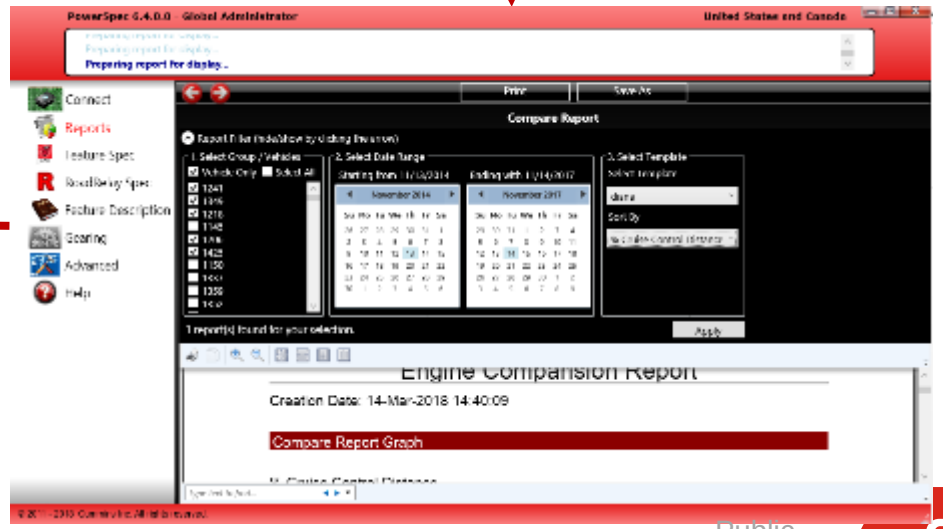
1. Select “**Reports**” from left menu.
2. Select “**View**” from the top of the page.
3. Then click on “**Fuel Economy**” icon.
4. Select vehicle ,date range and then click on “**Apply**” button.

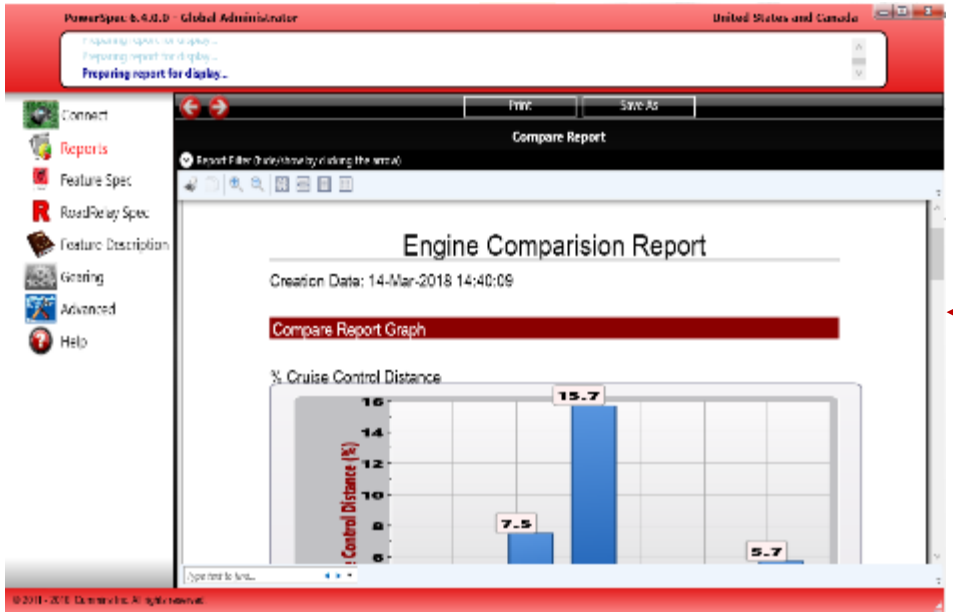




View Reports- Compare Report

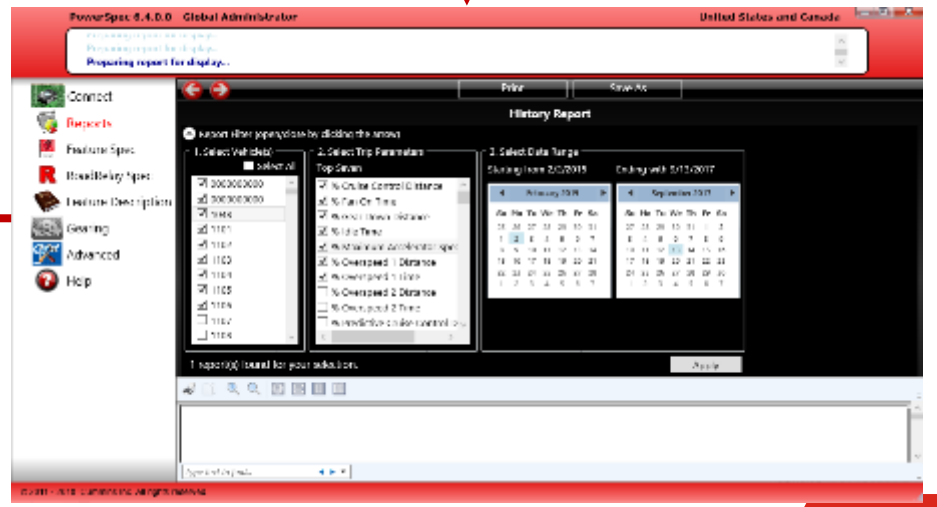
- Compare Report – Compare report shows compare metrics and graph for selected vehicle. Follow the below steps to access “Compare report”-
  1. Select “**Reports**” from left menu.
  2. Select “**View**” from the top of the page.
  3. Then click on “**Compare**” icon.
  4. Select vehicle, date range, template(**describe in Setup Report – Trip Template slide**) and sort by parameter then click on “**Apply**” button.

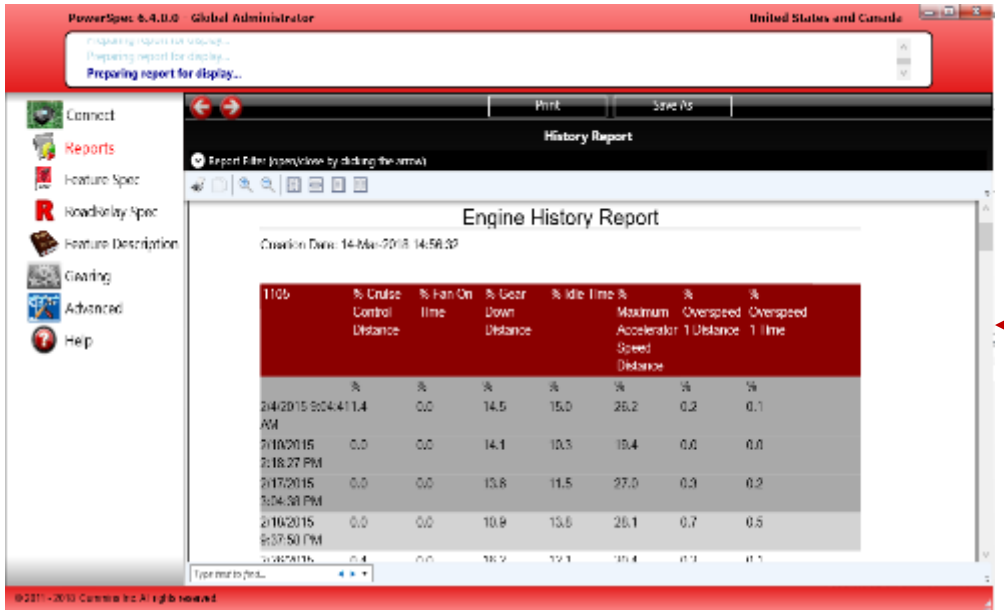




View Reports- History Report

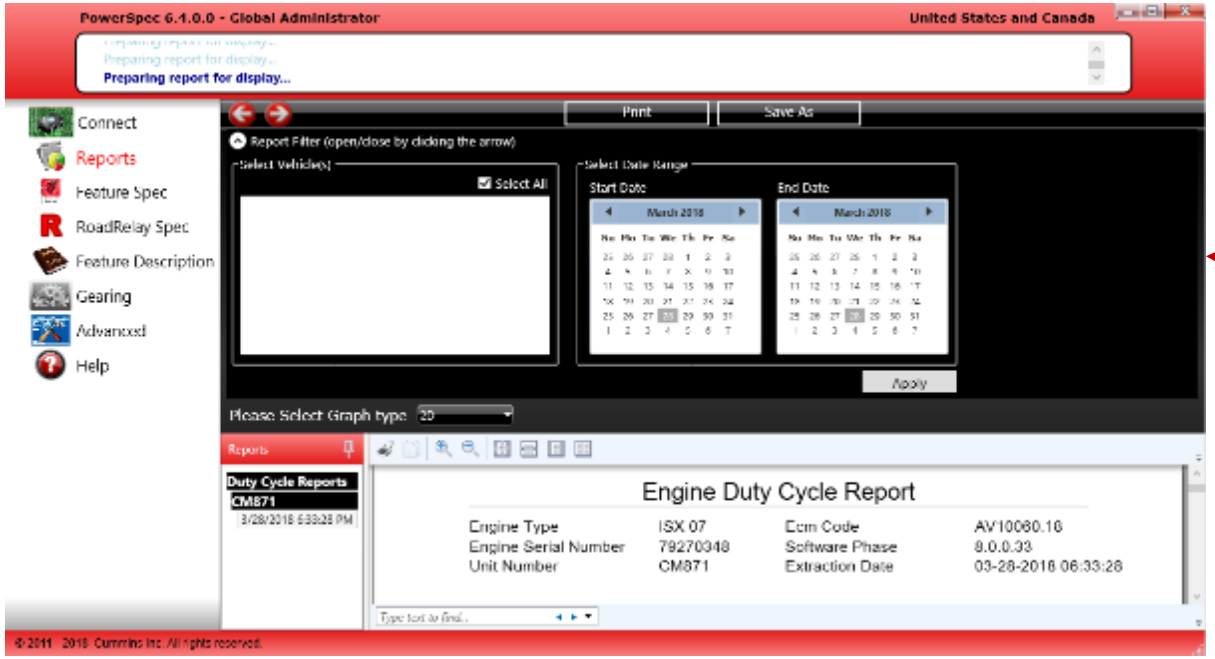
- History Report – History reports shows data for selected vehicle on basis of selected trip parameters. User can select maximum seven trip parameters. Follow the below steps to access "**History report**"-
  1. Select "**Reports**" from left menu.
  2. Select "**View**" from the top of the page.
  3. Then click on "**History**" icon.
  4. Select vehicle, Trip parameters and date range, then click on "**Apply**" button.

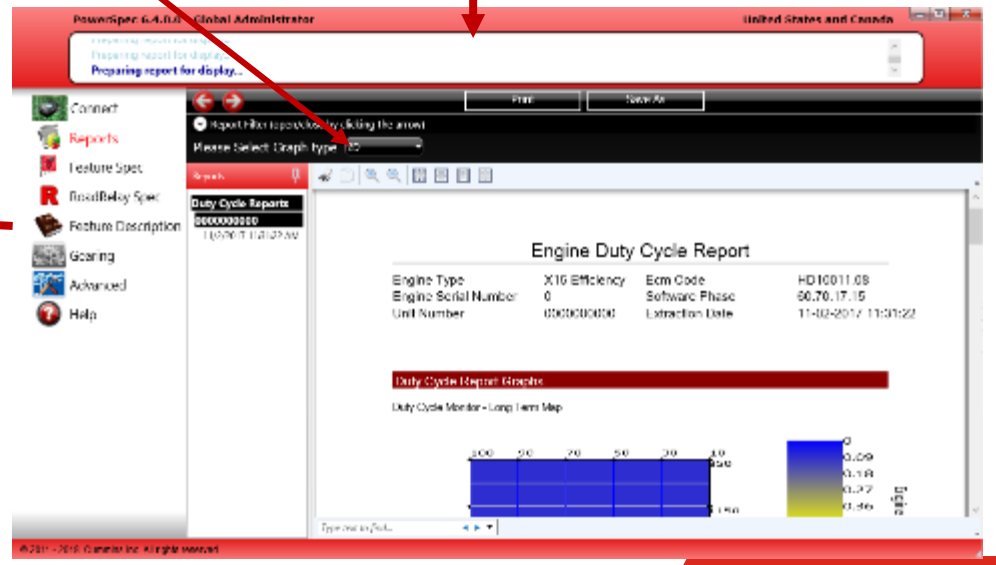




View Reports- Duty Cycle

- Duty Cycle Report - Duty cycle reports shows proportion of time during which a vehicle is operated. Follow the below steps to access Duty Cycle report-
  1. Select "**Reports**" from the left menu.
  2. Select "**Manage**" from the top of the page.
  3. Then click on "**Duty Cycle**".
  4. User can set select few options from the report to display report in 2D,3D .
  5. User can filter "**Duty Cycle"** report by selecting vehicle and date range.

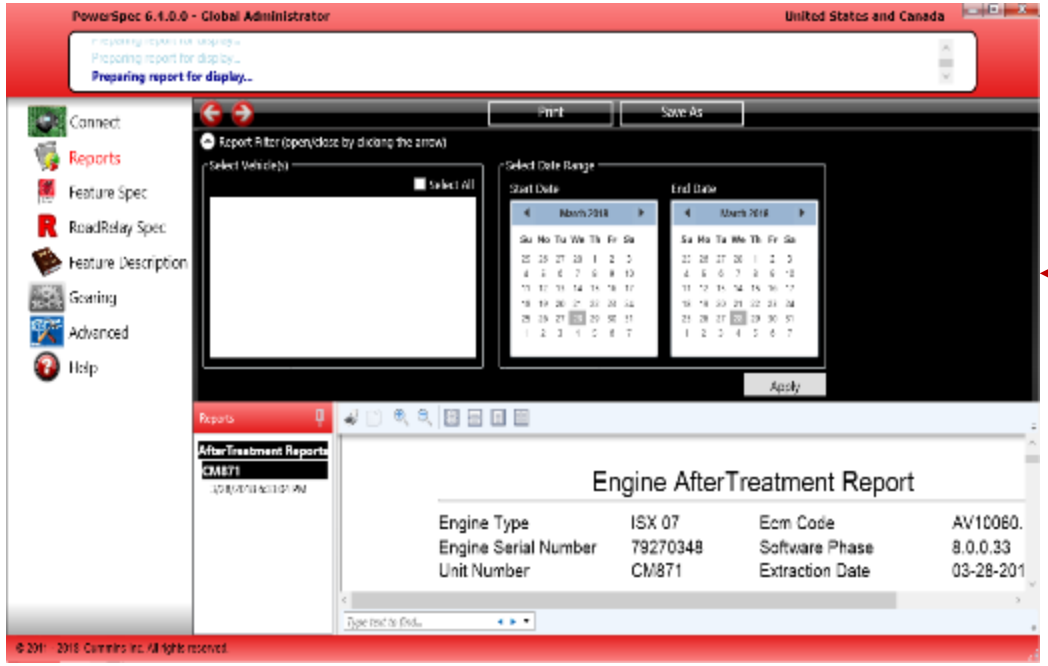


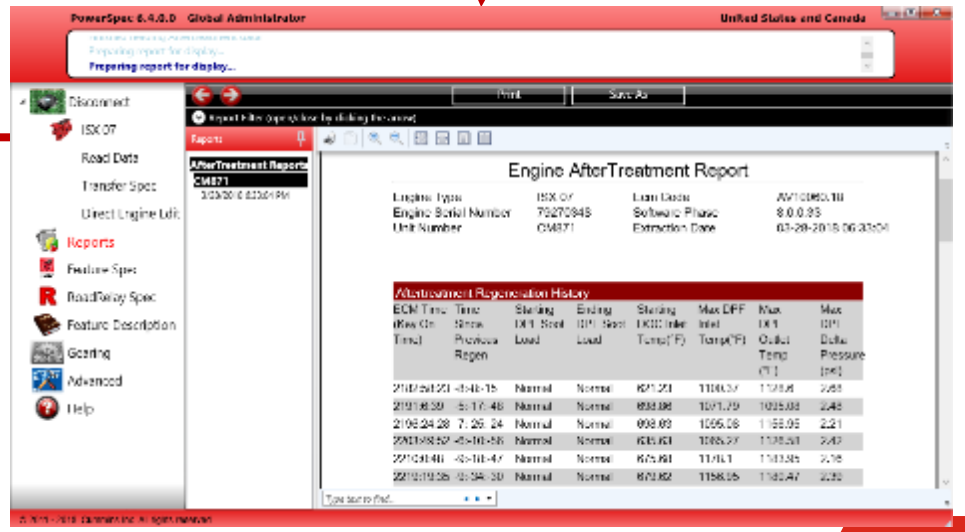


View Reports- AfterTreatment

❑AfterTreatment Report - Follow the below steps to access AfterTreatment report-

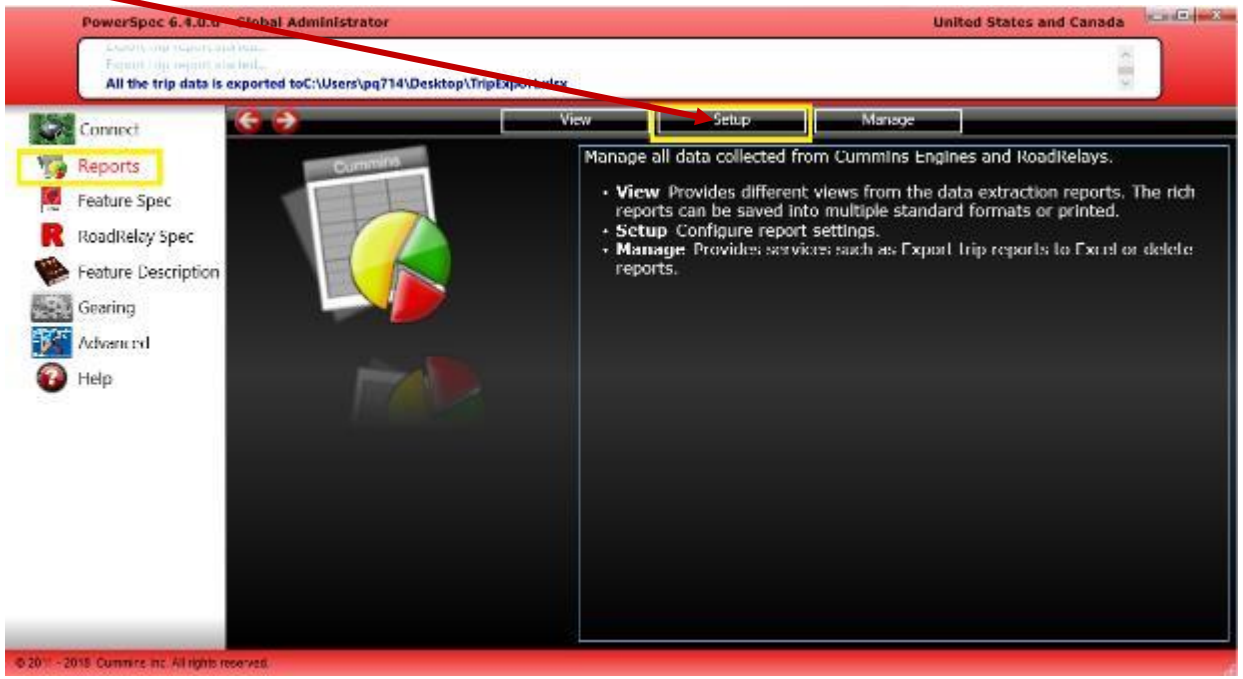
1. Select “**Reports**” from the left menu.
2. Select “**Manage**” from the top of the page.
3. Then click on “**AfterTreatment**”.
4. User can filter “**AfterTreatment”** report by selecting vehicle and date range.





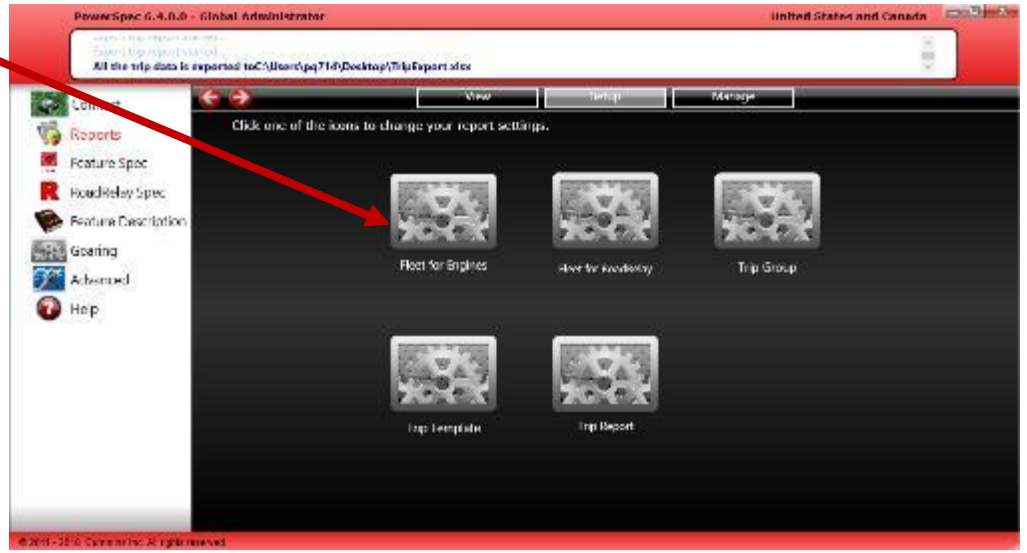
Setup Report – Fleet for engine

- Fleet for engine – User can add fleets, sub-fleets or add a vehicle. When you read data from a truck, the trip information is stored under the default fleet/ sub-fleet, automatically. Any truck can be added to a fleet you created by simply dragging and dropping. PowerSpec helps in managing multiple vehicles and engines in a consolidated place under “Fleet for engine” functionality. Follow the below steps to add fleet, sub-fleets –
  1. Select “**Reports**” from left menu.
  2. Select “**Setup**” from the top of the page.

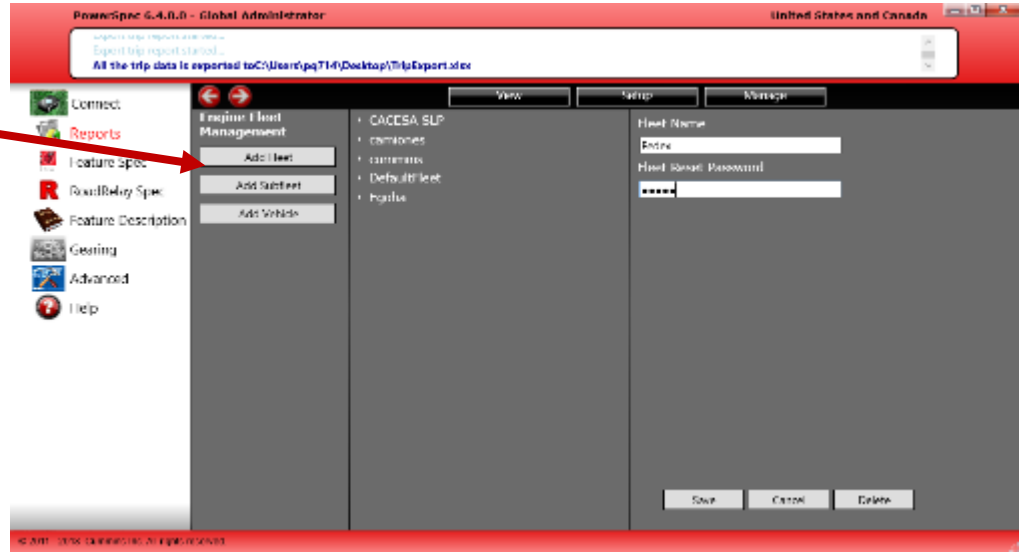


Setup Report – Fleet for engine

3. On the following page, click on “**Fleet for engine**” icon.

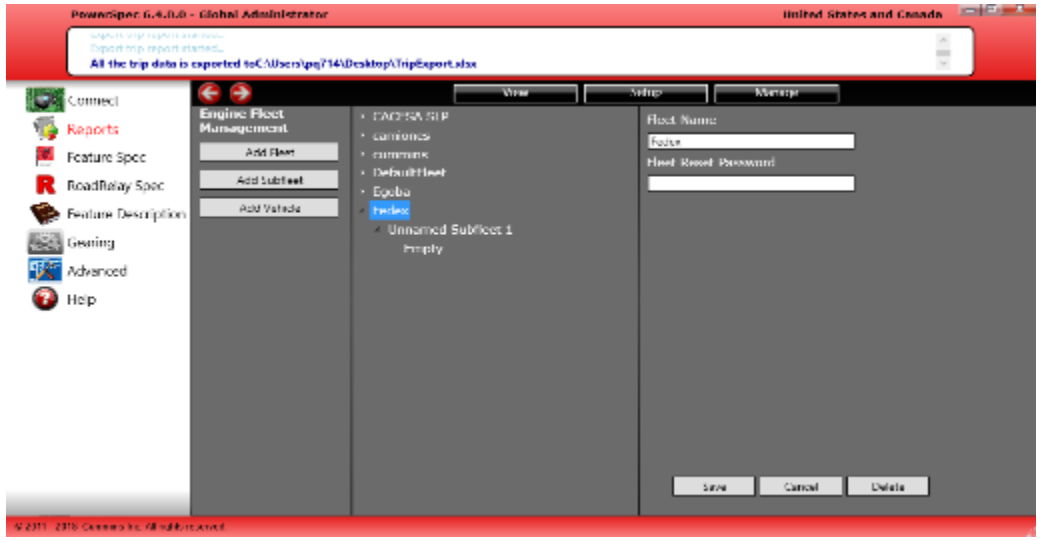


4. Click on “**Add Fleet**” .
5. Give Fleet name ag. Fedex and Fleet reset password and click on “Save”.

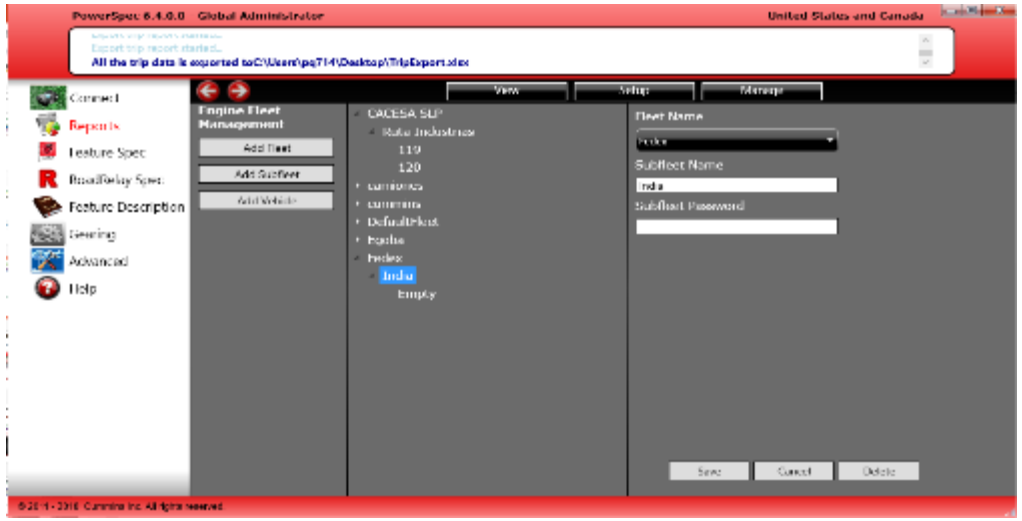


Setup Report – Fleet for engine

6. After clicking on save, newly added fleet(Fedex) will be reflect in the list. A default subfleet (Unnamed SubFleet1) will be added automatically.

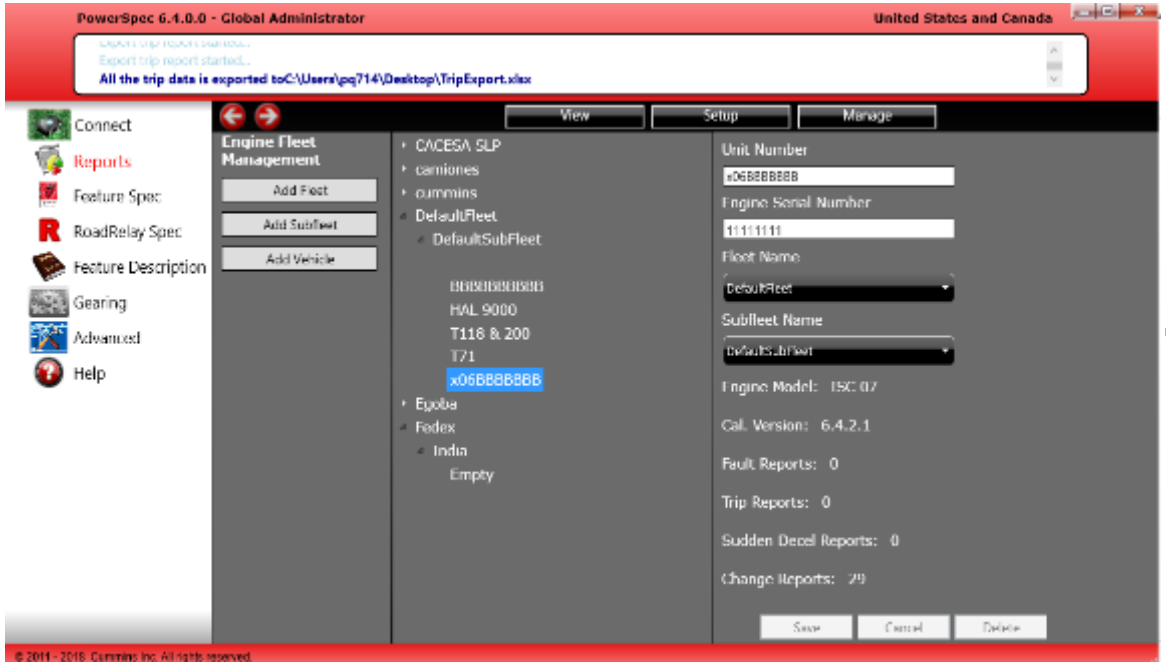


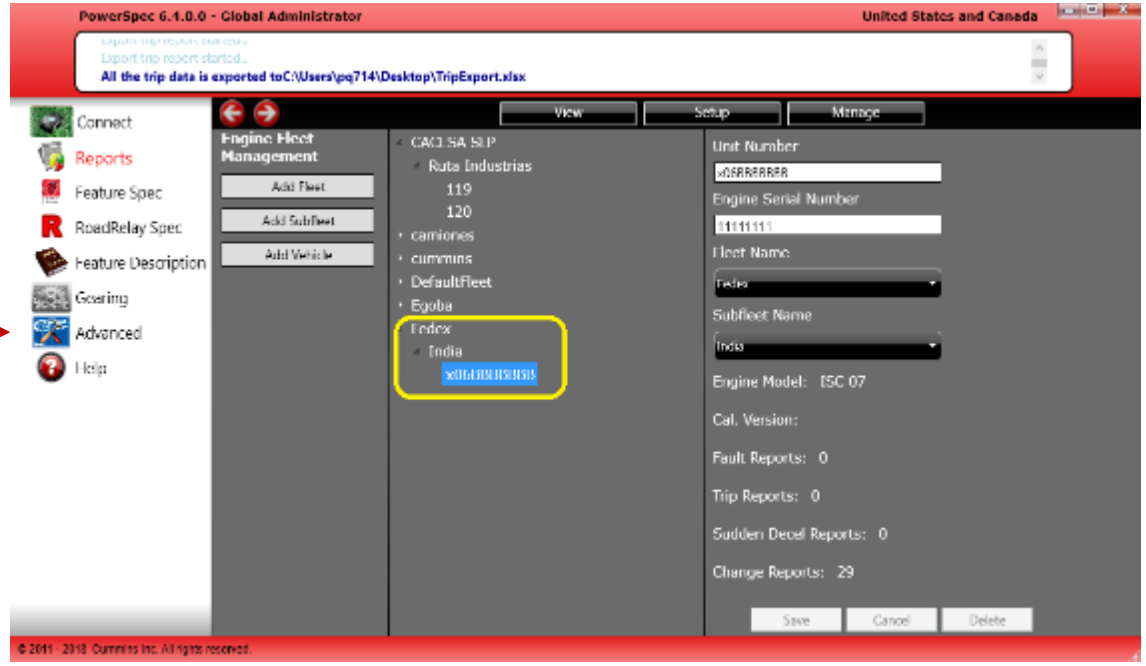
7. Select this subfleet and give name to this and click on “Save”.



Setup Report – Fleet for engine

8. After this you can add vehicle under this subfleet or you can drag vehicle from Default Fleet and drop under your created Fleet. Eg drag selected unit number and drop it to you Fleet/subfleet.

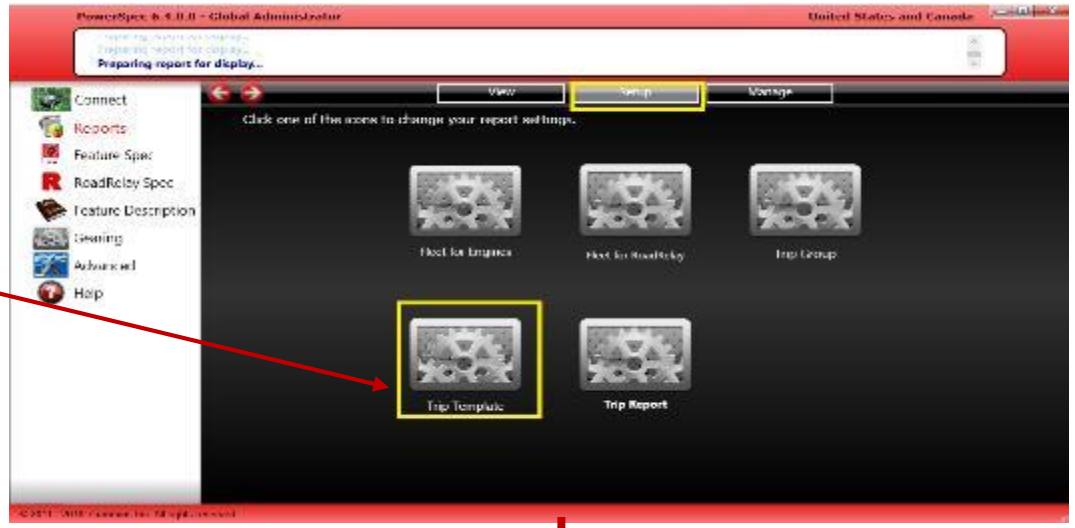


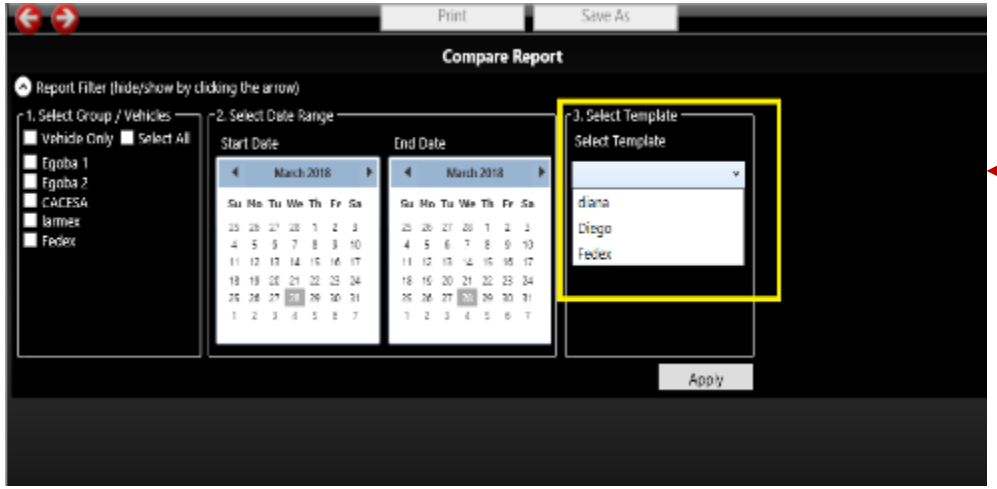


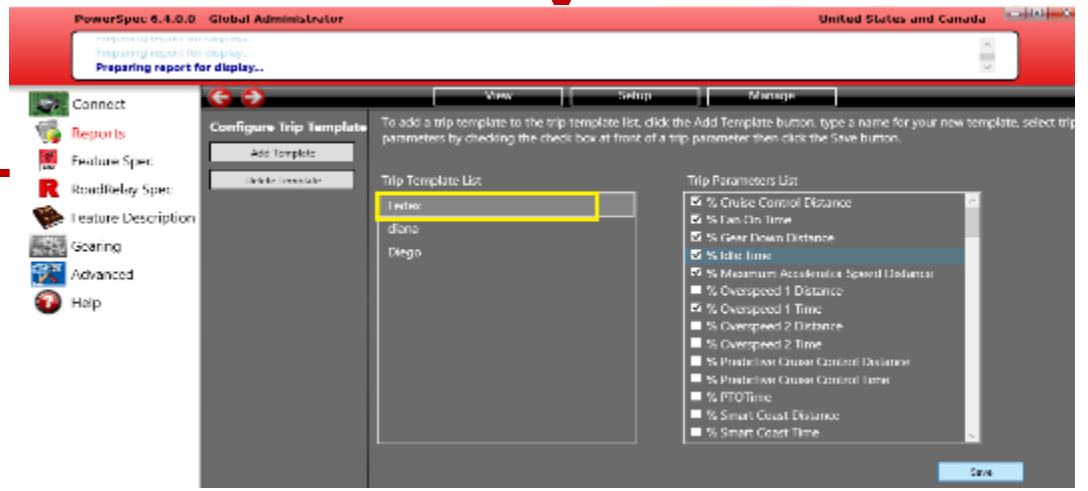
Setup Report – Trip Template

- Trip Template – Trip template is collection of trip parameters(Maximum seven) which is used in "**Compare"** report to get comparison between vehicles on basis of trip parameters. Follow the below steps to add Trip Template –

1. Select "**Reports**" from the left menu.
2. Select "**Manage**" from the top of the page.
3. Click on "**Trip Template**" icon
4. Click on "**Add Template**"
5. Give name eg Fedex to this newly added Group and Select Trip parameters from Trip parameters list then Click on "**Save**".
6. Now you can use this Trip Template in "**Compare**" Report.

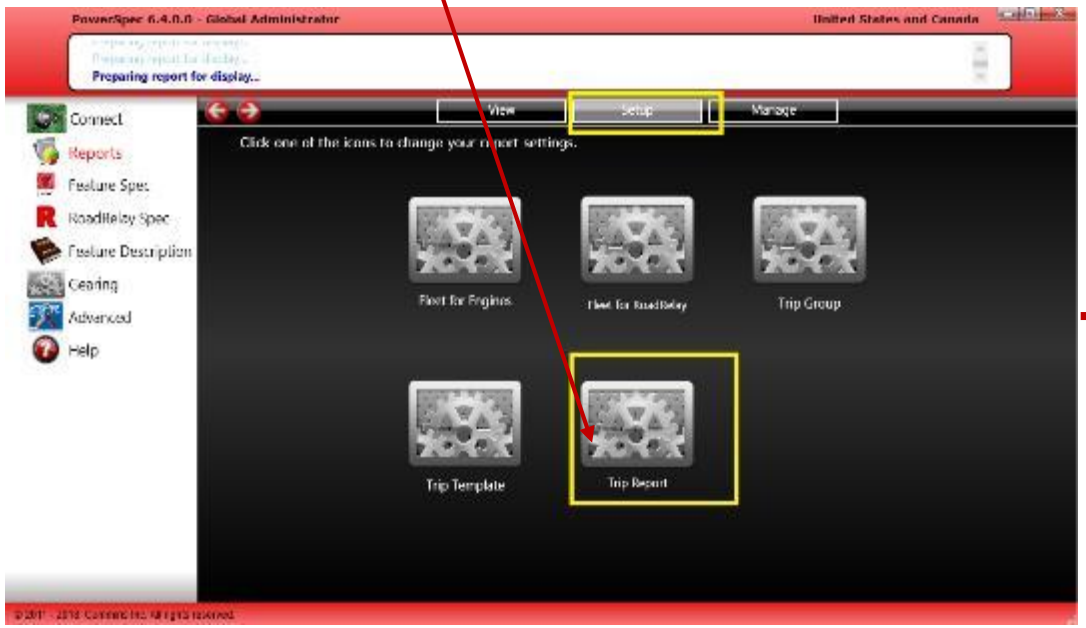


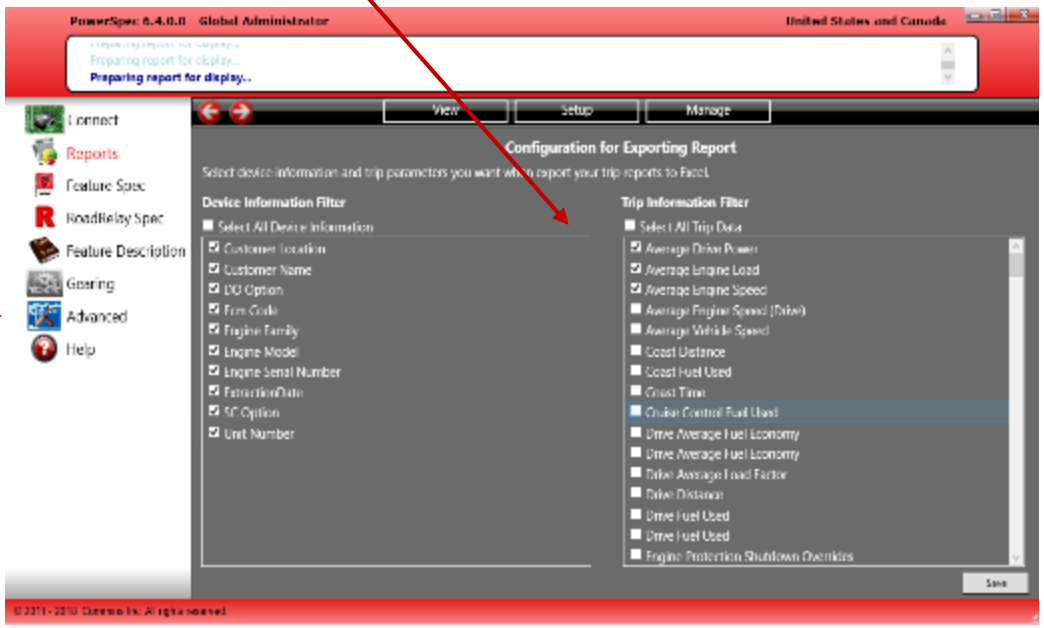




Setup Report – Trip Report

- Trip Report – Trip report is used in "**Manage**" report functionality in which user can export engine trip report. To have data in exported engine trip report, it is necessary to create "**Trip report**". Follow the below steps to create "**Trip Report**".
  1. Select "**Reports**" from left menu.
  2. Select "**Manage**" from top of the page.
  3. Click on "**Trip Report**".
  4. Select device information parameters from Device Information list and Trip data then click on save.
  5. Now you can use "Export Engine Trip Report" functionality.

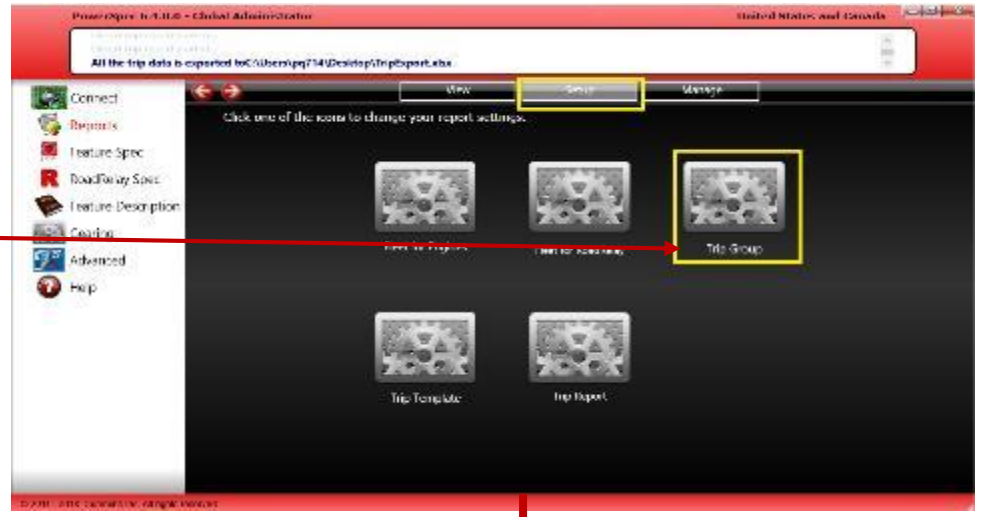


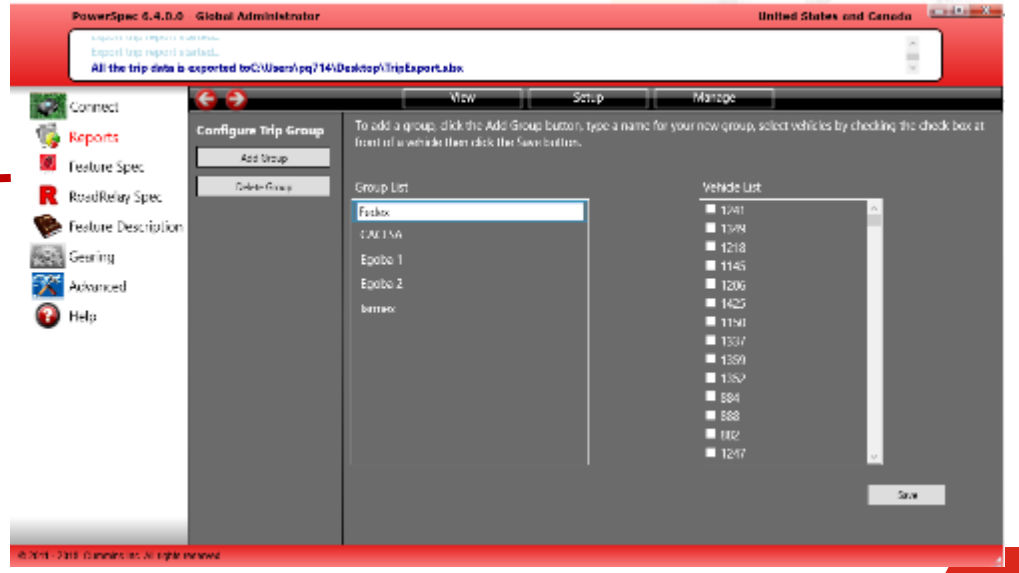


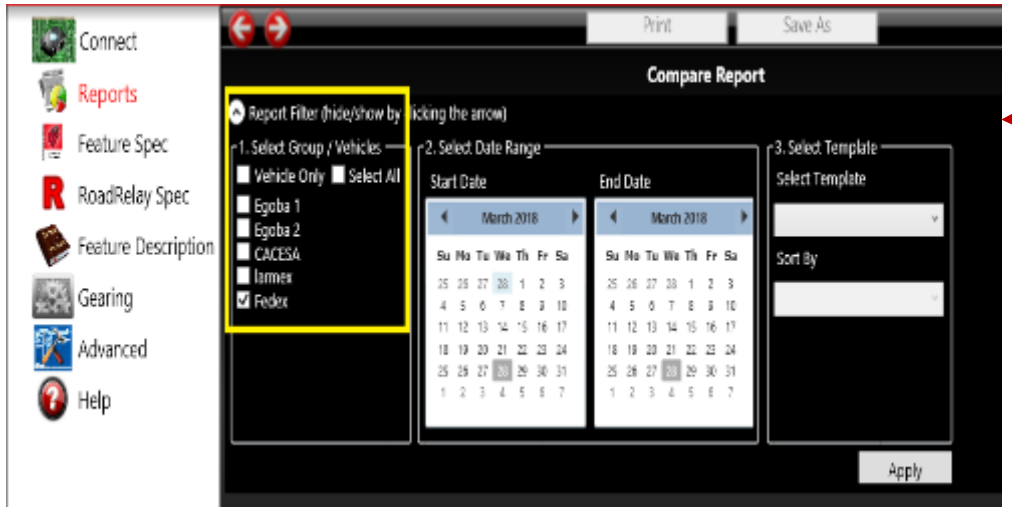
Setup Report – Trip Group

- Trip Group – Trip Group is used in "**Compare**" report to perform comparison between group containing vehicle. Follow the below steps to add "**Trip Group"**-

1. Select "**Reports**" from left menu.
2. Select "**Setup**" from top of the page.
3. Click on "**Trip Group**".
4. Then click on "**Add Group**".
5. Give name eg Fedex to this newly added Group and Select vehicle from the vehicle list then Click on "**Save**".
6. Now you can use this new group in "**Compare**" Report.

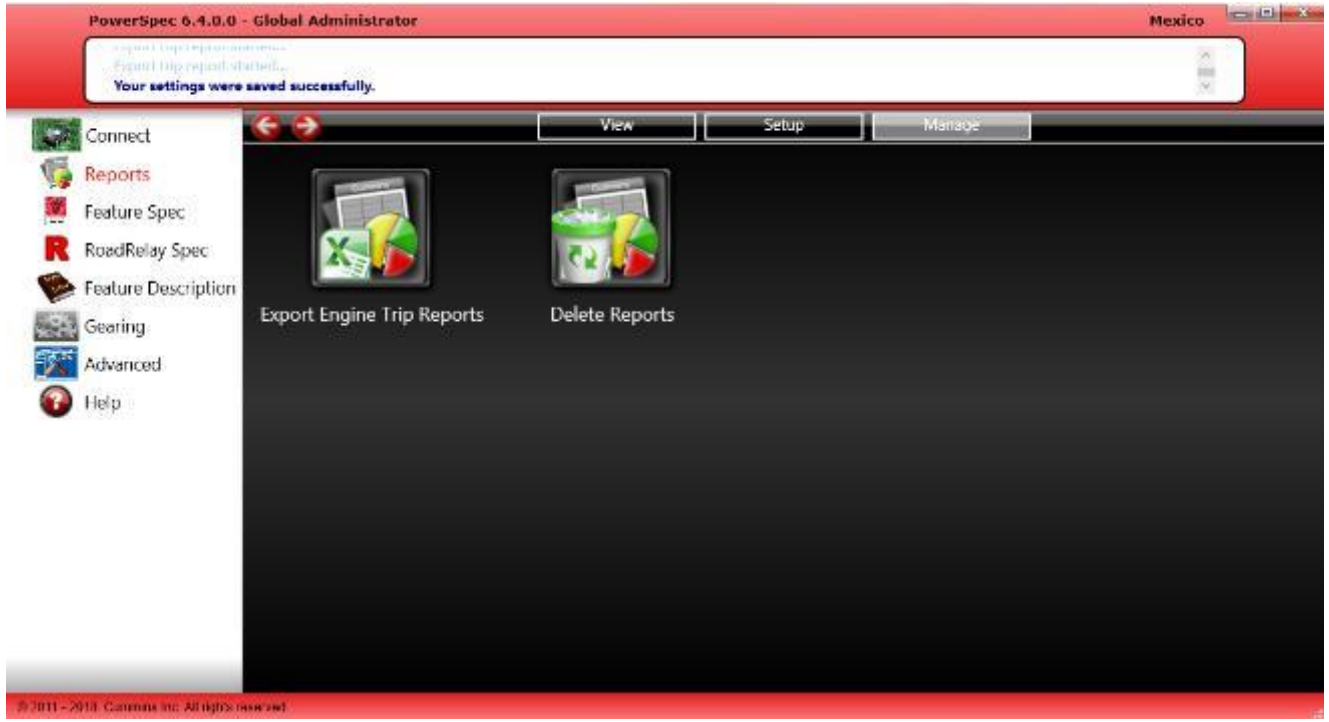






Manage Reports

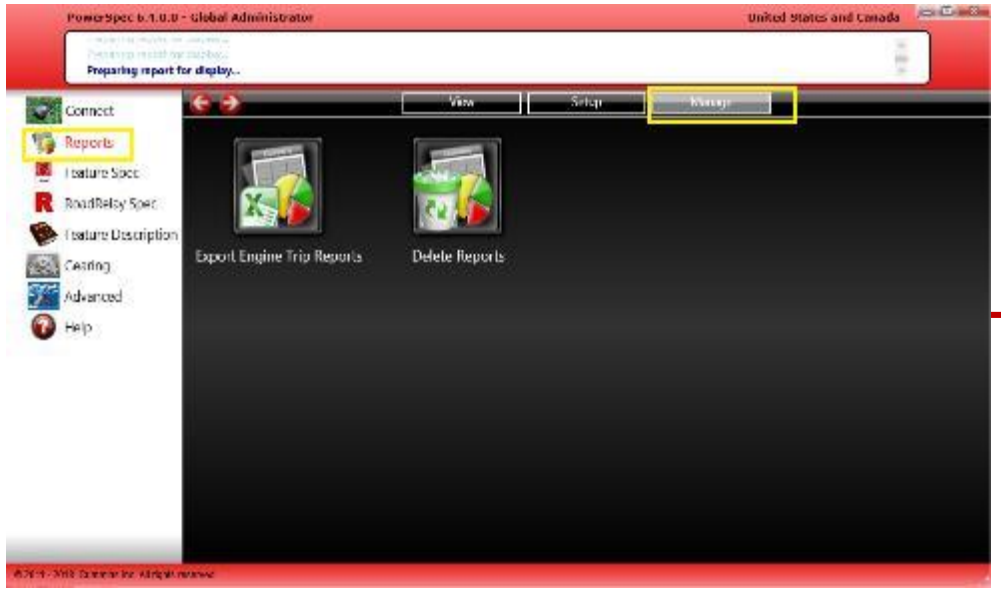
- Manage Report – User can manage reports by following two ways.
  1. Export Engines Trip Reports
  2. Delete Reports(Selected by vehicle or Selected by date range)

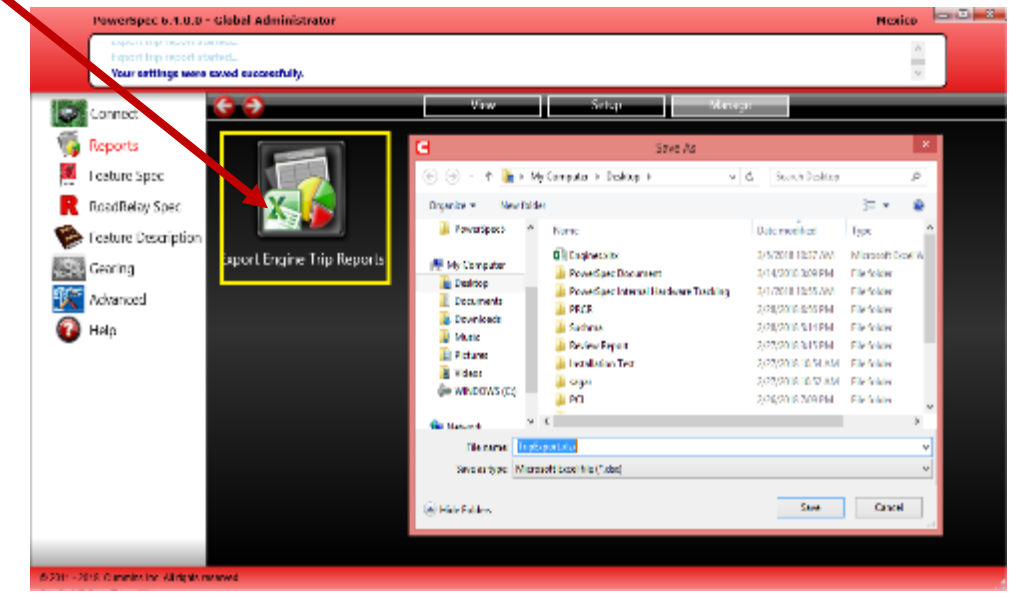


Manage Reports - Export Engines Trip Reports

❑Export Engines Trip Reports – By clicking on this user can export engines trip reports on desired location in Excel format. Follow the below steps to export trip reports-

1. Select “**Reports**” from the left menu.
2. Select “**Manage**” from the top of the page.
3. Then click on “**Export Engine Trip Reports**”
4. Choose location and click on “**Save**”.





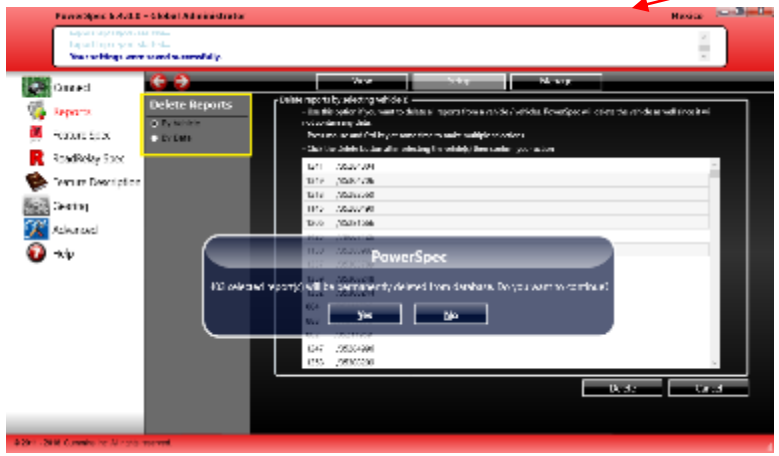
Manage Reports - Delete Reports

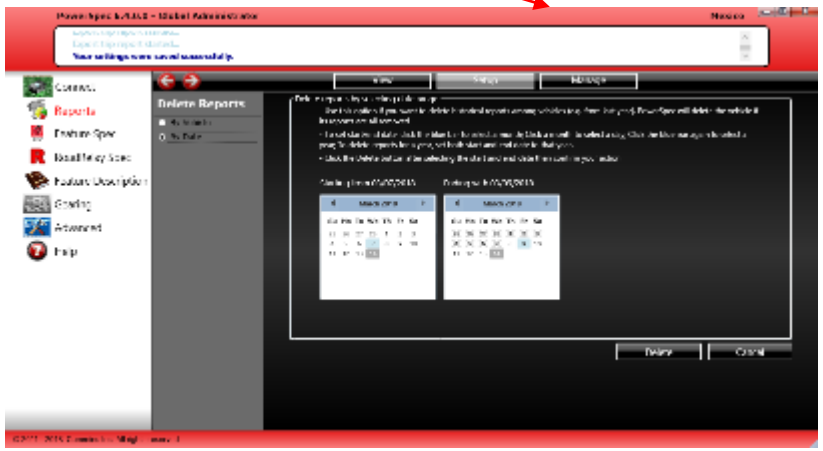
❑Delete Reports – By clicking on “**Delete Reports**” user can delete reports from a vehicle/vehicles. Follow the below steps to delete report-

1. Select “**Reports**” from the left menu.
2. Select “**Manage**” from the top of the page.
3. Click on “**Delete Reports**”
4. Choose any one from below options-
   a) By vehicle
   b) By date
5. If you choose **By vehicle** then select vehicle from list and click Yes.
6. Or if you choose **By date** then select date range and click Yes.

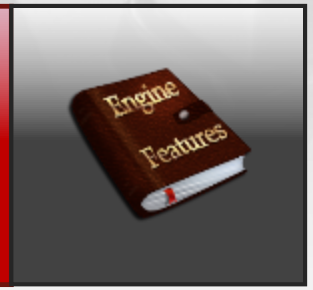
By vehicle

By Date





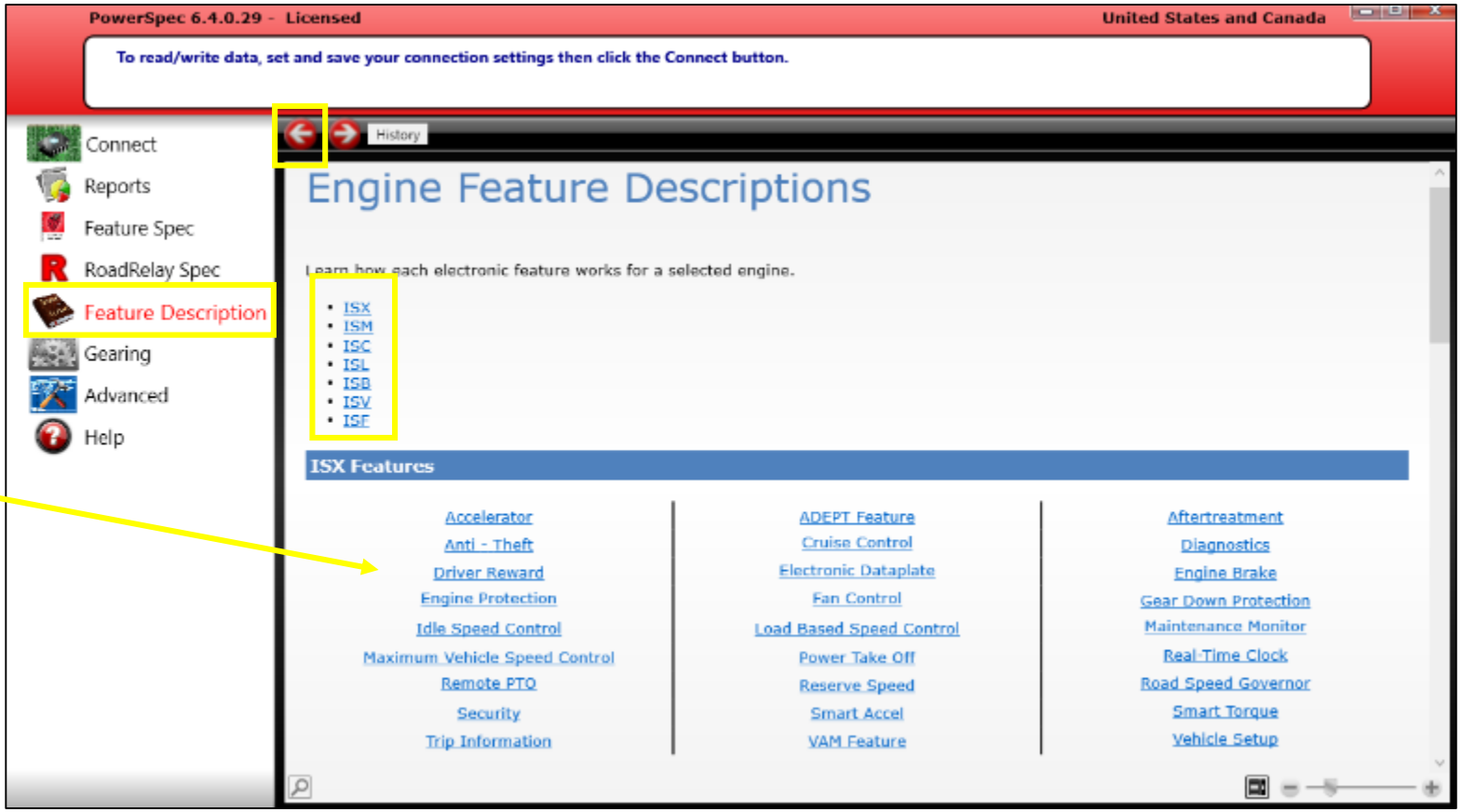
Feature Description



Feature Descriptions

- ❑ PowerSpec provides a detailed description of the Features supported by the program
- ❑ Follow these steps to view the Feature Descriptions

1. Click on “**Feature Description**” from the left menu
2. The feature descriptions are grouped by engine type, click on the desired engine type
3. Click on any of the feature name links to open the feature description page
4. Click on the back arrow to return to the main page



Feature Descriptions

- ❑ The Feature Templates have a link to the Feature Description page
- ❑ Follow these steps to view the Feature Descriptions from the Feature Template page

1. Click on “**Feature Spec**” from the left menu
2. Open any feature spec
3. Click on the blue **?** icon next to any feature
4. The feature description page for that feature will open

Note:
Move the window by clicking on the title bar and dragging it with the mouse

Re-size the window by clicking on the bottom right-hand corner and dragging it with the mouse

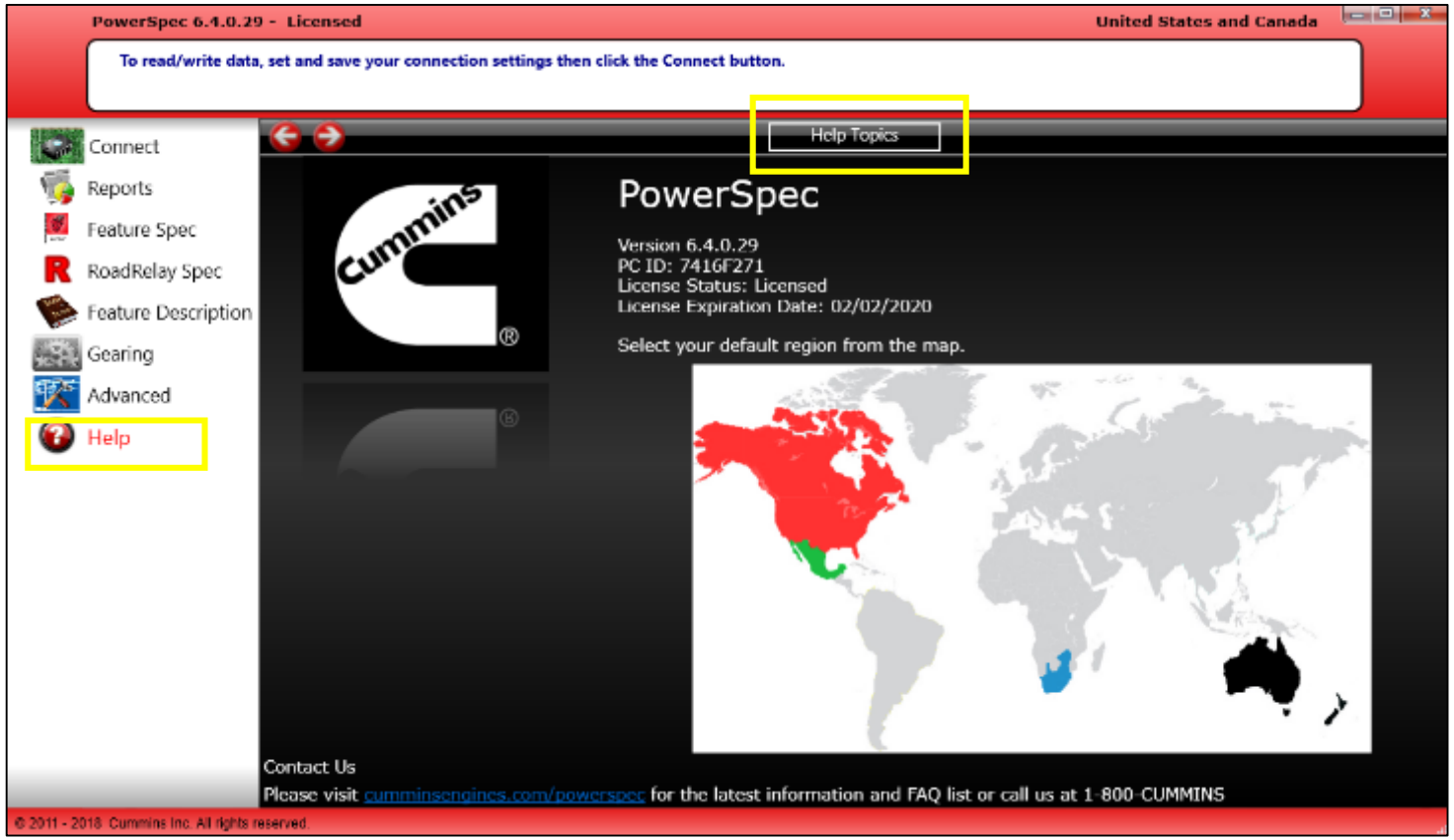
Help

- What is PowerSpec
- Electronic Feature Descriptions
- Topics

Help

- PowerSpec Help pages provide information on new releases, basic functionality, and contact information
- Follow these steps to view the Help pages

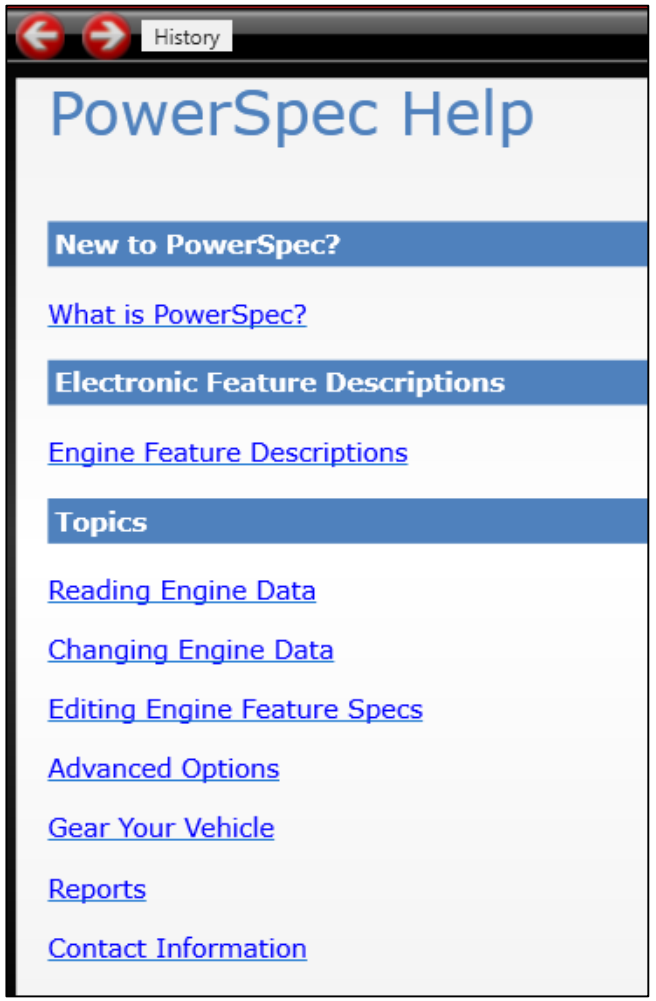
1. Click on “**Help**” from the left menu
2. Click on “**Help Topics**” button at top of page



Help – Continued…

- New to PowerSpec?
  - Click on the "**What is PowerSpec**" link to view information on an overview of the program, system requirements, and highlights for each release
- Electronic Feature Description
  - Click on the "**Engine Feature Description**" link to open the feature description page
- Topics
  - Click on any of the topic links for help on that particular topic
  - Click on the "**Contact**" link for information on how to get technical support

Note:
PowerSpec's main page contains a link to our website and the support phone number.



Q+A

Cummins