

# **PowerSpec User Guide**

**Rev September 2015** 

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### **PowerSpec Overview:**

Cummins PowerSpec is a free downloadable PC application designed to allow customers the ability to tailor the operation of their Cummins engine for their specific needs. The following features highlight the capability of PowerSpec:

<u>Gearing Coach</u> - provides recommendations and a calculator to help optimize vehicle gearing for a specified application and load.

**<u>Reading Engine Data</u>** - reads engine feature settings, trip information, and fault codes from a Cummins engine (requires supported adapter).

**Configuring Electronic Features** - provides recommended electronic engine feature settings based upon vehicle application and business profile, and allows customers to change these settings on a Cummins engine to meet their specific needs (requires supported adapter).

All of these benefits (except Configuring Electronic Features) will be available to all users immediately upon installation of PowerSpec. The ability to spec electronic engine feature settings requires help from an authorized Cummins distributor or dealer, and can be enabled in one of the following ways:

- Obtain a PowerSpec license from your local Cummins Distributor
- Use a "HotSpec" (created by licensed PowerSpec user)

This manual will focus on how to accomplish these options.

Website Address: www.cumminsengines.com/powerspec

#### **PowerSpec System Requirements:**

Your system configuration must meet or exceed the following minimum standards in order to run the PowerSpec application:

#### Computer

- Operating System: 32 or 62 bit versions of Windows Vista, Windows 7, Windows 8
- RAM: 500 MB of RAM space
- Hard Drive: 480 MB of free hard-disk space
- Port: COM port or USB port
- Browser: Internet Explorer 8 above

### **User Registration and Market Selection**

 Upon opening the PowerSpec application for the first time, users will be required to register. By providing basic demographic information, such as name, email address, primary role and application, and engine family most often used, Cummins will be able to cater future PowerSpec revisions to meet our customer's needs.

e e	Help Topics	
	PowerSpec Regis	stration Form
Enter the be active	e required information and click Sub sted.	omit when completed. PowerSpec will
	First Name *	Test
	PowerSpec	ast
	Email Address *	Test@Test.com
Your registra Your regist	ation went through successful ration will need to be renewe	23-456-789
	evely year,	Test
	ОК	nited States
	Role *	DEM Dealer Sales
	Primary Application *	Pickup/delivery Van
	Engine Family *	ISV5.0
		Submit
		Juli
November 1997		

**NOTE:** registering to use PowerSpec is not the same as receiving a PowerSpec license. In order to receive a PowerSpec license, please contact your local Cummins Distributor.

 After registering to use PowerSpec, the specific region that you are interested in gearing, or operating in should be selected. To do this, select the specific Market and/or Area on the World Map:



- By selecting the default region on the map, specific engines and corresponding emissions regulations will be filtered in the Gearing Coach portion of PowerSpec.
- To change your market, select the "Help" menu node and click on the new market. **NOTE:** Selecting the East Asia Market (China) will require PowerSpec to restart.

### **Devices**

- PowerSpec is compatible with the following devices:
  - Inline 5
  - Inline 6
  - Noregon DLA+
  - Noregon DLA\_PLC
  - Noregon Wireless
  - Nexiq USB-Link 9.2.1+
  - Dearborn DPA 4
  - Dearborn DPA 5
- When connected with a compatible adapter (e.g. INLINE 6), the engine name will appear in the left menu. In the status box (just below the title bar) an update will be displayed that shows a connection to the adapter.
- 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 Data**

 By clicking the "Read Data" link, you can access fault codes, trip information, feature settings, sudden deceleration data dataplate information, duty cycle and aftertreatment reports. For more information, see "Read Data", pg. 27.



#### **Transfer Spec**

• You can change current engine feature settings by transferring an existing feature specification. For more information, see "Transferring a Spec", pg. 25.



### **Direct Engine Edit**

• Licensed users can manually edit the feature settings, passwords and data plates of the current engine connected.



# **Gearing Coach**

#### **Getting Gearing Recommendations**

 PowerSpec offers you the ability to create gearing profiles and save them for use/editing at a later date. To create a new spec, select Gearing Coach from the left menu, then "Create New Spec" on the top of the page.

	PowerSpec v6.0.0.5	50 - Global Administrator				United States and Canada	- O X
Þ.	To read/write data	, set and save your connection	n settings then click t	he Connect button.			
-	Connect	<b>G Ə</b>	Create New Spec	Import Spec	Export Spec	Compare Two Specs	
1	Reports		Obta	in vehicle gearing	recommendations ar n and load.	nd/or calculations for a spe	cified
10.0	Feature Spec	IS AVA		Provide Recomm	endations to help s	elect the proper combination	on of
R	RoadRelay Spec	5-0-		friveline componer valuate different	nts. tires, transmissions	, and drive axles by using	the gearing
1	Feature Description			alculator.	specification file for	later use	
. A.	Gearing Coach			Print your gearing	summary report for	future reference.	
$\mathbf{x}$	Advanced	N 6 6	×Z				
0	Help						
		Gearing Spec Title	Date				
		<u>5A400</u>	7/27/2015 9:43:32 AM		Delete		
0.2011	46 Cumming loss All sinhts a						
@ 2011 - 20	To Gummins inc. All rights re	eserveu					đ

• The first selection that will need to be made is what the application and vehicle type the customer be operating.

	PowerSpec v6.0.0.5	i2 - Global Administrator	United States and Canada	
	Disconnect from vel INLINE 6 datalink a	ngrum unskningestes. Hele suscenselully adapter disconnected.	^ •	
R 🐠 🕅 📉	Connect Reports Feature Spec RoadRelay Spec Feature Description Gearing Coach Advanced	Please answer the following questions Application selection Engine selection	Lae Haul Truckload     Mixer     Motor Coach	
e	Help		Pickup and Delivery	
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 Once the application has been selected, the specific engine options that fit within the vehicle size and application will be generated. Please select the specific engine you are interested in spec'ing:



 After selecting the specific engine option that will be used, please select the driveline configuration that you are interested in utilizing. Depending on the model chosen, gearing rpm ranges, performance characteristics, and/or PowerSpec support messages may differ:

	PowerSpec v6.0.0.5	i2 - Global Administrator	United States and Canada	
	Disconnect from ve INLINE 6 datalink a	adapter disconnected.	^ ~	
	Connect	<del>6</del> <del>)</del>		
1	Reports	Please answer the following questions		
	Feature Spec	Application selection	Line Haul Truckload	
R	RoadRelay Spec	Engine selection		
	Feature Description		¥ 15X15	
	Gearing Coach	Emission certification standard/level	EPA2013 -	
X	Advanced	Driveline Configuration		
0	Help		Manual	
			Automated Single Clutch	
			Automated Double Clutch	
			PowerShift Torque Convertor Automa	atic
	_			Next
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• The next information that needs to be provided is the specific road conditions that the vehicle will spend time operating on (percentages must add up to 100):

	PowerSpec v6.0.0.5	i2 - Global Administrator	United States and Canada	
	Disconnect from vel INLINE 6 datalink a	In the second seco	~ ~	
3	Connect	<b>€ →</b>		
1	Reports	Please answer the following questions		
- 10. F	Feature Spec	Application selection	Line Haul Truckload ~	
R	RoadRelay Spec	Engine selection		
1	Feature Description		15X15 °	
	Gearing Coach	Emission certification standard/level	EPA2013 *	
2	Advanced	Driveline Configuration	Manual ~	
	Help	r Road Condition (total percentages need to be 100)	P	L
		Paved, well maintained, multi-lane highway, with grades below 6%	0 %	
		Paved, Well maintained, single-lane secondary roads, with grades above 6%	0 %	
		Maintained Gravel or Worn Paved-Rural with grades up to 6%	0 %	
		Offroad (dirt, field) or poorly maintained gravel - grades upto and exceeding 15%	0%	
		Rated Gross Combined Vehicle Weight (GCW)	<u> </u>	,000 lbs
				Next
0 2011 - 20	15 Cummins (nc. All rights re	eserved.		

- The specific road conditions will influence the gearing recommendations and performance requirements of the spec. Therefore it is vital that the road condition percentages accurately represent the surface profiles the vehicle will be subject to.
- The last input needed on the application profile page is what GVW the vehicle will typically or spend most of the time operating at (e.g. vehicle rated to 80,000 lbs, but typically carries 68,000 lbs):

	PowerSpec v6.0.0.5	52 - Global Administrator	United States and Can	ada
	Disconnect from ve INLINE 6 datalink a	angeret unsearen ensense. Indee suscentifieldly. adapter disconnected.		Ĵ
	Connect	69		
1	Reports	Please answer the following questions		
	Feature Spec	Application selection	Line Haul Truckload	-
R	RoadRelay Spec	Engine selection	<u> </u>	
	Feature Description		W ISX15	
*	Gearing Coach	Emission certification standard/level	EPA2013	0
X	Advanced	Driveline Configuration	Manual	
6	Help	- Road Condition (total percentages need to be 100)		- 5
		Paved, well maintained, multi-lane highway, with grades below 6%	0	*
		Paved, Well maintained, single-lane secondary roads, with grades above 6%	0	×
		Maintained Gravel or Worn Paved-Rural with grades up to 6%	0	*
		Offroad (dirt, field) or poorly maintained gravel - grades upto and exceeding 15%	0	s
		Rated Gross Combined Vehicle Weight (GCW)		72 ,000 ibs
				Next
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**NOTE:** The specific vehicle weights may exceed specific application and/or engine characteristics, as well as influence the recommended RPM @ Cruise output range and vehicle performance characteristics

 After completing the Application Profile page, click next and answer the questions on the vehicle and engine profile page. The first question will ask for the operational objective. Please choose between Fuel Economy, Balance or Performance:

PowerSpec v6.0.0.52 - Global Administra	tor	United States and Canada
Disconnect from vehicle successfully. INLINE 6 datalink adapter disconnected.		^ ~
INLINE 6 datalink adapter disconnected.         Image: Connect         Image: Reports         Image: Feature Spec         Image: RoadRelay Spec         Image: Feature Description         Image: Gearing Coach         Image: Advanced         Image: Help	Please answer the following questions - Vehicle and Application Data Operational Objective Rated Horse Power Peak Torque Intended Cruise Speed - Vehicle Configuration Cab Style Sleeper Trailer Accessory Power Lost (HP)	Maximum Fuel Economy Balance Performance 0 mph
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 After selecting the Operational Objective, please select the Rated Horsepower and Peak Torque and intended vehicle cruise speed:

Demonstration       Billing determined intervention         ININE 6 datalink address disconstration       Image: Connect         Image: Connect       Image: Connect <td< th=""><th>PowerSpec v6.0.0.52</th><th>2 - Global Administrator</th><th></th><th>United States and C</th><th>anada</th><th></th></td<>	PowerSpec v6.0.0.52	2 - Global Administrator		United States and C	anada	
Image: Connect       Searing File         Image: Feature Spec       Searing Type         Image: Feature Description       Traine Selection         Image: Feature Description       Selection         Selection       Selection     <	Disconnect from vehi INLINE 6 datalink ac	icle successfully. dapter disconnected.			~	
	Ivel.INE 6 datalink ac         Image: Connect         Image: Connect <t< th=""><th>apper disconnected.</th><th>Please answer the following questions Vehicle and Application Data Operational Objective Rated Horse Power Peak Torque Intended Cruise Speed Vehicle Configuration Cab Style Sleeper Trailer Accessory Power Lost (HP)</th><th>Maximum Fuel Economy* 425 1750 65 mph</th><th></th><th></th></t<>	apper disconnected.	Please answer the following questions Vehicle and Application Data Operational Objective Rated Horse Power Peak Torque Intended Cruise Speed Vehicle Configuration Cab Style Sleeper Trailer Accessory Power Lost (HP)	Maximum Fuel Economy* 425 1750 65 mph		

- The area for the Vehicle Profile page is the vehicle configuration which will differ depending on the application selected. The following question may appear:
  - Cab Style Frontal Area of the Truck
  - Sleeper Roof Style of the Truck
  - Trailer Type of Trailer used in the application
  - Accessory Power Lost Amount of HP used by accessory demand
    - 7 HP Typical range of hp loss for most applications

12

 15 HP – Moderate, recommended for school buses, shuttle buses and vehicles with large air conditioning systems.  20 HP – High, recommended for concrete mixers, refuse trucks, transit buses and other vehicles with very large air conditioning systems or hydraulic accessories



 After completeing the Vehicle Profile page, clicking "next" will take you to the Recommendation Report:

	PowerSpec v6.0.0.5	i2 - Global Administrator		United States and Canada	- O X
	INCINC O Gatalins as Disconnect from vel INLINE 6 datalink a	apper disconnected. hiele successfully. adapter disconnected.		^ ~	
0	Connect	C D Print	Next		
5	Reports	Recommendation Report			
1	Feature Spec	Gearing Recommendation Guidelines			^
R	RoadRelay Spec	1. For Maximum Fuel Economy, select a gearing combination th	at will result in an engine	e speed of approximately 1255 - 1390	rom at
	Feature Description	the vehicle's intended cruise speed (mph).	at mintesatt in an engine	e speed of approximately 1255 - 1550	ipin ut
. Th.	Gearing Coach	Vehicle Profile			
$\mathbf{x}$	Advanced	Engine Selection	ISX15		
0	Help	Your Driveline Application selection	Manual Line Haul Truckload		- 11
		Gearing Recommendation Type Operational Objective	Line Haul Maximum Fuel Economy		
		Emission certification standard/level	EPA 2013		
		Rated Gross Combined Vehicle Weight (GCW)	72	,000 lbs	
		Rated Horse Power	425	HP	
		Peak Torque	1750	lb-ft	
		Intended Cruise Speed	65	mph	
		Paved, well maintained, multi-lane highway, with grades below 6%	80	%	
		Paved, Well maintained, single-lane secondary roads, with grades above 6%	10	%	
		Maintained Gravel or Worn Paved-Rural with grades up to 6%	10	%	
		Offroad (dirt, field) or poorly maintained gravel - grades upto and exceeding 15%	0	96	
		Cab Style	Modern Front		
		Sleeper	Raised Roof		
		¥ 1	E I IV		Ŷ
					Next
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- The Recommendation Guideline provides the RPM range to gear for in order to meet the operational objectives. This can be done by selecting a combination of rear axle ratio, transmission top gear, and tire revolutions per mile.
- Additionally, the Recommendation Report provides a summary of all the choices that have been made up to this point. Clicking next will take you to the Gearing Calculator page.

#### **Gearing Calculator**

 After reviewing Cummins' vehicle gearing recommendation guidelines and clicking "Next", you will begin the Gearing Calculator. The calculator will provide final detailed gearing specifications based on the selected driveline components.



Fill in the requested information. The transmission top gear ratio must be selected from the transmission database. To do this, click on the "Must Select" link to the left of the Transmission Top Gear Ratio field. The rest of the fields can manually be entered, or a specific model of axle, or tire can be chosen by clicking on the "select" link to the left of the associated field. To select a specific tire or axle, first choose a manufacturer from the list and indicate either the number of transmission gears, the tire size, or ratings for Rear Axle Ratio. Now select your model and the values will be updated in the gearing calculator.

)oporto	Manufacturer	Select Transmis	sion Ratio				
reports	Allison	A Discourse and a star		ia hu dishina a link	from the \$4-d-1-o-1	I - · · ·	
eature Spec	Chrysler	Please select a	Transmission Model / Ra	uo by clicking a link	from the model column	Delow.	
	Generic	■ Based on yo	our inputs for the othe	r components, w	e suggested selecting	a start / low gea	ir 🔰
venicie Gesning	Getrag	ratio close	to 0.731 or higher for st	artability.TireRecom	mendation		
dvanced	International	Transmission M	Model / Ratio				
lala	Korea Spicer Mack	Manufacturer	Model	Top Gear Ratio	Start / Low Gear Ratio	# of Gears	
leip	Mercedes	* Eaton Fuller	FR-11210B	1	14.8	10	A
	Number Of Gears	Eaton Fuller	FR-12210B	1	14.8	10	
	6	Eaton Fuller	FR-13210B	1	14.8	10	
	7	Eaton Fuller	50 14210B	1	14.8	10	
	8	Eaton Fuller	FR-15210B	1	14.8	10	
	9	Eaton Fuller	RLO-16410C-T2	0.74	12.66	10	
	10	Eaton Fuller	RO-11210B	0.75	11.06	10	
	12	Eaton Fuller	✓ RO-11210C	0.74	12.69	10	
	13	Eaton Fuller	✓ RO-12210B	0.75	11.06	10	
	18	🚽 🛛 Eaton Fuller	✓ RO-12210C	0.74	12.69	10	
	[Au]	Eaton Fuller	RO-13210B	0.75	11.06	10	
	Filter By Ratio	Eaton Fuller	✓ FRO-13210C	0.74	12.69	10 .	-
		Eaton Fuller	✓ FRO-13210C	0.74	12.69	10 .	*

Based on your inputs for the other components, we suggested selecting a start / low gear ratio close to 0.731 or higher for startability.TireRecommendation

- Based on all other inputs, the gearing calculator displays a recommendation at the top of the "select" page, guiding your choice of models. A green check will appear next to the models that fit the guidelines and an asterisk will appear next to the suggested axle ratio in the drop down box.
- Note: For "Transmission Top Gear Ratio" and "Transmission Start/Low Gear Ratio" (for certain applications), choosing an item from the selection list will generate values for both boxes.
- Once the customer has selected the appropriate transmission ratio, tire size, and rear axle ratio, the gearing calculator will provide the following Cummins Gearing Outputs at the bottom:
  - 1. The Engine RPM at Intended Cruise Speed
  - 2. The Engine RPM at 65mph Checkpoint
  - 3. The Startability percentage
  - 4. Gradeability at Cruise
  - 5. Gradeability in Top Gear

Engine RPM at Intended Speed	1302
Engine RPM at 65 mph Checkpoint	1302
Startability	27
Gradeability at Cruise Speed	1.79
Gradeability in Top Gear	2

 Once you have finished submitting your data, PowerSpec will calculate whether or not your results are consistent with Cummins recommendations. Depending on the results of this calculation, two or three unique messages will appear:

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

This engine and gearing selection yields a higher engine speed at vehicle cruise and is more performance oriented than the specified Maximum Fuel Economy objective/preference.

To decrease engine speed (rpms) at cruise, consider selecting a lower transmission top gear ratio, lower rear axle ratio, or bigger tires.

- The first message will calculate the performance characteristics of the spec. If you meet the startability and gradeability requirements, a green message (shown above) will appear. If you exceed the requirements, you may be informed of additional ways to improve your fuel economy.
- The second message compares the RPM @ Cruise values to the stated operational objective. If the spec falls within the Cummins recommended RPM @ Cruise range for the given operational objective, a green message will appear; however, if the spec does not fall within the recommended RPM @ Cruise range, a yellow message will appear (shown above).
- The third message (if it is needed) provides guidance on ways to increase or decrease your RPM @ Cruise value to be in line with the customer's operational objective.
- Your spec'd rpm @ cruise speed will also be shown in a graph. Most engines and applications will have a specific rpm range for fuel economy, balance, or performance. After running your calculation, the following chart will appear below the output information:



NOTE: RPM ranges and duty cycle objective buckets will differ depending upon engine / applications selected

 Once you have received 2 green messages, you will be able to continue on to either the Performance Evaluator Page or to the Summary Report.

#### **Performance Evaluator**

 Running the performance evaluation feature allows you to evaluate the gradeability of the powertrain (Engine, Transmission, Axle, Tire) in the top two gears. The performance evaluation feature is designed to make sure that the vehicle meets the minimum performance guidelines, and ensures that you are comfortable with your spec.



 All of the inputs to the gradeability calculator have previously been chosen. The Summary of these choices can be found above the gradeability graphics :

Cab Style	Modern Front	$\sim$	Cruise Speed	65	Axle Ratio	3.23
Sleeper	Raised Roof	$\sim$	Top Gear Ratio	0.74	Geardown Rati	1
Trailer	Enclosed Van	V	Tire Size	503	GCW	72000
Accessory Power Lost (HP	7	V	Transmission	Eaton, FRC	)-17210C	

- By dragging the "Percent Grade" bar at the bottom of the page to increase the grade the truck will be seeing. 3 different gradeability values will be calculated:
  - 1. Cruise Speed
  - 2. Top Gear
  - 3. Hold Speed while operating in Gear Down



### Vehicle Gearing Report

 If you either choose to skip the Gearing Performance Evaluation portion, or complete the Gearing Performance Evaluation portion of PowerSpec, you will be taken to the Vehicle Gearing Report



To save the gearing spec you have just created, click "Save" then name the spec and click "OK".

	PowerSpec v6.0.0.5	52 - Global Administrator		United States and Canada	
	Preparing report for	nare succession. depter disconnected ior display			
R 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Preparing report f Connect Reports Feature Spec RoadRelay Spec Healure Description Gearing Coach Advanced Help	save Gearing Spec to Database	TEST 1 15X15 425 1750 at ~1300		
0 2011 - 2	1015 Cummins Inc. All rights r	eserved		Save	Cancel

 After saving the spec, you can now reference the full report by clicking the name on the vehicle gearing main page. Here you can also export and save the spec to a selected folder on your computer.

# **Feature Spec Settings**

- PowerSpec enables users to tailor programmable engine features to their specific needs.
- For users who wish to control feature settings from a central location, PowerSpec offers the ability to create a HotSpec that runs only on the target PC(s). HotSpecs can only be created from licensed PowerSpec PCs, and can only be edited by the HotSpec creator
- When used on a specified target PC, the HotSpec will transfer to a Cummins engine with the same authority as the licensed PC that created it. This is the preferred method for many large fleets that only wish to license the fleet manager's PC and keep the shop PCs unlicensed.

#### Creating a New Spec

- Select "Feature Spec" from the Main Menu
- On the next page, you have option of selecting an existing spec from the list, creating a new one, or opening one from a file that was given to you by someone else. To create a new Spec, select "Create New" from the menu.

PowerSpec v6.0.0.	50 - Global Administrator			United States and Canada	
To read/write dat	a, set and save your connection	n settings then click the	Connect button.		
Connect	<del>C</del> <del>2</del>	Create New	Import Export	Register New PC IDs	
🌀 Reports	To edit a spec, click its til	le. To export spec(s),	click a spec (not the title), then c	lick Export.	
Feature Spec	Spec Title	Engine Type	Modified Date	Expiration Date	
RoadRelay Spec	ISX 2013 F3 - (79801223)	ISX15_2013	6/11/2015 11:22:19 AM		Delete
🛸 Feature Description					
Gearing Coach					
💦 Advanced					
🕜 Help					
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- Similar to the Gearing Calculator, select your:
  - o Engine
  - Application
  - Emissions level
  - o Road Conditions
  - o GVW
  - o Horsepower and Torque Ratings
  - o Operational Obejctive

**NOTE:** If an ISX15 or ISX15 SmartAdvantage Powertrain is selected, an additional field called "ADEPT Feature Usage" will be able to be selected. For more information on ADEPT, please consult the ADEPT Feature Description.

💞 ISX15	~
Eess Than Truckload	~
EPA 2013	
80	%
10	%
10	%
0	%
70	,000 lbs
450	тнр
1750	Tlb ft
O Yes	No
Maximum Fuel Economy	
	ISX15 ISX15 ISX15 ISX15 ISX15 ISX15 ISX15 ISX16

 On the follwing page, PowerSpec will use the application information previously supplied to recommend a feature and parameter set.  The engine feature setting page will list your vehicle profile along with feature and parameter setting for your review. Review the page to confirm that the settings fall in line with your desired Spec. You can make changes to the information by clicking in the appropriate boxes. If you have questions or need further explanation on certain features and parameters, click the "Feature Description" option from the left menu bar. \*Note – the input will not save automatically.

To read/write data	, set and save your connection settings then click the Connect butto	n.			
Connect	G 🧿 Print Save	Transfer	Expor	t Spec	
Reports					
Feature Spec	Profile				
	<ul> <li>Fuel Economy</li> </ul>				
RoadRelay Spec	Road Speed Governor			_	
Frature Description	Configure Road Speed Governor	○ Yes	No		
Feature Description	Gear-Down Protection			_	_
Gearing Coach		Enable	O Disable		
a dearing couch	Gear Down Protection Heavy Load Vehicle Speed	63		mph	GOP Calculate
Advanced	Gear Down Protection Light Load Vehicle Speed	54		mph	GDP.Calculat
	Idle Speed Control				
Help	Low Idle Speed	600		rpm	
	Low Idle Speed Switch	C Enable	<ul> <li>Disable</li> </ul>		
	Idie Shutdown	@ (	O Piceble	_	
	<ul> <li>Idle Shutdown Enable</li> </ul>	• Enable	<ul> <li>Disable</li> </ul>	1.1	
	Idle Shutdown Timer	5 O factor	(a) Direction	min	
	Idle Shutdown Ambient Air Temperature Override	O Enable	Disable		
	Idle Shutdown Hot Ambient Temperature Automatic Override	C Enable	Disable     Disable		
	Idle Shutdown Manual Override		Disable		
	Idle Shutdown in PTO		<ul> <li>Disable</li> </ul>	-	
	Idle Shutdown Percent Engine Loading	100	Orights	%	
	Idle Shutdown Parking Brake Switch Enable	⊖ Enable	<ul> <li>Disable</li> </ul>		
	Driver Reward	O Enable	Disable		
	Driver Reward Enable	O chable	( Disable		
	Fan On Time(AC) Minimum	30		sec	
	Fan On During Engine Braking	O Enable	Disable		
	Ean Control Vahiele Speed Interaction	○ Enable	Disable		
	Load based Speed Postcol	- childre	_ Distoite		

 After adjusting any electronic engine feature parameters, you can save your template by clicking the save button.

#### **Exporting a Spec**

 If you need to save a spec in a format other than a PowerSpec file, click "Export Spec." PowerSpec gives you three options for saving including a .csv option for use in Microsoft Office Applications. Select your option, click "OK" then "Save." Your file can now be opened in your respective format.

Administrator	ogin started, please wait			*
Save As	Type of Telephone is successful			-
G 🗢 💌 💽 Computer 🕨	· • • • • • • • • • • • • • • • • • • •	Search Computer	Exp	ort Spec
Organize 🔻				
<ul> <li>★ Favorites</li> <li>Desktop</li> <li>Downloads</li> <li>Recent Places</li> <li>Decuments</li> <li>Documents</li> <li>Pictures</li> <li>Videos</li> </ul>	Hard Disk Drives (2) Windows7 (C:) 140 GB free of 219 GB Data (D:) 75.4 GB free of 78.1 GB Devices with Removable Storage (1) DVD RW Drive (E:)	E	<ul> <li>No</li> <li>Disable</li> <li>Disable</li> </ul>	rpm
▲ I Computer ▼	Network Eduation (5)	-	Oisable	
File name: refuse1-F Save as type: Paramete	eature-HotSpec r File(*.par)	•	Disable	
Hide Folders	-	Save Cancel	Disable	sec
	ran Control vehicle Speed Interaction     Manual Fan Switch     Driver Satisfaction     Cruise Control	C Enable	<ul> <li>Disable</li> <li>Disable</li> </ul>	
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#### **Importing a Spec**

 To import a spec, click "Import" at the top of the Feature Spec page. You will be prompted by a system window. Choose the desired spec and click "open". You can also import a spec by opening the same file from the Windows folder, without opening PowerSpec first.



### Transferring a Spec

• To transfer an existing Spec to an engine, select "Transfer" at the top of the Feature Spec parameters page.

To read/write dat	a, set and save your connection settings then click the Connect button.				
Connect	C Save	Transfer	Expor	t Spec	
🝒 Reports					
Feature Spec	Profile				
RoadRelay Spec	Fuel Economy  Poad Speed Governor				
Feature Description	Configure Road Speed Governor     Concentration	O Yes	No		
Gearing Coach	Gear Down Protection     Gear Down Protection Feature     Gear Down Protection Feature	Enable	<ul> <li>Disable</li> </ul>		GDP Calculato
K Advanced	Gear Down Protection reavy Load Vehicle Speed Gear Down Protection Light Load Vehicle Speed	54		mph	GDP Calculato
? Help	Low Idle Speed Switch	600 O Enable	Disable	rpm	
	Idle Shutdown Trable     Idle Shutdown Trable     Idle Shutdown Armbiert Air Temperature Override     Idle Shutdown Armbiert Air Temperature Override     Idle Shutdown Hot Ambient Temperature Automatic Override     Idle Shutdown Hot Ambient Temperature Automatic Override	Enable     S     Enable     Enable     Enable     Enable	<ul> <li>Disable</li> <li>Disable</li> <li>Disable</li> <li>Disable</li> </ul>	min	
	Idle Shutdown in PTO Idle Shutdown in PTO Idle Shutdown Percent Engine Loading Idle Shutdown Parking Brake Switch Enable Driver Revard	C Enable Enable 100 Enable	Disable     Disable	%	
	Driver Reward Enable     Fan Control	O Enable	Oisable		
	Fan On Time(AC) Minimum Fan On During Engine Braking Fan Control Vehicle Speed Interaction	30 O Enable O Enable	<ul><li>Disable</li><li>Disable</li></ul>	sec	

• To transfer a Spec make sure a supported adapter and cable is connected to your engine. Select a spec from the list and the transfer process should begin. (Note: the "Transfer" button is disabled if you are not connected to a vehicle.)

	PowerSpec v6.0.0.5	2 - G	ilobal Adminis	strator					Uni	ted States and Canad	la	
	Transferring spec co Preparing report for	mplet or dis	, piease wait ted successfully. <b>play</b>								$\langle \rangle$	
-	Disconnect	G	Ð	Prin	i	Sav	re As		Mode			
1	🥬 ISX 2010	Rep	🥔 🗋 🔍 🖯									
	Read Data	orts										
	Transfer Spec											
	Direct Engine Edit											
1	Reports			Engine F	eatu	ire Se	tting (	Chang	je Re	eport		
	Feature Spec			Engine Type	ISX 20	10	Ecm Co	ode -		CL10011.06		
R	RoadRelay Spec			Engine Serial Number Unit Number	0	00000	Softwar	re Phase on Date		6.16.0.5 08/05/2015		
1	Feature Description			onicitation	00000	00000	Extract	on Date		00/00/2010		
	Gearing Coach			Fuel Economy								
2320	Advanced			Road Speed Governor		Previous	Target	New	Unit	Note		
	Advanced			Maximum Acceleration Vehicle Sp	eed	85	66	66	mph			
6	Help			Accelerator Lower Droop		1.86	2	2	mph			
				Accelerator Upper Droop		0	3	3	mph			
				Geardown Protection		Previous	Target	New	Unit	Note		
				Gear Down Protection Feature		Disable	Enable	Enable				
				Gear Down Protection Heavy Loa Speed	d Vehicle	80	63	63	mph			
				Gear Down Protection Light Load Speed	Vehicle	75	54	54	mph			
				Idle Speed Control		Previous	Target	New	Unit	Note		
			Type text to find	                            								
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Once the transfer is finished, PowerSpec will bring up a change report. If you receive an error message, the transfer has failed.



- Once the transfer process is finished, PowerSpec will generate a report for your records. By clicking "Mode," you can transition between a full report and a shortened one. By clicking "Print Report," you can print a hard copy of the transfer report for your records. Click "Save As" to save the report for your records. Once you are finished, simply click "Done" to return to the Transfer Feature Spec main page.
- You may also transfer a Spec once you have finished creating/editing it. Simply click "Transfer" on the Spec's feature settings page and follow the same process as above.

# Reports

- PowerSpec also allows you the ability to read different types of engine data from trip information to fault codes (including the capability to reset inactive fault codes).
- You 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.



#### **Fleet Management**

 If you are interested in managing multiple vehicles and engines in a consolidated place, click on the Setup option to see the following page:



 Clicking Fleet for Engines (on the previous screen) will bring you to the following engine and fleet management page. The grey window on the left will list your company name and count of fleets, sub-fleets, vehicles, and data records.



 You can also configure the engines in each subfleet and track key engine information and track specific engines performance characteristics.

#### View Data

If nothing is selected, the bottom icons show all reports stored in the database. As you
pick a vehicle or vehicles, fleet or sub-fleet and a start/end date, it will show the number
of reports for those selections.



#### **Fault Codes**

 By clicking 'Faults', you can view a populated list of the fault codes the engine has experienced within the date range selected. The list also includes a description of each.



#### **Feature Settings**

 You can easily check a list of the feature settings of each engine selected in the 'View Data' page. This includes data on disabled features and multiplexing data, if selected at the top of the report.



#### **Trip Information**

 Trip information can be viewed in summary, detail, or operating reports. Summary will give a high level overview of fuel economy, distance traveled, time travelled and other averages.



#### **Trip Report**

- Viewed in operating report, trip information is displayed in graph format to show a visualization of certain characteristics of the engine during a given trip based on the engine's operating modes.
- The trip report has 4 different formats available for you to choose from:
  - o Summary (default)
  - o Detail
  - o Operating
  - o One Page



#### **Sudden Deceleration**

 PowerSpec also displays, graphically, sudden decal events. The report includes the time, vehicle speed, engine speed, engine load, and throttle during an event.



#### **Change Report**

• To view the history of changes made to an engine's feature settings, click 'Change Report'. Here you can compare the new and old feature settings in table format.



# **Licensing: Customer Instructions**

#### Licensing a PC for PowerSpec Feature Settings

• To start the process, install PowerSpec on the target PC and obtain the PC ID from the PowerSpec Main Menu (next to copyright).



- Next provide the Cummins Distributor with the PC ID and the following personal information:
  - First/Last Name
  - Email Address
  - Company Name
  - Zip Code
    - Phone NumberPCID (Located on PowerSpec "Help" page)Format: 8 characters long – alphanumeric: A-F, 0-9
- After your Cummins Distributor has created the PowerSpec license, there are two methods for installing the license on the target PC:
  - For computers connected to the internet:
    - First, select "Advanced" in the left pane and "Licensing" from the top of the page.
    - On the licensing page, select "Internet Connected," then click "Obtain." The license will install automatically in a few seconds.

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R	RoadRelay Spec			Z. Specify your internet con	hected	
9	Feature Description		100	3 Obtain		
4.4.4	Gearing Coach			J. Obtain		
2	Advanced					
	Help					
		PC ID	License Type	Expiration Date	Status Message	
		D1745DD1	Global Administrator	01/16/2016	Licensed	
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- For computers not connected to the internet:
  - o De-select "Check if Internet connected" box and enter the license key
  - Type the 24 digit numeric license key provided by the distributor, then click "Obtain" to install the license. *Note: Each license key only works on the targeted PC.*

MINT IIMA		-	Connect button.		
Connect 🏼 🎽	9.0	Settings	Licensing Administr	ration Search PC ID	
🎼 Reports		Steps to o	btain a license for your P	c	
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Advanced			Obtain		
🚱 Help					
	PC ID Lic	ense Type	Expiration Date	Status Message	
	D1745DD1 Glo	obal Administrator	01/16/2016	Licensed	

You have now successfully obtained a PowerSpec license!

# **PowerSpec Help**

#### **PowerSpec overview**

 PowerSpec contains a library of information including: a program overview, engine feature descriptions, and more in-depth descriptions of how to use the program. These topics are located under the 'Help' menu. Click 'Help' in the left menu and the 'Help Topics' at the top of the page.



 PowerSpec Help contains a comprehensive overview of all the information you need to complete any task.

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	Gearing Coach	What is PowerSpec?		
2	Advanced	Electronic Feature Descriptions		
•	Help	Engine Feature Descriptions		_
		Topics		
		Reading Engine Data		
		Changing Engine Data		
		Editing Engine Feature Specs		
		Advanced Options		
		Gear Your Vehicle		
		Reports		
		Contact Information		
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### **Feature Descriptions**

- Each engine feature in the Featured Description section includes:
  - Overview
  - Features and Parameters Setup
  - Theory of Operation
  - Driver Technique

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- 19 A.	Gearing Coach	• ISA • ISA • ISC									
1	Advanced	ISL     ISB									
0	Help	ISX Features			- 1						
		Accelerator	Aftertreatment	Anti - Theft							
		Cruise Control	Diagnostics	Driver Reward	_						
		Electronic Dataplate	Engine Brake	Engine Protection							
		Fan Control	Gear Down Protection	Idle Speed Control	_						
		Maintenance Monitor	Load Based Speed Control	Power Take Off							
		Real-Time Clock	Remote PTO	Reserve Speed							
		Road Speed Governor	Security	Trip Information							
		VAM Feature	Vehicle Setup	ADEPT Feature							
		ISM Features									
		Accelerator	Anti-Theft	Cruise Control							
		Plaquetice	Driver Reward	Electronic Datanlate							
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 PowerSpec 6.0 also contains a direct link to the engine feature descriptions within the navigation bar on the left.

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For More Information:

Contact:	Your local Cummins Distributor
Visit:	www.cumminsengines.com/powerspec
Call:	1-800-DIESELS