

# Appendix 3: New Features in Version 3.2

Here is a brief listing of some of the features new in Version 3.2:

- Program is now a 32 bit version, fully compatible with newer operating systems, starting with Windows, 95, then 98, Me, XP, and 2000. This also allows you to use much longer, more descriptive file names for saving vehicles, throttle stop data and dial in data. It is also more compatible with newer printers.
- The program is now designed for 600 x 800 or higher resolution screens.
- There is now a separate “Examples” folder for example vehicle files provided by Performance Trends. New vehicles which you save will be saved to a separate folder of Your Saved Vehicles.
- A new Preference lets you remove the Performance Trends Example Vehicles from Your Saved Vehicles if you have updated from Version 3.0.
- There are now File commands to save a vehicle file to a floppy disk, or open a vehicle file from a floppy disk. This makes it easy to copy a vehicle file from one computer to another.
- You can now choose to list vehicle, dial in and throttle stop files alphabetically (as normally done) or by saved date, with the most recently saved files listed first. This should make it easier to find recent files more quickly.
- You can now choose to only list vehicle files which have certain words or phrases in their names, like just “Chev” files, “Import” files or “Race” files. This should make it much easier for you to find example vehicles or your vehicles in a long list.
- The user’s manual is now available from inside the program by clicking on Help at the top of the main screen, then Display User’s Manual. The manual is in a high quality PDF format
- The Performance Trends website is now available from inside the program by clicking on Help at the top of the main screen, then Performance Trends on the Web.
- A Print button and Windows Print Setup button (or menu option) have been added to many screens to let you print these individual screens.
- An Optimize button has been added at the top of the Main Screen, which lets you instantly find the best torque converter (if transmission is an automatic) or final drive (rear axle) ratio for quickest ET.

- Two new calculation menus have been added, one to convert engine size from CCs or Liters to cubic inches, and the other is to estimate the vehicle weight of your car based on some popular car models.
- The recent results section of the results screen now includes 60 ft time and the improvement for the current and previous run.
- A summary Time Slip, similar to what you get at the drag strip, is available in the results screen for the current results, and available for any of the 25 runs in the history log.
- Commands in the History Log have been updated and streamlined. Now when you click on a row in the History Log, you are now presented with 4 command options, Open, Rename, Help or Time Slip.
- The Dial In and Throttle Stop screens have a new spec of "safety margin", which the program uses to give you a margin of error to keep you from breaking out.
- The Throttle Stop Predictions can now be based on just one previous run, and an Adjustment Factor from a previous run. This Adjustment Factor is obtained by doing a calibration run at some previous time. See the detailed explanation later in this section for this more convenient method of predicting throttle stops.
- The program will now "Auto Link" to our upcoming Engine Analyzers, versions 3.2. Auto Linking means the Engine Analyzer screen will show the resulting MPH and ET from an engine change, running the Drag Racing Analyzer program completely in the background.
- A new Preference lets you obtain instant updates of ET, MPH and 60 ft times from every change you make in the vehicle specs screens. This can be a great time saver, especially on newer, faster computers.
- Several new Example Vehicle Files have been added, to make building your vehicle easier.

Figure A2 New Features in Results Screen

60 ft times now included in "Improvement" section.

Drag Racing Analyzer v3.2 Performance Trends [ 10SEC-FW.D ]

Back Graph Print Analyze History Time Slip Help(F1)

Notes Summary: **Very High Clutch Slip. Tire Traction Very Low. Click on Notes for more Details.**

Current: ET 10.855 MPH 131.07 60 ft 1.822  
 Last: 12.244 113.02 1.910  
 Improvement: 1.389 18.05 .088

Gear	Time	MPH	Accel Gs	Feet	C RPM	EngRPM	Tq Mult	C Slip	T Slip	% Thrt
1	-.234	.00	.89	-1	0	6000	1.00	100	7	37
RD	.000	4.55	.89	0	913	8124	1.00	89	7	38
1	1.822	40.07	.89	60	7960	8118	1.00	2	7	39
1	1.838	40.38	.89	61	8022	8030	1.00	0	7	39
2	2.038	40.24	.90	73	4760	8400	1.00	43	7	66
2	3.090	60.00	.83	151	6808	7588	1.00	10	7	64
2	4.058	75.73	.54	248	8000	8000	1.00	0	2	100
3							1.00	35	7	100
3							1.00	0	1	100
3							1.00	0	1	100
3							1.00	0	1	100
3							1.00	0	0	100
4	8.807	119.11	.50	941	6064	8400	1.00	28	1	100
4	9.138	121.65	.29	1000	6173	6173	1.00	0	0	100
4	10.855	132.07	.26	1320	6643	6643	1.00	0	0	100

Time Slip

Mon Oct 21 02 8:37 am  
 Time Slip For:  
 10SEC-FW.D

RT .500  
 60 ft 1.822  
 330 ft 4.773  
 1/8 ET 7.135  
 1/8 MPH 107.39  
 1000 ft 9.138  
 1/4 ET 10.855  
 1/4 MPH 131.07

Close (back) Print

Test Title	Feet	Dnsy Alt	Dry Dnsy Alt	60 ft	Imprvmt	ET	Imprvmt	MPH	Imprvmt
10SEC-FW.D: Mon Oct 21 02 9:04 am	1320	1693	1941	1.822	.000	10.855	.000	131.07	.00
10SEC-FW.D: Mon Oct 21 02 8:37 am	1320	1693	1941	1.822	.088	10.855	1.389	131.07	18.05
2002 Ford Focus SVT Stock: Sun Oct 20 02 10:54 am	1320	1693	1941	1.910	.000	12.244	.000	113.02	.00
2002 Ford Focus SVT Stock: Sun Oct 20 02 10:54 am	1320	1693	1941	1.910	.000	12.244	.000	113.02	.00
2002 Ford Focus SVT Stock: Sun Oct			941	1.910	-.001	12.244	-.001	113.02	.00
2002 Ford Focus SVT Stock: Sun Oct			941	1.909	.000	12.243	.000	113.02	.00
2002 Ford Focus SVT Stock: Sun Oct			941	1.909	.000	12.243	.000	113.02	.00
2002 Ford Focus SVT Stock: Sun Oct			941	1.909	.000	12.243	.000	113.02	.00
2002 Ford Focus SVT Stock: Sun Oct			941	1.909	-.609	12.243	-2.938	113.02	-28.25

Open (retrieve these specs)  
 Show Help Describing This Column  
 Rename Test  
 Show Time Slip

Drag Strip Time Slip available by clicking on Time Slip (for current results) or run from the History Log.

Click on any row from the History Log to be presented with these options. The Open option lets you retrieve the specs which produced these results, a very handy method of returning to a combination which produced better results. (This feature was available in v3.0)

Figure A3 Throttle Stop Screens

**Throttle Stop Prediction [File: THRTLSP]**

Exit File Edit Options Advance Update Prediction Help

**Previous Run**

Use Two Previous Throttle Stop Runs  
 Use One Previous Throttle Stop Run

Corr. Baro., "Hg: 29.13  
Air Temp, deg F: 75  
Dew Point, deg F: 63  
Elevation, feet: 670  
Wind MPH: 7  
Wind Direction: Side Wind

Throttle Stop: .75  
60 foot, sec: 1.405  
ET, sec: 9.76

Adj. Factor: 24.368

**General Specs and Comments**

Method of Reading Weather Data: Radio/TV Report with Dew Pt  
Index, sec: 9.9  
T/S Start Time: 2.5

**Predicted Run**

Corr. Baro., "Hg: 29.13  
Air Temp, deg F: 75  
Dew Point, deg F: 63  
Elevation, feet: 670  
Wind MPH: 7  
Wind Direction: Side Wind

60 Foot Time: 60 ft, sec  
Let Program Est. 60 ft tir: 1.405  
Safety Margin, sec: 0  
Throttle Stop: 1.381

**Help**  
Barometer reading in inches of mercury, CORRECTED to sea level for elevation. p 50

This screen is as described in manual, basing throttle stop on 2 previous runs.

Select "Use Two" (old method) or "Use One" T/S. For Use One, you must have an "Adj Factor" from a previous set of runs. See test for how to use each method.

"Adj Factor" and "Safety Margin" added in V 3.2.

**Throttle Stop Prediction [File: THRTLSP]**

Exit File Edit Options Advance Update Prediction Help

**Previous Run**

Use Two Previous Throttle Stop Runs  
 Use One Previous Throttle Stop Run

Corr. Baro., "Hg: 29.07  
Air Temp, deg F: 77  
Dew Point, deg F: 63  
Elevation, feet: 670  
Wind MPH: 9  
Wind Direction: Side Wind

Throttle Stop: 1.95  
60 foot, sec: 1.401  
ET, sec: 10.12

Adjust Factor: 24.368

Adj. Factor: 24.368

**General Specs and Comments**

Method of Reading Weather Data: Radio/TV Report with Dew Pt  
Index, sec: 9.9  
T/S Start Time: 2.5

**Predicted Run**

Corr. Baro., "Hg: 29.13  
Air Temp, deg F: 75  
Dew Point, deg F: 63  
Elevation, feet: 670  
Wind MPH: 7  
Wind Direction: Side Wind

60 Foot Time: 60 ft, sec  
Let Program Est. 60 ft tir: 1.405  
Safety Margin, sec: .01  
Throttle Stop: 1.410

**Help**  
Barometer reading in inches of mercury, CORRECTED to sea level for elevation. p 50

New screen for using "One T/S" with an "Adj. Factor" from a previous set of runs.

Enter the "Adj Factor" from a previous set of Calibration runs, where you made a large change in the throttle stop setting. Now a Predicted Run's throttle stop setting is just based on Run 2's results and this "Adj Factor".

## New Throttle Stop Options:

In Version 3.2, there are 2 ways to predict Throttle Stops:

1. Based on 2 previous runs obtained during time trials or “test and tune runs”. This is the only method that was available in version 3.0, is somewhat more accurate but much less convenient.
2. Based on 1 run and the "Adjustment Factor" determined from some set of 2 runs you ran some previous time. This method has been added in Version 3.2 and is much more convenient.

Click on Options at the top of the Throttle Stop screen, and then select which method you want to use.

To determine the correct Adjustment Factor for one run, you must first open a throttle stop file you have run in the past which has 2 runs. Then click on the "Clc" button by the Predicted Throttle Stop setting or click on "Update Prediction". When there is a Predicted Throttle Stop displayed, you will also notice an “Adj Factor” or Adjustment Factor displayed under Run 2.

Now you can click on Options and choose “Use One Previous Throttle Stop Run”. The screen will change, and the “Adj Factor” will be loaded in. You could also simply type in a adjustment factor from a previous set of runs. Also enter the weather, TS setting, ET and 60 ft for just one previous run (Run #2). Now the program is ready to predict a new Throttle Stop setting from new weather conditions you enter for Predicted Run. Click on the “Clc” button by the Throttle Stop output, or the Update Calculation menu item for the Throttle Stop setting you should run.

For example, you have obtained an “Adj Factor” of 25.234 based on 2 previous runs, perhaps 2 months ago. You come to a new event and make a time trial pass with certain weather conditions, throttle stop setting and ET. This first time trial should be your attempt to run very close to the Index. You enter these conditions into the program as Run 2. Now, for your Round 1 run, you enter the current weather conditions, Safety Margin, and method to estimate the 60 ft time for the Predicted Run and click on the “Clc” button to obtain the correct Throttle Stop setting. This Throttle Stop setting will be nearly as accurate as if you had made 2 runs with very different throttle stop settings as described in the manual in Example 4.3.

You will also notice a new input called “Safety Margin”. For example, if you say your index is 9.90, but you want the program to predict what setting is necessary to run a 9.93 (a .03 second safety margin), you should enter 9.90 as the Index and .03 as the Safety Margin. Safety Margin is also available in the Dial In screen and works in a similar way.

## What is “Adj Factor”?

The Adjustment Factor is a measure of how much affect your throttle stop has on your vehicle’s ET. It is measured by making 2 different runs with 2 *very* different throttle stop settings, say one where the throttle stop is on for .5 seconds, and another where the stop is on for 2.5 seconds. These are not runs where you will try to run your index, and are best run during a “test and tune” session. Your objective is to produce 2 very different ETs, hopefully .300 to .600 seconds different than each other. These 2 runs should be done with no other vehicle changes, and ideally with very little difference in the weather conditions. Take the weather conditions and results for these 2 runs and load them into the Throttle Stop screen as Run 1 and Run 2. Put in most any conditions for the Predicted Run and click on the “Clc” button to update the Throttle Stop Prediction and you will be given the “Adj Factor” for Run 1 and Run 2.

This “Adj Factor” can now be used for predicting Throttle Stop settings. If you make significant changes to the vehicle, throttle stop settings or the time the throttle stop comes on (say it was 1.5 seconds into the run, now it is 2.5 seconds into the run), you must obtain a new “Adj Factor” based on 2 runs with very different throttle stop settings with this new change.

Figure A4 New Calculation Menus

Vehicle Weight Estimator is available for Vehicle Weight input at the Vehicle Specs screen.

Displacement Calculator is available for Displacement in the Engine Specs screen.

**Calc Displacement, cu in**

Calc Displacement, cu in

**Metric Displacement**

Enter Displacement In?

Engine Displacement

**Est Vehicle Weight**

Est Vehicle Weight

**Vehicle Specs**

Year

Make

Model

Engine

Transmission

Convertible

**Additional Weight**

Driver Weight

Gallons of Fuel

**Note:**  
A good match was found.

Note new Print buttons

Figure A5 New Features at Main Screen

The screenshot shows the main interface of Drag Racing Analyzer v3.2. The menu bar includes File (vehicle), Calc ET, Help, Preferences, and Reg To: Kevin Gertgen. The File menu is open, showing options like New, Open Example Vehicle from Performance Trends, Open One of My Saved Vehicles, Save Vehicle, Save As, Open from Floppy Disk, Save To Floppy Disk, Print Main Screen, Print Blank Worksheet, Windows Printer Setup, Unlock Program, and Exit Program. A callout box points to the 'Open Example Vehicle from Performance Trends' option, stating: "Open either Examples from Performance Trends or vehicles you saved to your separate library". Another callout points to the 'Open from Floppy Disk' and 'Save To Floppy Disk' options, stating: "Options to save to or open from floppy drive, making it easy to move vehicle files from one computer to another." A third callout points to the 'Unlock Program' option, stating: "Unlock lets you turn the demo into a working version with a code #." A fourth callout points to the 'Save Vehicle' option, stating: "Click here to set default floppy drive letter (A or B)." A fifth callout points to the 'Allow Instant Updating of Changes' option in the Preferences menu, stating: "Click on Allow Instant Updating of Changes for feature described on next page." A sixth callout points to the 'Remove Old Example Vehicles from Your Vehicles' option in the Preferences menu, stating: "If updating from v3.0, click here to remove old example vehicle files from Your Saved Vehicles folder. New Examples with same specs are in Examples folder." A seventh callout points to the 'Display the User's Manual (with v3.2 Supplement)' option in the Help menu, stating: "Options to display the user's manual or the Readme.doc file listing recent changes." An eighth callout points to the 'Other Performance Trends Products' option in the Help menu, stating: "Click here to visit the Performance Trends website to read about or download demos of other products, or updates on this product." The Preferences menu is also open, showing options like Default Floppy Drive, currently A, .01 Sec Increments, .001 Sec Increments, Beginner Level, Experienced Level, Remind On Tire W/t Change, Don't Remind on Tire W/t Change, Engine Graph - Thick Lines, Engine Graph - Thin Lines, Allow Instant Updating of Changes, Don't Allow Instant Updating of Changes, and Remove Old Example Vehicles from Your Vehicles. The 'Optimize' button is visible in the background.

Open either Examples from Performance Trends or vehicles you saved to your separate library

Options to save to or open from floppy drive, making it easy to move vehicle files from one computer to another.

Click here to set default floppy drive letter (A or B).

Click on Allow Instant Updating of Changes for feature described on next page.

Unlock lets you turn the demo into a working version with a code #.

If updating from v3.0, click here to remove old example vehicle files from Your Saved Vehicles folder. New Examples with same specs are in Examples folder.

Options to display the user's manual or the Readme.doc file listing recent changes.

Click here to visit the Performance Trends website to read about or download demos of other products, or updates on this product.

Figure A6 Instant Updating of Results

Wheel & Tire Specs [ 10.855 @ 131.07 1.822 60 ft ]

Rear Wheel/Tire Specs		Front Wheel/Tire Specs	
Type	Use Specs Below	Type	Use Specs Below
Wheel & Tire Wt. lbs	20	Wheel & Tire Wt. lbs	30
Tire Diameter, in	23.9 <input type="button" value="Clc"/>	Tire Diameter, in	24.5 <input type="button" value="Clc"/>
Help <a href="#">re in pounds. p 35</a>		Construction	Drag Slicks
		Tread Width, in	8 <input type="button" value="Clc"/>
		Traction Factor, %	90 <input type="button" value="Clc"/>
		Tire Growth, %	10 <input type="button" value="Clc"/>

OK Help Print Print Setup Get Example Save Example

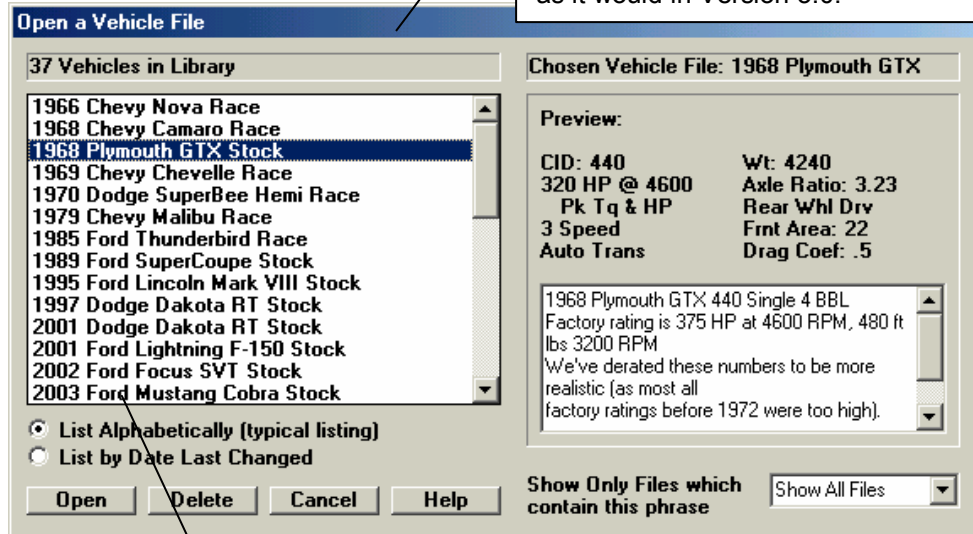
ET, MPH and 60 ft time shown here and are instantly updated after each change.

Note Print and Print Setup buttons

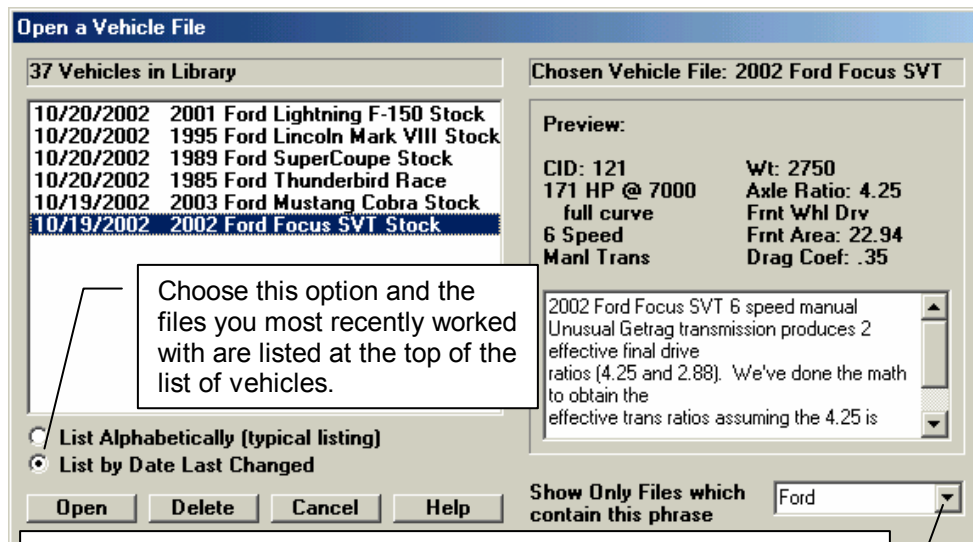
If using this feature, it is best to always close out each screen by clicking on the OK button, then going to the next screen. If you simply click on an option on the main screen while another screen is open, the program can "get confused" and may drop some of the specs you have changed.

Figure A7 Open Screen Features

This is the normal way the screen would look, as it would in Version 3.0.



Note the use of much longer, more descriptive file names available in Version 3.2.



Choose this option and the files you most recently worked with are listed at the top of the list of vehicles.

Pick a phrase to look for in the name of the file to be listed (like "Ford" shown here), or choose "Show All Files" to show all files in the library, or type in most any phrase of your choosing.