

Engine Polygraph

EPReader®

by Predictive Fleet Technologies

Installation and User Guide

Version 1.75

2018-05-19

This page intentionally blank

EPRreader®

Table of Contents

Introduction	4
Download EPRreader	5
Sign-in to EPRreader.....	6
Enter the 'Signature' data	6
Collect the data from your engine	10
View the Report	11
Support	11
Copyrights	11

Introduction

EPReader (Engine Polygraph Reader) is a software to enable a 'user friendly' procedure to collect data from an engine and provide it to the web-based application, [Engine Polygraph](#), to store the data for later reference and optionally request an assessment report indicating the relative status of various physical components of the engine.

EPReader is a part of Engine Polygraph and requires all users be authorized by the Engine Polygraph Administrator for your company. The *Terms & Conditions*, *Warranty*, and *Privacy Policy* available on the [Engine Polygraph](#) website, www.enginepolygraph.com, apply equally to EPReader.

The EnginePolygraph web-based application has a Users Guide that describes a procedure for when you are not connected to the Internet to use your PicoScope with the **PicoScope 6 Automotive** software (see the PicoAuto website, <https://www.picoauto.com/downloads>) to collect and save the files on your PC. Then, when you have Internet connectivity, you may use the www.EnginePolygraph.com application to upload the data and obtain the reports.

This EPReader is a PC application that requires an active connection to the internet and a PicoScope to connect sensors (SenX FirstLook® and optionally others) attached to the PicoScope channels by coax cables. The PicoScope is also connected to the PC by a 3.0 or 2.0 **high-speed** USB cable. The application provides a User Interface for the authorized user to input data about the vehicle and engine being tested and request (or not) for the optional Engine Assessment report and where to email the report.

Next, the system provides a list of steps in appropriate sequence to 'warm-up' the engine, position your equipment in a safe and convenient position, attach cables, and review your inputs again for accuracy.

When ready, hit the **Start** button and the system then provides instructions for accelerating the engine to an appropriate speed and holding that speed constant for a short while. The 'Processing' light will turn yellow. The system checks the signals coming in from the sensors to be sure they are connected and that meaningful data is being supplied. After collecting less than a second of uniform speed data, the Reader 'Complete' light will turn to green, indicating successful data collection and transmission to the Engine Polygraph web application for analysis. Your requested report will soon appear.

If the user requested the optional assessment report, the system will email the report to the address provided by the user. The user may also choose to sign onto the web application, www.enginepolygraph.com, and view the report from the Assessments tab.

NOTE: If the vehicle's owner were a Fleet that uses EngineAngel (www.engineangel.com) and the vehicle were on the owner's vehicle database, the report will be sent to that Fleet's Engine Angel Fleet Management system to be put into their database and displayed on the Vehicle Condition Report.

Download EPReader

An authorized user of Engine Polygraph may download the EPReader software from the 'home page' of the enginepolygraph.com application by clicking on the button "Engine Polygraph Reader Install".

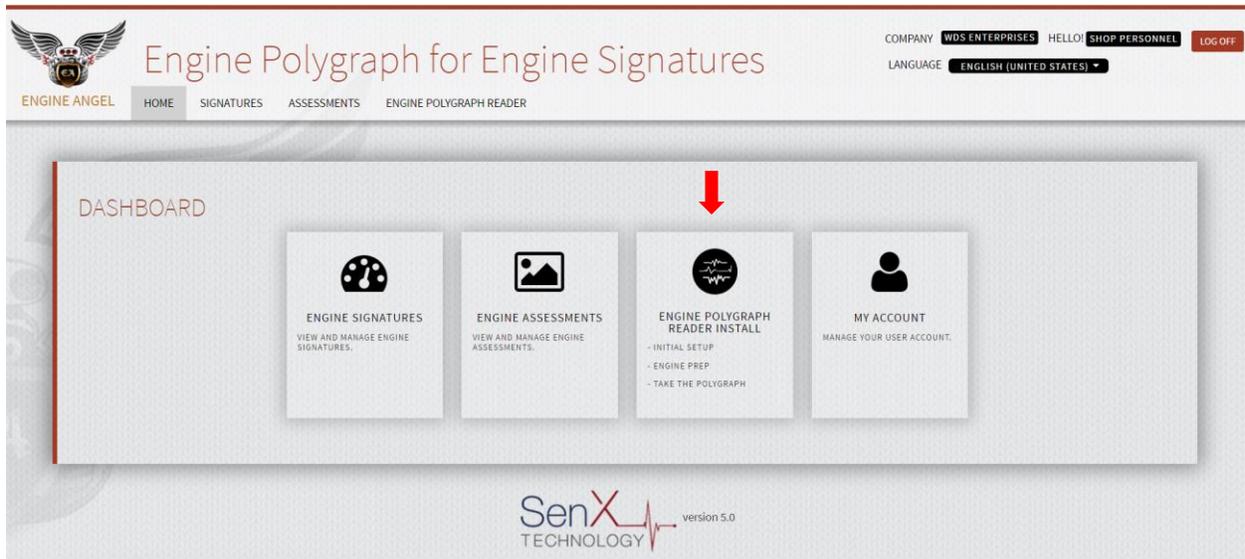


Figure 1: The Home screen of the Engine Polygraph web-based application (www.enginepolygraph.com)

The system will then return:

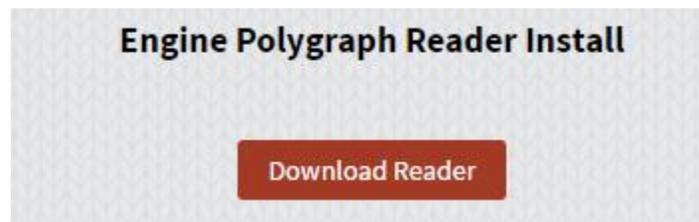


Figure 2: Button to initiate the download of the EPReader Install on your device.

Click on **Download Reader** to download the Install Wizard and follow the instructions.

Sign-in to EPReader

The Install Wizard will place an icon on your PC desktop. Double-click on the icon to open the Login screen:



Figure 3 (Left): Panel displayed to initiate your session on your device.

Enter your Username and password. If you have forgotten your password, open the web-based application, www.enginepolygraph.com. From there, you can click on the 'Forgot your password?' to provide your Username. The system will send a Reset Password email to the email address attached to your User Name; that email will contain a link to a 'Reset Password' screen.

The session can proceed only if your device is attached to the Internet. If you want to collect a signature from a location without internet access, use the procedure described in the Engine Polygraph Users Guide. It describes how to use the **PicoScope 6 Automotive** software to collect the data and save the psdata file for later upload to www.enginepolygraph.com after you have established an Internet connection.

Enter the 'Signature' data

After you have logged in, you will obtain a screen as shown in figure 4. On the upper-right side of the Engine Polygraph Reader screen, the Company name, User Name, Language (with Country variant), and Version number are provided. If you are not running the most recent version of the software, the 'Update Software' button allows you to upgrade your version when you click on it. The supported languages are displayed in the Language pull-down in the upper right section of the display. Pick the choice of your preference.

As indicated in the blue text box, enter requested data in the fields or use the pull-downs and select the appropriate values.

If this is the first time that you are using this screen, the screen will have a number of default values that are most common. Be sure to check that these values are appropriate for your situation.

If this is not the first time that you are using this screen, many data elements will be copied from the previous signature your company submitted. Be sure to verify all inputs.

Owner identifies the vehicle owner or Fleet name. NOTE: If the name you enter in the Owner field is the name for a Fleet that has a subscription to [Engine Angel](#) Fleet Management software and has requested that your company provide reports, the Fleet name will appear in the Fleet field and the Engine Angel Subscriber box will be checked.

Vehicle ID is an identifier visible on the vehicle to determine which vehicle in your shop you are working on. This might be a license plate number, the number painted on the sides of the vehicle (as is often the case for Fleet vehicles) or the model of the vehicle. NOTE: If the Owner is an Engine Angel subscriber, the system will check the Vehicle ID on the vehicle registry for the indicated Fleet. If the Vehicle ID is not on the registry, the Vehicle ID will turn red and no data will be sent to the Fleet's Engine Angel system. This is very important to align with the Yes/No button, 'Engine Angel Assessment?'.

Engine Polygraph Reader

Help Exit

Welcome to Engine Polygraph Reader. Please fill the Signature portion of the form first and press Next when you are ready.

Engine Angel Demo Fleet
Demo Fleet1
Language English (United States)
Version: 1.71
Your Software is up-to-date

Signature

Owner	Vehicle ID BMW	Fleet	<input checked="" type="checkbox"/> Engine Angel Subscriber
Engine Manufacturer BMW	Engine Model 3.0L M54B30 I6 BMW	Engine Configuration I6	
Displacement 2.97	Location Midland	Measurement Date 10/29/2017	
Odometer 125000	Condition Load	RPM	
Engine Temperature	Channel A exhaust	Channel B oil tube	
Channel C none	Channel D none	Comments o3test	
Trigger Cylinder	Engine Poly Purpose After		

Engine Angel Assessment?
 Yes No

Next

Reader

Start

Not Started

Processing

Complete

Figure 4. The Engine Polygraph screen to define the engine and conditions for the signature to be collected and stored, and analyzed, if requested. Fleet is presented and 'Engine Angel Subscriber' is checked to indicate that your company (DemoFleet1) has an agreement to provide signature data and reports to the fleet, DemoFleet1. In such a case, 'Engine Angel Assessment?' should be 'No'.

Engine Manufacturer is a pull-down of many engine manufacturers from around the globe. Although most of the engine manufacturers can be determined from the vehicle brand/manufacturer, buyouts and joint ventures can 'cloud the waters'. In rare cases, you may need to search the internet to pin down unusual situations.

Engine Model is a pull-down that shows the Engine Models associated with the chosen Manufacturer, sorted in engine displacement (in liters). If your exact engine model is not on the list, select one with similar configuration, number of cylinders and displacement (displacement does not need to be an exact match), even if from a different manufacturer. Record the exact engine model and manufacturer in the Comments area and notify support@engineangel.com so we can include the new model in a future update.

Note: If the Vehicle ID is on an Engine Angel subscriber's system, the **Engine Manufacturer** and **Model** will be obtained from the Fleet's database.

The Engine Configuration and Displacement are obtained from our engine database and displayed for your verification of Model choice.

Location is provided for companies that have multiple shops performing engine work and want to share results among them. It can be helpful for later search and retrieval of signatures and reports.

Measurement Date displays as 'today' and cannot be altered from this application. For edits of data after submission, use the web-based www.EnginePolygraph.com application.

Odometer, RPM, and Engine Temperature are stored for future reference and comparisons over time. Use the units of measure (mi, km; °F, °C) appropriate for your company. Engine temperature should be an estimate of what the temperature will be when you will record the data – ideally with the thermostat open and the fan not running.

Channels A, B, C, and D indicate which attached sensors are connected to the PicoScope channels. By default, Channel A is reserved for exhaust; Channel B is reserved for the oil tube (dipstick); Channel C or D may be used for any of the other choices from the pull-downs. Each must have a value and the list includes 'none'.

Trigger Cylinder indicates which cylinder number is the cylinder with the firing sensor. If no trigger sensor is used, this should be empty.

Engine Poly Purpose indicates the 'purpose' for the report. The pull-down options allow: **Single** for a one-off test; **Before** to indicate that the test is to document the engine 'health' before an anticipated remedial procedure; **After** to indicate an assessment following a remedial procedure; **Base** to mark a signature as a baseline for future reference. (The **Base** is appropriate for a new engine.)

Comments are free-text remarks about the engine/testing to enable accurate retrieval in the future.

Engine Angel Assessment? is a Yes/No option to indicate if your company wants the optional assessment report. NOTE: In the case of a vehicle in a Fleet with an Engine Angel subscription, **No** should be chosen since the Fleet is paying for the report and the report will be sent to their Fleet database; if the vehicle is not in a Fleet with an Engine Angel subscription and you want the report, select **Yes.**)

Email is an email address identifying where to send a copy of the report.

After you have completed the data entry for the vehicle and test conditions, click on Next. The PicoScope will then be opened before the next step is initiated. You will be informed if there are problems attaching to the PicoScope.

Collect the data from your engine

In figure 5, we show a screen image for a vehicle that is in the Fleet, DemoFleet1. The Fleet Name and checkbox are provided by the system. Because this Owner is a Fleet subscriber to EngineAngel, we select **No** for the question: 'Engine Angel Assessment?' The report will be generated, the data sent to the DemoFleet1 system, and presented on the Assessments screen in the web-based EnginePolygraph.com application. The price for the report is built into the EngineAngel subscription price.

If the vehicle is not in an Engine Angel subscriber Fleet, it would be necessary to select Yes for the question: 'Engine Angel Assessment?' In this case, the company would be charged the agreed price after the report appears. (The price per report is set at the time of the company registration.)

Engine Polygraph Reader

Help Exit

Welcome to Engine Polygraph Reader. Please fill the Signature portion of the form first and press Next when you are ready.

Engine Angel Demo Fleet
Demo Fleet1
Language English (United States)
Version: 1.67
Your Software is up-to-date

Signature

Owner DemoFleet1	Vehicle ID 207	Fleet DemoFleet1	<input checked="" type="checkbox"/> Engine Angel Subscriber
Engine Manufacturer DD	Engine Model S60 14L	Engine Configuration I6	
Displacement 14.00	Location home	Measurement Date 08/04/2017	
Odometer 51407	Condition Load	RPM	
Engine Temperature	Channel A exhaust	Channel B oil tube	
Channel C trigger	Channel D none	Comments ams oil test after 1,000 miles	
Trigger Cylinder	Engine Poly Purpose Single		

Engine Angel Assessment?
 Yes No

Next

Reader

Start

Not Started

Processing

Complete

Figure 5. Screen showing the prompts and data after submission of the vehicle information and request, but before 'pushing' the Start button.

After the **Complete** light turns green, you may push the Next/Continue button to start the next engine test while the system prepares the report for the engine just tested.

View the Report

To view the report, one may see it attached to an email message from the system as requested in the email box on the Signature screen. The Engine Polygraph Users Guide (downloadable from the website) provides a description of the report.

Or one can sign onto the web application, www.EnginePolygraph.com and look at the Assessments page. It might be up to two minutes for the report to be completed and presented. Your report should be near the top (last report for the company shows on top). Click on the 'eye-ball' to see the report or click on the envelope to specify an email address to send the report.

Support

Please notify us of problems or questions related to Engine Polygraph at support@engineangel.com.

Copyrights

Engine Polygraph, EP Reader, and Engine Angel are copyrights of Predictive Fleet Technologies, Inc.; SenX and FirstLook are trademarks of SenX Technology, Inc.; Pico and PicoScope are trademarks of Pico Technology.