Video Tutorial:

We have created a video tutorial to demonstrate the example (AMC, June 2021) that is presented in the Excel file. [Click to access the video tutorial](#).

Step One: Enable the Solver add-in in Microsoft Excel. To do so, follow these steps:

- Select the Data tab > Analysis Tools > Solver Add-In (Check the box) > OK

Note: For this tutorial, we are using Excel for Mac version 16.50. If you're using a different version of Excel and are unable to follow the above steps, click here to access the Microsoft Support article which explains how to enable Solver across different operating systems.

Once complete, you should see an option for Solver on your Data tab:
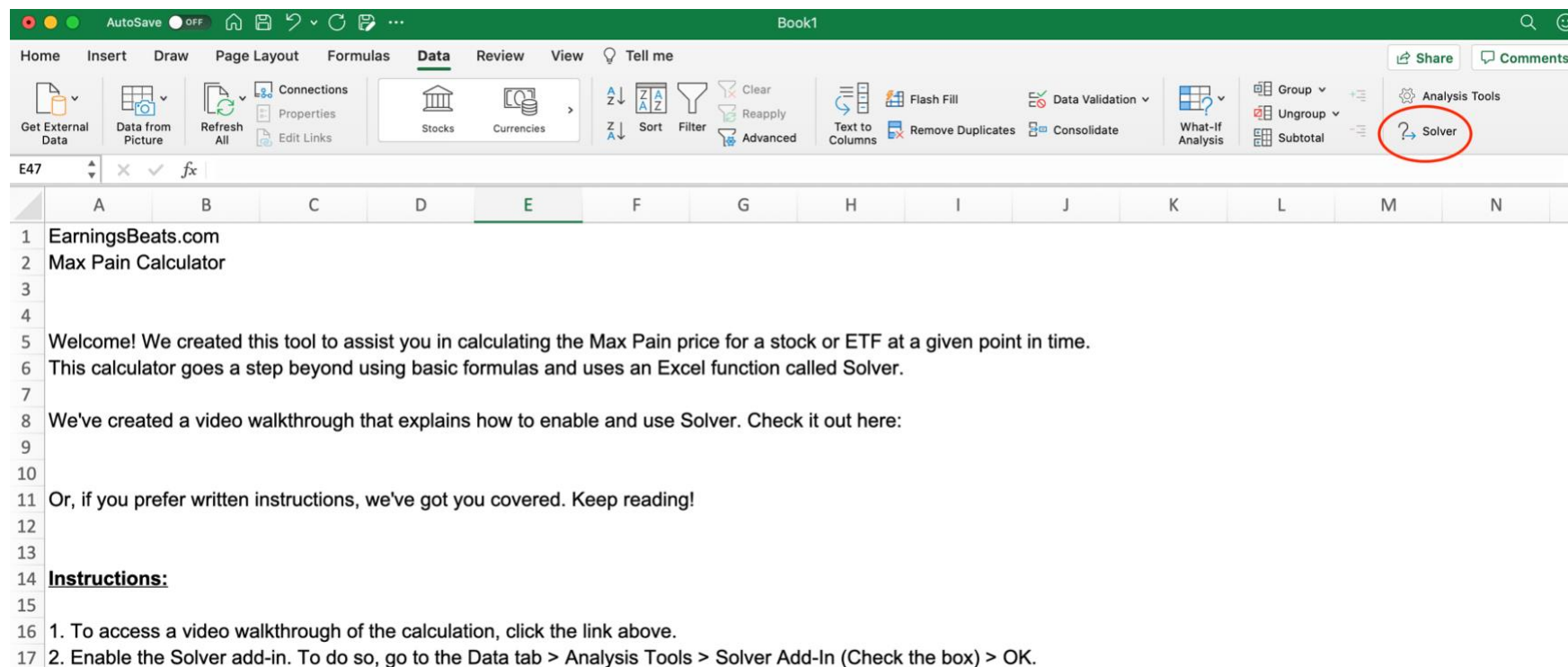
Step Two: Before getting started in the calculator, it's important to note that Solver will override some of the formulas contained in the file. This means that once you have used Solver within a calculator tab (i.e. Calculator_Stock1, Calculator_Stock2, or Calculator_Stock3 in your file), you will not be able to use the same tab again for a different stock or ETF. We recommend saving a copy of the calculator before using Solver to be used as a template each time that you wish to compute Max Pain (e.g. monthly).

Step Three: Next, you will need to retrieve data for your stock or ETF of interest which will be input into the calculation. To do so, follow these steps:

a. Go to www.CBOE.com.
b. Click on the Data tab.
c. Under the Quotes Dashboard, enter the ticker symbol for your stock/ETF of choice (for the example included in our calculation file, we used AMC as of June 15, 2021 at 2:58 PM EDT). Click Search.
d. Click on the Options tab.
e. Under Filters, select the following:
   i. Volume: "All"
   ii. Expiration Type: "Standard"
   iii. Options Range: "All"
   iv. Expiration: [Enter your desired expiration date here. For this example, we used "2021 June"]
f. Click on View Chain.
g. You should now see data. You can either (1) download the data in a CSV file to copy and paste into the calculator (recommended since it's much faster), or (2) type the data directly into the calculation (skip to step iii below). To download the data:
   i. Scroll to the bottom of the data on CBOE. Select the option to Download CSV.
   ii. Open the CSV file using Microsoft Excel.
   iii. Copy and paste the following columns from the CSV file into our calculator:
      i. Strike (CSV Column L) under Strike (EB Calculator Column A)
      ii. Open Interest – Calls (CSV Column K) under Calls (EB Calculator Column C)
      iii. Open Interest – Puts (CSV Column V) under Puts (EB Calculator Column E)

Continued on next page.

Step Four: Once the CBOE data is entered, enter the current price of the stock/ETF in cell C7 of our calculator (for this example, AMC was trading at $59.79).

Step Five: Now that you've input the data, it's time to solve for the Max Pain price. Here are the steps to calculate Max Pain using Solver:

   a. Select cell C9 ("Solver Cell")
   b. Click on the Data tab, then click Solver.
   c. Enter these inputs exactly as shown (note: once these have been entered once, Excel should remember them for future calculations):

d. Click "Solve". Excel should return a Solution. The Solver Cell (C9) should now be 0, and a Max Pain price should show (if you followed this example, it should be $31.97). Occasionally, Excel may return the message that it could not find a feasible solution; however, if the Solver Cell is 0, it likely worked and is resulting from a nominal rounding issue.

Note: This guide/tutorial does not cover what Max Pain is or how to interpret the calculation. For that information, we recommend watching our Monthly Max Pain Options (June 2021) video. See time stamp 37:33 for a discussion with Tom Bowley, Chief Market Strategist.