The Loan Payment Schedule Generator

for Salesforce®

User Guide

Updated for AMCalc ver. 3.4

By

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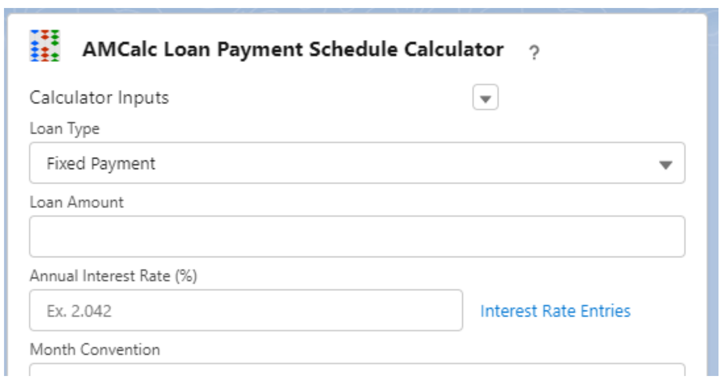
Introduction

Welcome to AMCalc, the Loan Schedule Generator for Salesforce!

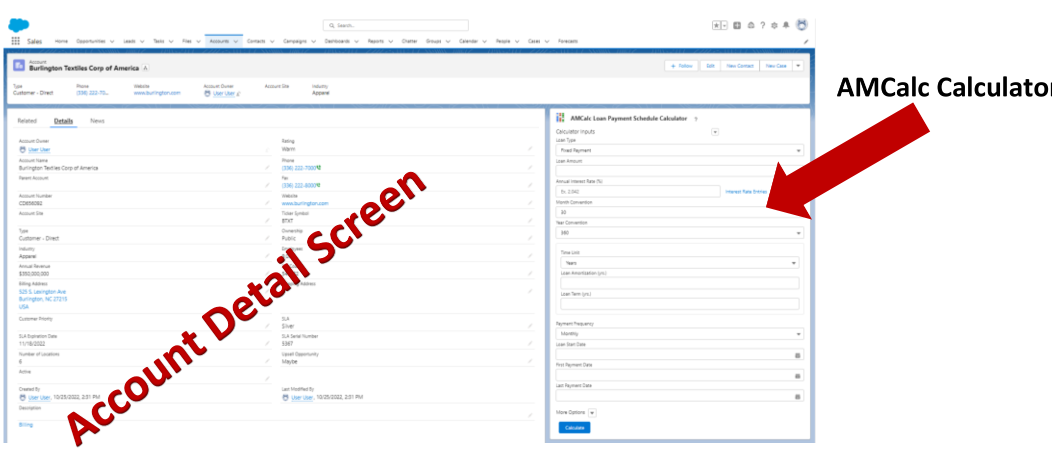
This user guide will walk Salesforce users through the features of the AMCalc package and assumes that the AMCalc package has already been installed and fully configured within your Salesforce system. Depending on how your organization is using AMCalc, some features described in this guide may not be accessible to you. If you are unsure if a feature described here is available in your Salesforce org, contact your system administrator.

Types of AMCalc Calculators

The AMCalc package comes with a few types of calculator interfaces to AMCalc's loan payment generator engine. The interface that will be covered in this guide is the full-featured AMCalc calculator that allows a user complete control over the inputs into payment schedules. This calculator is only accessible on a Salesforce *record detail* screen by a logged in user that has been given access to the calculator by the system's Salesforce administrator.



Depending on how your system has been configured, the AMCalc calculator may be found on Account record pages, Opportunity record pages, or nearly any other type of record detail page. If you do not know where to go to find the calculator in your system, contact your system administrator.



Using the AMCalc Calculator

Using the AMCalc calculator is like any other calculator. You simply type in your inputs and then press the *Calculate* button. Once the *Calculate* button is clicked, the information that has been input into the calculator will be sent to the AMCalc loan payment engine for validation and processing. If there are any errors in the calculator inputs, error messages will be displayed (an example error message is below).

The loan amortization must be greater than or equal to the loan term

The first decision to make when using the AMCalc calculator is to indicate the type of loan schedule you want to generate. Currently the AMCalc calculator supports these loan types:

- Fixed Payment
- Adjustable/Variable Rate
- Interest Only
- Straight-Line
- Fixed Principal Reduction

Different loan types sometimes require slightly different inputs from other loan types. AMCalc will automatically show or hide fields on the calculator depending on the loan type you select. The **Calculator Input Fields** section later in this guide provides a complete description of all calculator fields, what they represent, and the loan type selection that they will be displayed for.

Once all of the information for the loan type selected has been input, click the *Calculate* button. The AMCalc engine will generate the loan payment schedule and displayed it on the screen along with loan's terms (the inputs from the calculator). A partial example schedule is shown below.

Payment Schedule

THIS LOAN'S TERMS AND PAYMENT SCHEDULE HAVE NOT BEEN SAVED YET

Loan Terms

Loan Type: Fixed Payment
Loan Amount: 1,254,000.00 USD
Interest Rate: 2.56000%
Month Convention: 30
Year Convention: 360
Amortization Periods (yrs.): 15
Term Periods (yrs.): 15
Payment Frequency: Monthly
Start Date: 4/15/2022
First Payment Date: 5/15/2022
Last Payment Date: 4/15/2037

Schedule Name

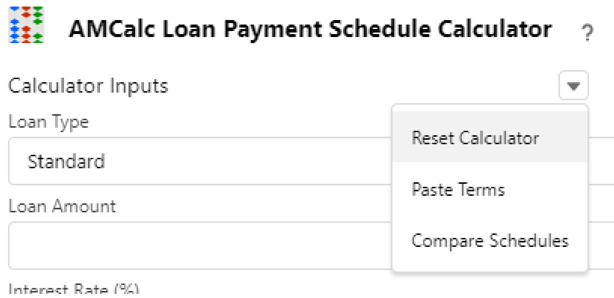
Schedule Status

Select

Period	Period Start	Period End	Principal Outstanding	End of Period Principal Reduction	Interest Amount	Total Payment
1	4/15/2022	5/15/2022	1,254,000.00	5,721.80	2,675.20	8,397.00
2	5/15/2022	6/15/2022	1,248,278.20	5,734.01	2,662.99	8,397.00
3	6/15/2022	7/15/2022	1,242,544.19	5,746.24	2,650.76	8,397.00
4	7/15/2022	8/15/2022	1,236,797.95	5,758.50	2,638.50	8,397.00
5	8/15/2022	9/15/2022	1,231,039.45	5,770.78	2,626.22	8,397.00
6	9/15/2022	10/15/2022	1,225,268.67	5,783.09	2,613.91	8,397.00
7	10/15/2022	11/15/2022	1,219,485.58	5,795.43	2,601.57	8,397.00

Calculator Menu Options

Click the down arrow at the top right-hand side of the calculator to show the calculator tools and utilities dropdown menu.



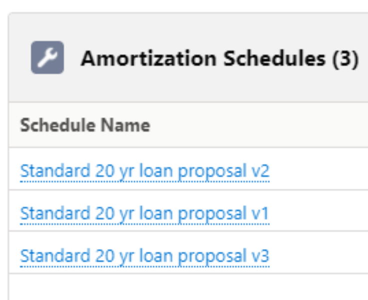
Reset Calculator: Select this menu item to clear the calculator input fields and reset the fields on the calculator to their default values.

Paste Terms: To quickly generate new payment schedules with the same terms as a previously saved loan schedule, you can copy and paste loan terms using the *Paste Terms* menu item. You can use this feature to create schedules across different parent objects (for example, copying terms from a loan schedule on the Opportunity screen and then paste them into a calculator on the Account screen), or within the same parent object.

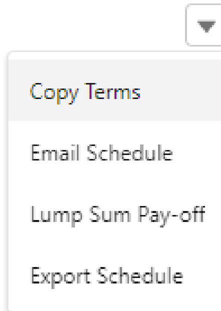
It is also handy to use this function to quickly generate multiple loan schedules with slightly different loan terms so that you can compare how the different loan terms impact the payment schedule. See below for a description of the AMCalc schedule compare functionality.

To use the copy and paste function, follow these steps:

1. View a previously saved loan schedule by clicking on the schedule name in a related list.



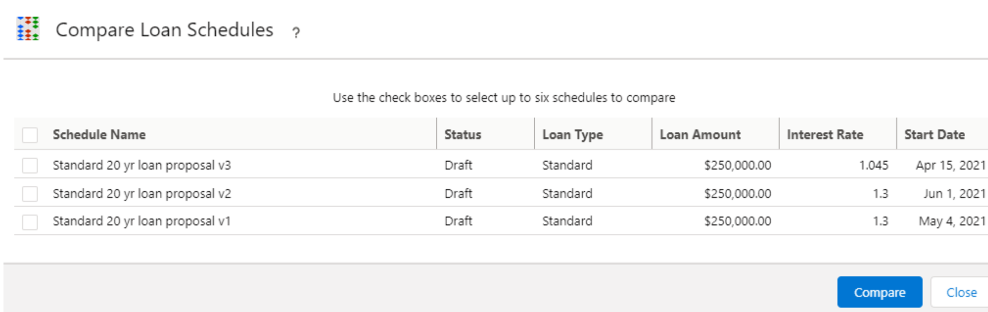
2. Once the schedule is displayed, click the drop down menu in the upper right-hand corner and select the *Copy Terms* menu item.



3. Close the schedule, navigate back to the calculator, and click the Paste Terms menu item from the calculator's drop down menu. All of the terms from the copied loan will be inserted into the calculator's fields. The one exception to this is the interest field. Because interest rate are highly time sensitive, AMCalc requires you re-confirm the interest rate. This ensures that the latest rates are being used for the new loan schedule being generated.

4. Make any changes to the loan terms that are necessary and then click the *Calculate* button to generate the schedule.

Compare Schedules: Select the *Compare Schedules* menu item to generate a side-by-side comparison of saved schedules on the detail page that you are viewing. When selected, the Compare Loan Schedules pop up box will appear. An example is below.



Schedule Name	Status	Loan Type	Loan Amount	Interest Rate	Start Date
Standard 20 yr loan proposal v3	Draft	Standard	$250,000.00	1.045	Apr 15, 2021
Standard 20 yr loan proposal v2	Draft	Standard	$250,000.00	1.3	Jun 1, 2021
Standard 20 yr loan proposal v1	Draft	Standard	$250,000.00	1.3	May 4, 2021

Select the schedules that you would like to compare by clicking the checkbox next to the schedule name and then click the *Compare* button. You can select up to six schedules to compare at one time. Click the question mark icon on the compare schedules pop up box for complete details on how to use the Compare Loan Schedules tool.

Note: Adjustable loan schedules are not supported in the Compare Schedules tool. Any adjustable loan schedules that are saved to the parent record will automatically be filtered out of the compare schedules selections.

Calculator Input Fields

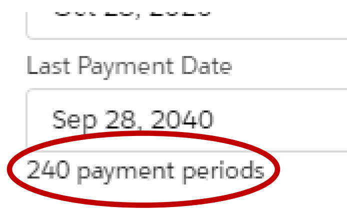
Although most of the calculator input fields are applicable to all loan types, some fields are automatically removed and others added to the calculator depending on the loan type selected. The table below describes all of the possible calculator inputs and the loan types that they are applied to.

All fields shown on the calculator for any given loan type require an input value in order to generate loan schedule. The exceptions to this rule are the fields described in the **Optional Calculator Fields** section (see below). The table below lists calculator fields in the same order that they will appear from top to bottom in the AMCalc calculator.

Calculator Field	Description	Displayed for Loan Types
Loan Type	The type of loan schedule to calculate. Possible values: - Fixed Payment - Adjustable - Interest Only - Straight Line - Fixed Principal Reduction See the **AMCalc Loan Types** section of this document for a detailed description of the each loan type and payment schedule examples.	All
Loan Amount	The total dollar amount of the loan.	All
Principal Reduction Amount	The dollar amount to be applied to the principal of the loan in each payment period.	• Fixed Principal Reduction
Interest Rate	The annual interest rate percentage to apply to the loan. To generate a schedule for a no interest loan, input zero for the interest rate. If your Salesforce org is centrally managing interest rates using AMCalc Rate entries, an *Interest Rate Entries* link will be displayed next to the Interest rate input field. To apply an interest rate entry to your calculator, click the link and select an entry from the drop down list. The current rate for the entry that you selected will be inserted into the Interest Rate field. You can either use that interest rate or edit it.	• Fixed Payment • Interest Only • Straight Line • Fixed Principal Reduction

Adjustable Loan Definition	For a loan type of adjustable, the interest rate field will be removed and replaced with the *Select Adjustable Loan Definition* link. Adjustable loan definitions are centrally managed configurations containing adjustable loan attributes. These definitions are created using AMCalc administration tools and allows you to more quickly and accurately generate adjustable loan schedules. Click the link to bring up a list of active adjustable loan definitions and select one of them. When you do, the attributes of the definition selected will be added to the calculator for your reference. An example is below. Select Adjustable Loan Definition **Retail Adjustable 20 yr** Initial Period 1 year at 4.500% (Adjustable 20 yr - Retail) Adjustments Overnight Federal Funds Rate plus 0.025% adjusted every 6 Months Rate Cap (Initial - Periodic - Lifetime) 0.500% - 1.250% - 5.000% Rate Floor (Initial - Periodic - Lifetime) 0.500% - 0.750% - 3.000%	• Adjustable
Simulate worst-case scenario	If the adjustable loan definition that you selected has rate caps configured in it, you can toggle this field to *Yes* to have AMCalc generate a loan schedule with the maximum rate caps applied to each adjustment period in the schedule. See the **AMCalc Loan Types** section of this guide for an example.	• Adjustable
Month Convention	The number of days the calculator engine will use for the month portion of each payment period's interest calculation. Possible values: - 30 - Actual Actual means the actual number of days in the weeks, month, or months in a payment period.	All
Year Convention	The number of days the calculator engine will use for the year portion of each payment period's interest calculation. Possible values: - 360 - 365 - Actual Actual means the actual number of days in each year the schedule covers.	All
Time Unit	The time unit that the number in the Loan Amortization and Loan Term fields represent. Possible values:	All

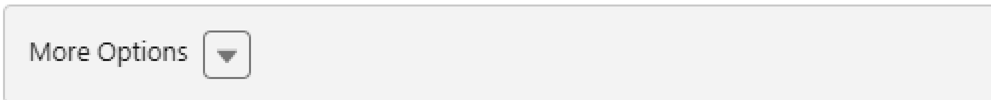
	- Year - Month	
Loan Amortization	The number of periods that the loan will be amortized over. AMCalc only accepts whole numbers for this field. If you need to generate a fractional year loan amortization be sure to select Month for the time unit.	• Fixed Payment • Adjustable • Interest Only
Loan Term	The number of periods to pay off the loan. The loan term value must be equal to or less than the loan amortization value. A loan term number that is less than the loan amortization results in a loan with a balloon payment in the last period of the loan. See the **AMCalc Loan Types** section for examples. AMCalc only accepts whole numbers for this field. If you need to generate a fractional year loan term schedule, select Month for the time unit.	All
Payment Frequency	The frequency of the payments for the loan. Possible values are: - Weekly - Biweekly (every other week) - Monthly - Bimonthly (every other month) - Quarterly - Semiannual (twice per year) - Annual	All
Loan Start Date	The date that the loan starts. This is usually also the beginning date of the first period and the date that interest calculations begin for the loan	All
First Payment Date	The end of the first period of the loan when the first loan payment is due. The first payment date is automatically calculated by AMCalc and then inserted into this filed once the loan start date, term, and payment frequency is indicated. You have the option to accept the calculated first payment date or input your own custom date. A custom date may be required if you wish to have a sooner or delayed first payment date of the loan, for example.	All
Last Payment Date	The last payment date of the loan when the loan will be paid off in full. The last payment date is also automatically calculated by AMCalc and then inserted into this filed once the loan start date, term, and payment frequency is indicated. As with first payment date, you have the option to accept the calculated last payment date or input your own custom date.	All

Number of Interest Only Periods	For an interest only loan, the number of payment periods where only interest, and no principal will be paid. The number of interest only periods input can be anywhere from 1 period to all of the loan's payment periods. If equal to all of the loan's payment periods, no principal will be paid on the loan until the last period when the entire loan's principal amount will be due. If you are unsure how many payment periods a loan will have, you are in luck because AMCalc will calculate this number for you. Once the loan term, payment frequency, and loan start dates are input, the calculator will determine the total number of payment periods the loan will have and display it under the last payment period input field: 	Interest Only
Include Interest Only Periods within Loan Amortization?	If toggled on, the number of interest only periods indicated will be calculated as part of the amortization of the loan. If toggled off, the number of interest only periods will be added to the number of loan amortization periods. See the **AMCalc Loan Types** section for examples of these two types of loan calculations.	Interest Only

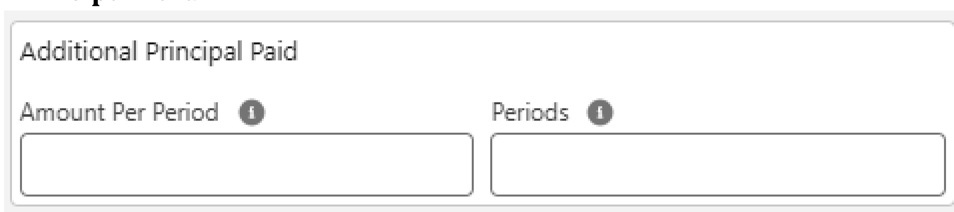
Optional Calculator Controls

Click the *More Options* arrow located directly above the *Calculate* button to show additional controls. These controls can optionally be used with any loan type, either individually or together, to further customize a loan schedule for very specific needs.

The sections below provide a short description of each control in the *More Options* area.



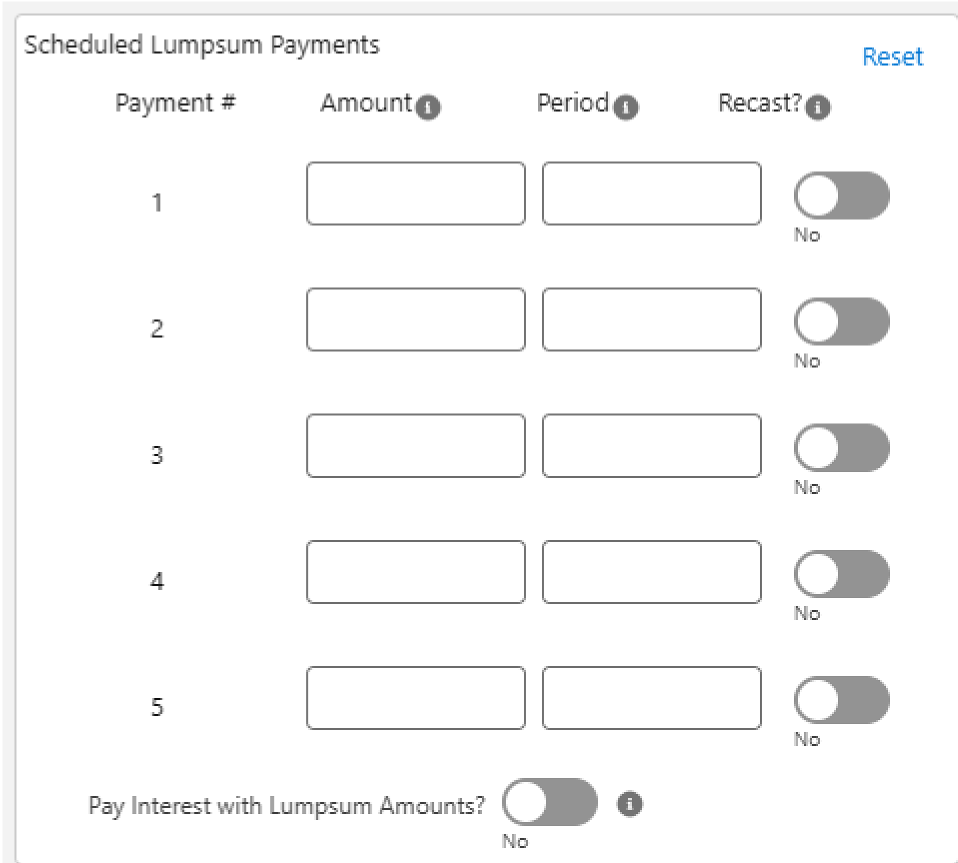
Additional Principal Paid



To show how additional payments to principal can pay off a loan early, use the *Additional Principal Paid* Option. Indicate the additional amount to apply to the loan's principal and when the additional payments will begin and, optionally, when they will end.

For example, to have an additional $500 applied to the principal, input $500 in the *Amount Per Period* field. To have the $500 applied every period starting in period 50 until the end of the loan, indicate 50 in the *Periods* field. To have the $500 applied starting in period 50 and ending after period 120, indicate 50-120 in the Periods field.

Scheduled Lumpsum Payments

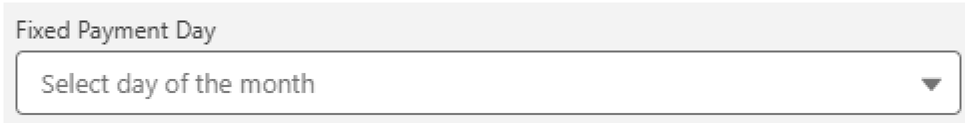


The Scheduled Lumpsum Payments control is an extremely flexible tool that allows you to apply up to five lump payments to a loan schedule. For each payment, you have the option to recalculate the loan payments that come after the lump payment by toggling the *Recast* button adjacent to the payment. Additionally, you have the option of using the lump payments to pay the interest due for the period with the lump payment amount or apply the full amount of the lump payment to the principal.

Set Payment to the Last Day of Each Month

Use this option to override the calculated end of period payment dates for the loan with the last day of each month.

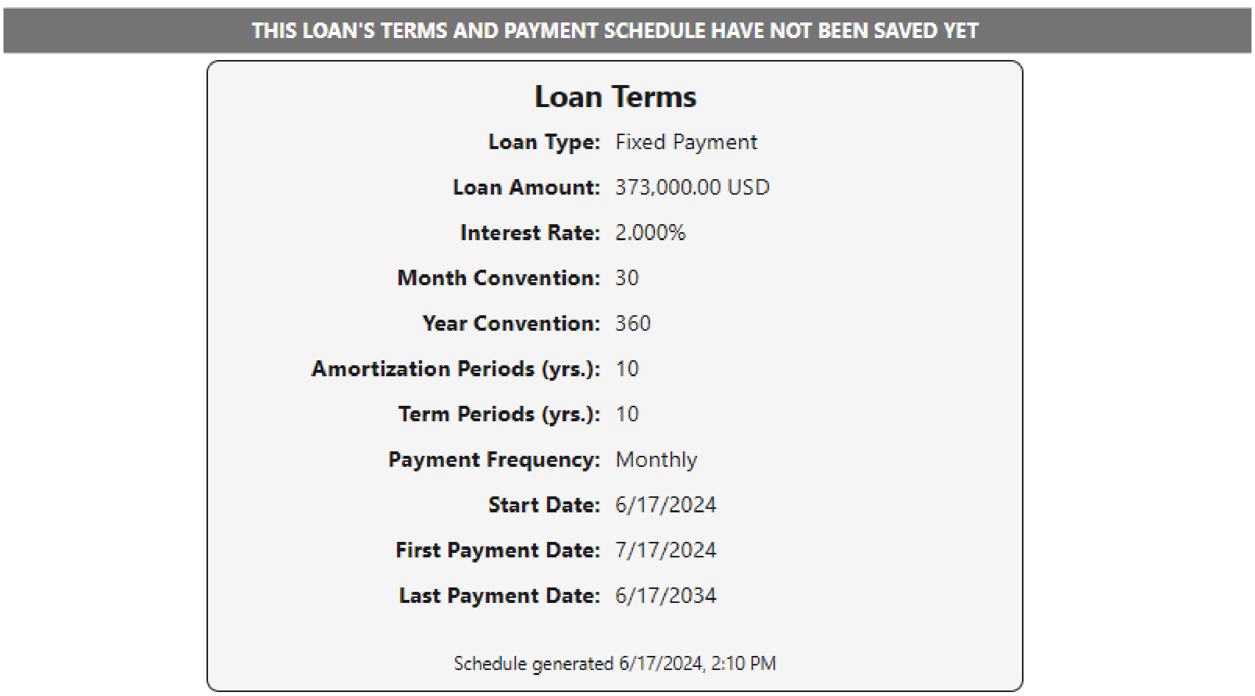
Fixed Payment Date



Override the calculated end of period payment dates for the loan with a specific day of each month with this option.

Saving and Viewing Loan Payment Schedules

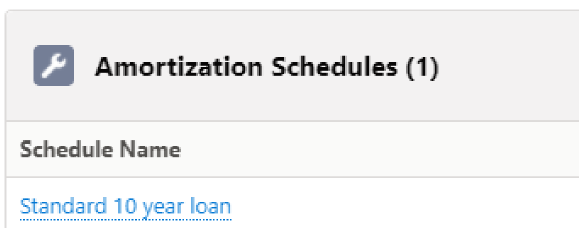
Once the schedule has been generated, it will be displayed on screen with banner across the top as reminder that the loan terms and schedule have not been saved. If you do not want to save the schedule that you have generated, click the *Close* button. To save the schedule, give it a name and status, and click the *Save* button in the lower right-hand corner of the window.



Note: If you are using the AMCalc calculator on the Salesforce Lead screen, there will be one additional field labeled "*On Lead Conversion, Move Schedule To*" displayed.

The *On Lead Conversion, Move Schedule To* input field allows you to indicate where to move the schedule if the Lead record that you are viewing is converted to a Contact. In the example above, once the Lead is converted to a Contact, the loan payment schedule will be move to the related list on the Account record that is created along with the new Contact record.

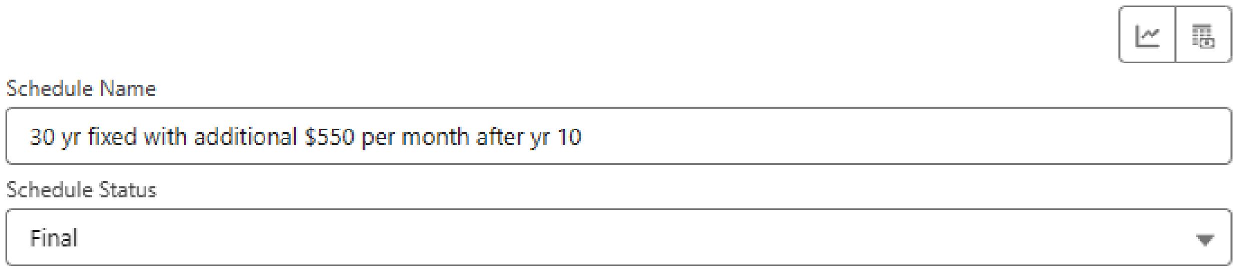
Once saved, the schedule is retrievable by clicking on the name of the schedule from the *Amortization Schedules* Related List.



Once saved, you will only be allowed to edit the name and status of the schedule.

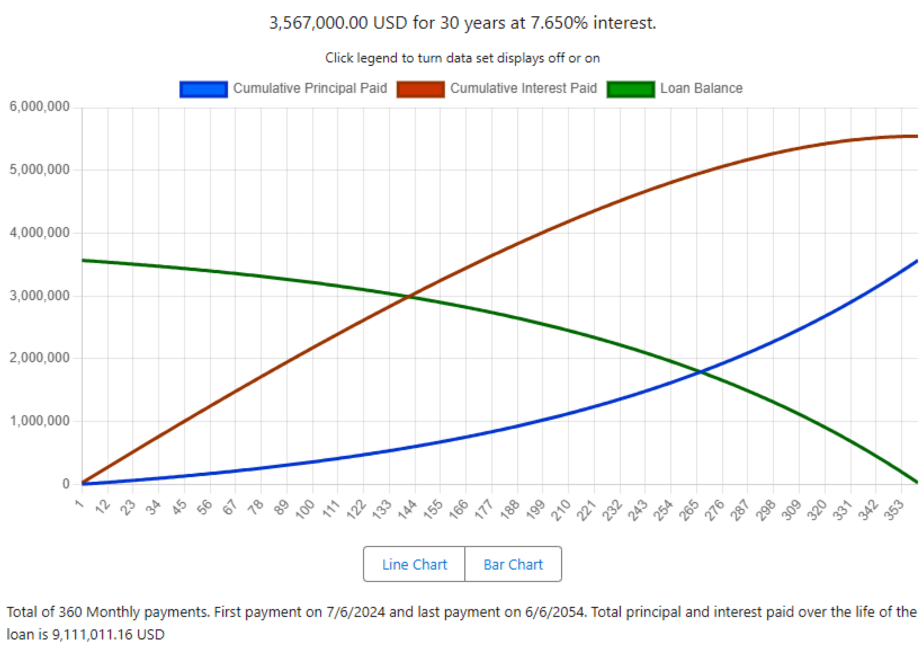
Note: If you have saved a schedule but do not see the saved schedule in the related list, try refreshing your browser.

There is at least one, but potentially two, icons that are displayed in the right-hand corner directly above the Schedule Name field when viewing a schedule. The first icon allows you to view information from the schedule in a chart. The second will allow you to view payment information from the schedule (note that payment icon will only be displayed if payment information exists for the schedule being viewed).



Viewing a Schedule Chart

Click the chart icon to view cumulative interest paid, cumulative principal paid, and principal pay down rates for the loan (example below).



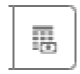
Tip: If you would like to include an image of the chart in an email or document, use your computer's snipping tool to copy and paste it.

- For Windows: press the **windows key + Shift + S** to turn you mouse pointer into crosshairs and capture the graph to your clipboard.
- For Mac: press **Shift + Cmd + 4** to turn you mouse pointer into crosshairs and capture the graph to your clipboard.

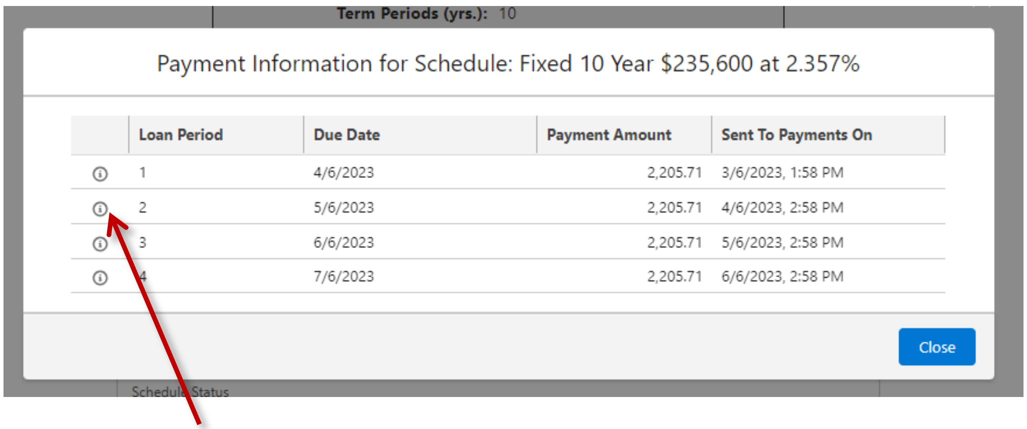
Once you have the graph in the clipboard, paste it into your document.

Viewing Loan Payment Information

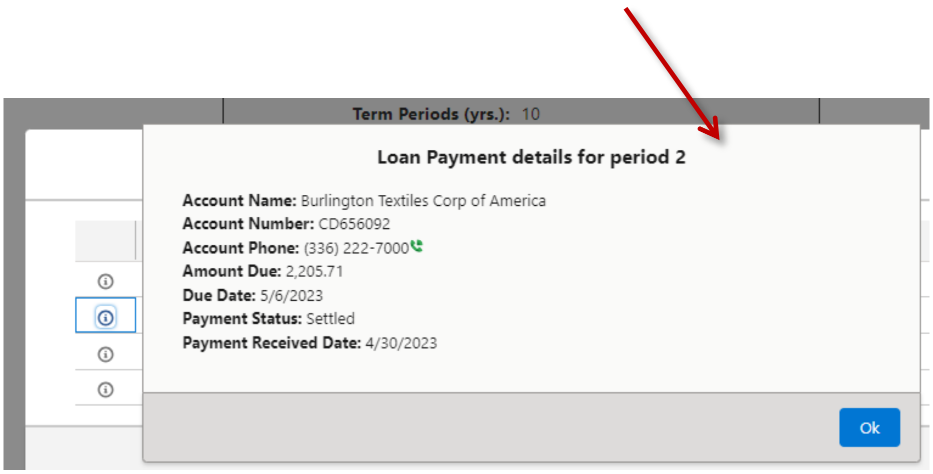
If your AMCalc installation is using the AMCalc loan payment functionality, you can view details about loan payments that have been pulled from saved loan schedules by clicking the icon shown below.



Once clicked, a listing of the loan periods from the schedule being viewed that have had payment information pushed to your payments system is displayed. To get detailed information about each payment sent, click the info icon on the left-hand side of each row of the list.

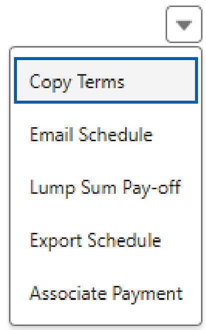


Click on the info icon to get details for each payment



Menu Options for Saved Loan Schedules

When viewing a saved schedule, click the drop down menu in the upper right-hand corner of the schedule to perform additional task. The sections below describe each of the menu options.



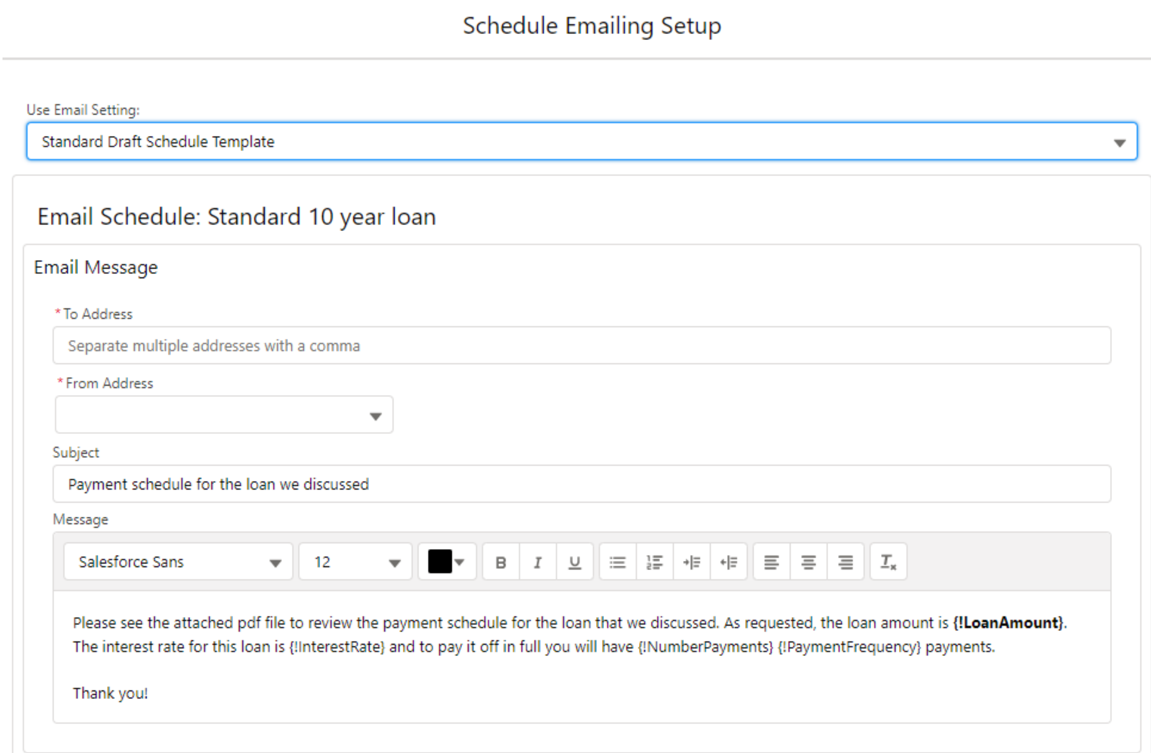
Copy Terms

Select the *Copy Terms* menu item to copy all of the loan terms of the schedule being viewed to your clipboard. Then navigate to the AMCalc calculator and select the *Paste Terms* menu option in the calculator to fill in the calculator fields with the term values from the save schedule. Using this function, you can quickly replicate loans across objects or records, or easily create different variations of loans.

Email Schedule

To send a saved loan payment schedule via email, select the *Email Schedule* menu item. Next, select from a saved email template. Email templates are created by a system administrator and contain pre-configured defaults that allow you to quickly compose and send emails with loan schedule attachments. See the AMCalc Administration Guide for details on how to create email templates.

Once a template is selected, you will be presented with the schedule emailing screen that will contain the defaults that were defined in the email template. The screen has two sections; *Email Message* and *Loan Schedule Attachment*. The email message section is shown below.

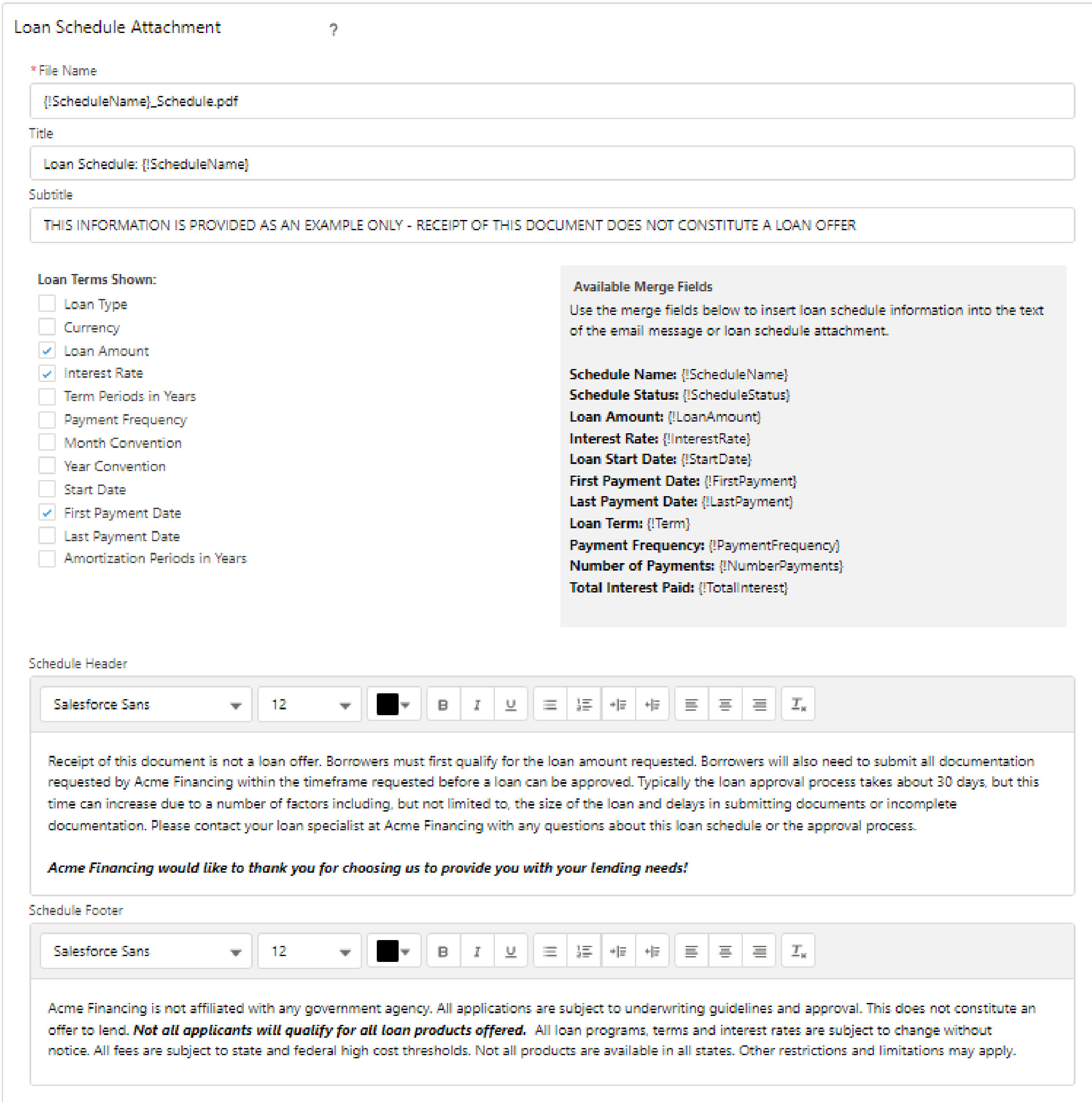


Indicate the To email address, select a from address from the drop down, and make any necessary edits to the Subject and Message fields. Notice that the Subject and Message fields allow you to use merge fields that will insert loan schedule specific information into the text.

Note: If you apply formatting to merge fields (bold, text color, etc.), be sure that it is applied to the **entire** merge field. This includes both the opening and closing brackets. For example, a merge field formatted for bold red text would be **{!mergefield}** , not {!**mergefield**}.

Important: Your ability to edit or not edit the email subject and message text is based on the email template that you are using. Admins that create email templates have the option to not allow editing of these fields. If editing is disabled, you will not be able change any of the text or merge fields in the subject or message fields.

The next section to review and complete before sending an email is the Loan Schedule Attachment section. An example is below.



Loan Schedule Attachment ?

* File Name

{!ScheduleName}_Schedule.pdf

Title

Loan Schedule: {!ScheduleName}

Subtitle

THIS INFORMATION IS PROVIDED AS AN EXAMPLE ONLY - RECEIPT OF THIS DOCUMENT DOES NOT CONSTITUTE A LOAN OFFER

Loan Terms Shown:

- [ ] Loan Type
- [ ] Currency
- [x] Loan Amount
- [x] Interest Rate
- [ ] Term Periods in Years
- [ ] Payment Frequency
- [ ] Month Convention
- [ ] Year Convention
- [ ] Start Date
- [x] First Payment Date
- [ ] Last Payment Date
- [ ] Amortization Periods in Years

Available Merge Fields

Use the merge fields below to insert loan schedule information into the text of the email message or loan schedule attachment.

Schedule Name: {!ScheduleName}
Schedule Status: {!ScheduleStatus}
Loan Amount: {!LoanAmount}
Interest Rate: {!InterestRate}
Loan Start Date: {!StartDate}
First Payment Date: {!FirstPayment}
Last Payment Date: {!LastPayment}
Loan Term: {!Term}
Payment Frequency: {!PaymentFrequency}
Number of Payments: {!NumberPayments}
Total Interest Paid: {!TotalInterest}

Schedule Header

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Receipt of this document is not a loan offer. Borrowers must first qualify for the loan amount requested. Borrowers will also need to submit all documentation requested by Acme Financing within the timeframe requested before a loan can be approved. Typically the loan approval process takes about 30 days, but this time can increase due to a number of factors including, but not limited to, the size of the loan and delays in submitting documents or incomplete documentation. Please contact your loan specialist at Acme Financing with any questions about this loan schedule or the approval process.

Acme Financing would like to thank you for choosing us to provide you with your lending needs!

Schedule Footer

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Acme Financing is not affiliated with any government agency. All applications are subject to underwriting guidelines and approval. This does not constitute an offer to lend. ***Not all applicants will qualify for all loan products offered.*** All loan programs, terms and interest rates are subject to change without notice. All fees are subject to state and federal high cost thresholds. Not all products are available in all states. Other restrictions and limitations may apply.

This section allows you to format the loan schedule PDF attachment file that will be sent with your email. To understand how all of the information in this section is used in the generated attachment, click the question mark icon at the top of the section.

As with the email subject and message, the creator of the email template you are using may have specified that the fields in this section are not editable. If it is editable, make any changes necessary to the default values.

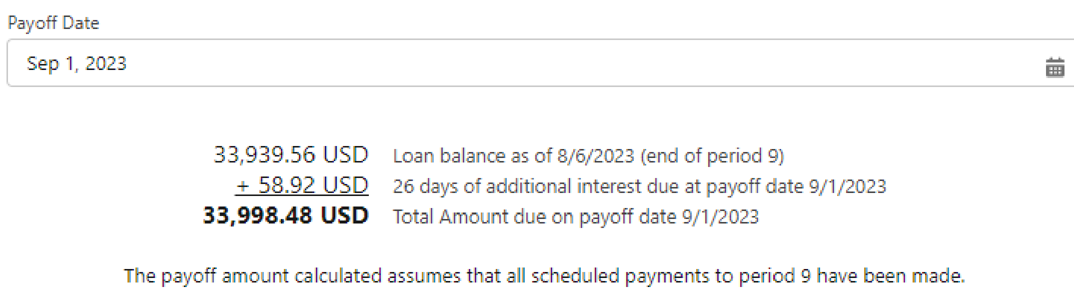
Select the loan terms that should be displayed in the attached schedule. By default, loan amount, interest rate, and first payment date are pre-selected. You have the option of selecting additional terms, or not showing any terms by de-selecting everything. Note that the loan terms shown checkboxes are always clickable regardless of whether the email template creator has or has not allowed editing of the attachment defaults.

When you are ready to send your email, it is recommended that you first select the *Send Test Email* link to send a sample of the email and attachment to the email address associated with your Salesforce user account. The email you receive will be exactly like the email that will be sent to the email addresses in the *To* field, including the fully generated PDF attachment and all merge fields substituted with actual saved loan payment schedule values.

If the test email and attachment look good, click the Send button to send the email and attachment to the address that you indicated in the *To* field.

Lump Sum Pay-off

The *Lump Sum Pay-off* option calculates the pay-off amount for a loan for any date within its term. Input a date for the early pay-off and click the *Calculate* button. An example early pay-off calculation is below.



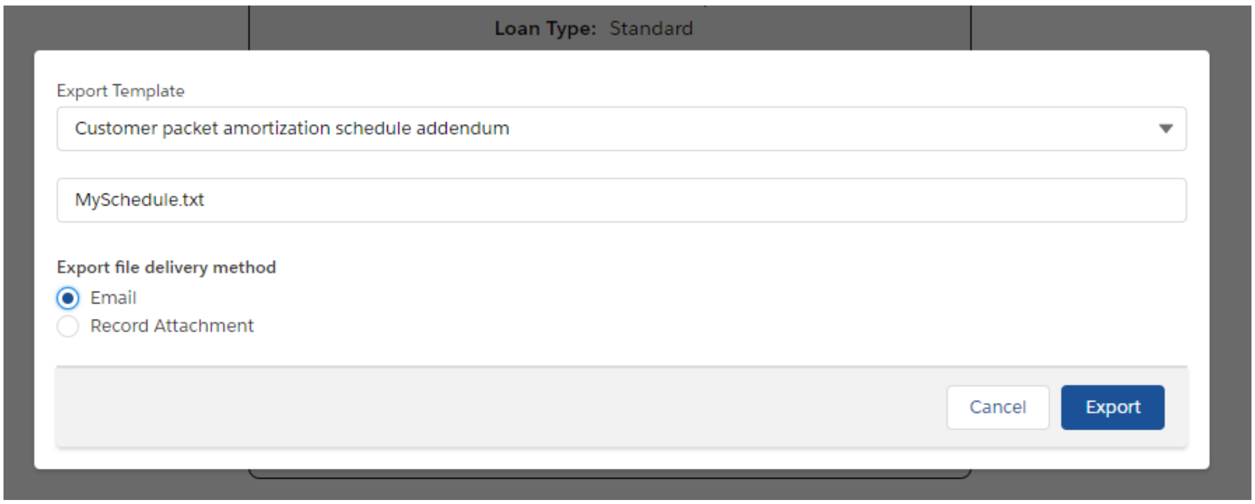
Export Schedule

Schedule lines can be exported to text files by using pre-defined export templates. The AMCalc installation includes a tool that can be used to specify the format of the exported schedule information. Using the tool, system administrators can create one or more export templates that can then be selected to generate an export when viewing saved schedules. Exported schedule information can be delivered as an attachment to an email or as an attachment to the record being viewed.

You may want to export schedule line information in order to import payment dates and amounts into a payment processing system that is outside of Salesforce or to import schedule information into a word processor so that you can format and include the information into customer presentation packets.

To export a schedule, perform the following steps.

1. Click on the saved schedule in the related list and then select the *Export Schedule* menu item from the drop down menu in the upper right-hand corner of the schedule. The export dialog box will open up. Note that the *Export Schedule* menu will display only if there are saved export templates in your Salesforce system.
2. Select the Export Template that you would like to use.
3. Indicated the name a name for the file that will be generated
4. Indicate if you would like to receive the file as an email attachment or as a record attachment. If you select email attachment, the export file will be an attachment to an email that will be sent to the email address associated with your Salesforce login account. A record attachment will create an export file attached to the same parent record that the schedule is attached to and will accessible in the attachment related list.



5. Click the *Export* button to initiate the export.

Associate Payment

If your system has been configured to pull payment information from saved schedules and send the information to a payment system, the *Associate Payment* menu option may be enabled in the saved schedule's pull down menu.

Typically payment information is associated with a schedule's payment period automatically through background processing that your administrator has set up. Once associated, the payment information can be viewed from the schedule (see the *Viewing Loan Payment Information* section in this guide).

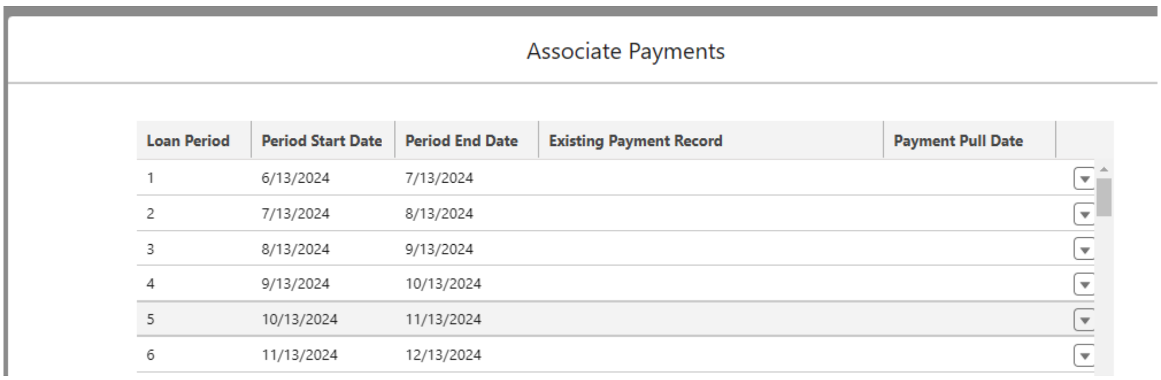
However, there may be instances when a payment will need to be manually associated with a schedule's period or a payment that is already associated needs to be removed. The Associate Payment menu option will allow you to perform these tasks.

In order to use the Associate Payments option, the following criteria must be met:

1. AMCalc payments must be active and configured in your system. If you are unsure, ask your system administrator.
2. The loan schedule's status must be a payment status.
3. The payment record that you are going to associate with the loan period must already exist in the payment object.

To associate one or more payments to the schedule, do the following:

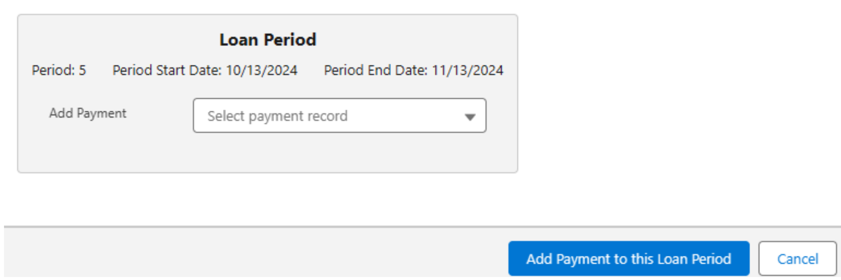
1. Click the Associate Payment menu option. A dialog box similar to the one below will appear.



2. Click the drop-down arrow on the right hand side of the loan period you wish to change and select whether you want to add a payment or, if there is already a payment associated with the period, if you would like to remove the payment.

   Important: Be aware that adding or removing a payment here only associates or dis-associates the payment from a schedule's period for viewing and reporting purposes. *Using this function does not send or cancel a payment request to a customer or anyone else! The act of creating and canceling payment transactions is the job of your payment system.*

3. If you are adding a payment, select the payment record that you would like to associate and click the *Add Payment to this Loan Period* button



4. If you are removing a payment, confirm the payment record that you would like the remove by using the button.

AMCalc Loan Types

The sections below describe how each loan type is calculated and shows examples of a typical loan payment schedule that results. For readability purposes, only the first 5 to 7 and last 5 to 7 periods of each payment schedule is shown.

Fixed Payment

A fixed payment loan type is one where the amortization engine takes in all of the calculator inputs and calculates the same payment amount for each payment period. If the number of amortization periods and the number of term periods are equal, the payment schedule will show the same payment for each payment period until the loan is paid off. Note that most times the last payment in the schedule will vary by anywhere from a few cents to a dollar or two from the rest of the payments due to fractional cent rounding that occurs when the schedule is being generated. This is normal and expected behavior.

Loan Type:	Fixed Payment
Loan Amount:	13,345.00
Interest Rate (%):	2.60230%
Month Convention:	30
Year Convention:	360
Loan Amortization (yrs.):	10
Loan Term (yrs.):	10
Payment Frequency:	Monthly
Start Date:	9/24/2020
First Payment Date:	10/24/2020
Last Payment Date:	9/24/2030

Period	Period Start	Period End	Principal Outstanding	End of Period Principal Reduction	Interest Amount	Total Payment
1	9/24/2020	10/24/2020	13,345.00	97.48	28.94	126.42
2	10/24/2020	11/24/2020	13,247.52	97.69	28.73	126.42
3	11/24/2020	12/24/2020	13,149.83	97.90	28.52	126.42
4	12/24/2020	1/24/2021	13,051.93	98.12	28.30	126.42
5	1/24/2021	2/24/2021	12,953.81	98.33	28.09	126.42
6	2/24/2021	3/24/2021	12,855.48	98.54	27.88	126.42
7	3/24/2021	4/24/2021	12,756.94	98.76	27.66	126.42
116	4/24/2030	5/24/2030	628.67	125.06	1.36	126.42
117	5/24/2030	6/24/2030	503.61	125.33	1.09	126.42
118	6/24/2030	7/24/2030	378.28	125.60	0.82	126.42
119	7/24/2030	8/24/2030	252.68	125.87	0.55	126.42
120	8/24/2030	9/24/2030	126.81	126.81	0.27	127.08

Fixed Payment with A Balloon Payment

The Fixed Payment loan type can also be used to generate payment schedules with an ending balloon payment by inputting a larger loan amortization number than the loan term number. This type of loan will have a fixed payment through the life of the loan until the balloon payment in the last period. The example below shows a Fixed Payment loan that has been amortized for 10 years, but is being paid off in 7 years.

Loan Type:	Fixed Payment
Loan Amount:	13,345.00
Interest Rate (%):	2.60230%
Month Convention:	30
Year Convention:	360
Loan Amortization (yrs.):	10
Loan Term (yrs.):	7
Payment Frequency:	Monthly
Start Date:	9/24/2020
First Payment Date:	10/24/2020
Last Payment Date:	9/24/2027

Period	Period Start	Period End	Principal Outstanding	End of Period Principal Reduction	Interest Amount	Total Payment
1	9/24/2020	10/24/2020	13,345.00	97.48	28.94	126.42
2	10/24/2020	11/24/2020	13,247.52	97.69	28.73	126.42
3	11/24/2020	12/24/2020	13,149.83	97.90	28.52	126.42
4	12/24/2020	1/24/2021	13,051.93	98.12	28.30	126.42
5	1/24/2021	2/24/2021	12,953.81	98.33	28.09	126.42
6	2/24/2021	3/24/2021	12,855.48	98.54	27.88	126.42
81	5/24/2027	6/24/2027	4,839.29	115.93	10.49	126.42
82	6/24/2027	7/24/2027	4,723.36	116.18	10.24	126.42
83	7/24/2027	8/24/2027	4,607.18	116.43	9.99	126.42
84	8/24/2027	9/24/2027	4,490.75	4,490.75	9.74	4,500.49

Adjustable

Adjustable loans have an initial period where a fixed interest rate is used, followed by one or more adjustment periods where the interest rate may adjust to a different percentage amount. This adjustment of the interest rates occurs on the first day of each adjustment period. Because the rate may change at the beginning of future adjustment periods, what that actual interest rate will be is unknown at the time of schedule generation. As a result, the schedule will display “TBD” for payment amounts beyond the initial period.

Understanding a Newly Generated Adjustable Loan Schedule

There are a number of factors that define how an adjustable loan schedule will be built. These factors include how long the initial period is and what interest rate will be used in the initial period, how long each adjustment period is and how the interest rate for that adjustment period will change from the previous period, as well as other factors.

Because of these complexities, AMCalc provides tools that allow for creation of adjustable loan definitions. When creating an adjustable loan schedule, calculator users select from one of these definitions. This results in faster generation of adjustable loan schedules and more consistency.

In the adjustable loan’s terms below, you can see the information that was applied to the loan from the adjustable loan definition that was selected to generate the schedule.

- **Initial Period**: This details the length of the initial period and the interest rate that is used to calculate the initial period’s payment amounts. For this loan, the initial period lasts for 1 year and the interest rate is 4.5%
- **Adjustments**: This indicates how long each adjustment period will be for the remainder of the loan, as well as the index plus margin used to determine the interest rate for each adjustment period. In this case, adjustments periods will last 6 months and, on the first day of each adjustment period, the interest rate will be determined by what the Overnight Federal Funds Rate is, plus a margin of an additional .025%.
- **Rate Caps**[1]: Rate caps can be added to adjustable loan definitions in order to limit the amount the interest rate changes from one period to the next or over the life of the loan. Rate caps are a kind of insurance policy for borrowers. There are three types of rate cap:
    - **Initial:** Puts a limit on the amount the interest rate can increase between the initial period and the first adjustment period.
    - **Periodic:** Limits rate increases between periods beyond the first adjustment period.
    - **Lifetime:** Limits the total amount interest rates can change from the initial fixed rate period of the loan.
- **Rate Floors**[1]**:** Rate floors work the same as caps, but they limit rate decreases instead of rate increases. If rate caps are insurance for borrowers, floors are insurance for lenders. Just like caps, there are three possible types of floors; initial, periodic, and lifetime.

[1] *Note that all of the types of rate caps and floors are optional attributes in an adjustable loan definition. So it is possible that you may see definitions that have some caps or floors, or none at all. In these cases, you will see "N/A" in the place of a percentage amount.*

As you can see below, the schedules generated for adjustable loans look quite different from the other schedules that AMCalc generates. First, they will show two additional columns;

- **Adjustment Period:** This indicates both the adjustment period out of the total and payment period within the adjustment period. For example, in the schedule below, adjustment period 2.1 indicates that it is the first payment in the second adjustment period. Looking at the last payment for the loan, you can see that there are a total of 38 adjustment periods for this loan.
- **Period Rate:** The period rate specifies the interest rate that was applied to the period (initial period or adjustment period). In the example schedule, the only known interest rate is that used for the initial period, 4.5%, so it is shown on the schedule. Since all other interest rates for this schedule are not known at the time of schedule generation, "TBD" is shown for the rest of the period rates.

The second thing that you will immediately notice that is different for adjustable loan schedules is that most of the schedule's dollar amounts show TBD. Since each adjustment period's interest rate will not be known until sometime in the future, payment amounts and balances cannot be calculated when the adjustable loan's schedule is first generated.

The third difference between an adjustable loan schedule and other AMCalc schedules, which is not obvious by looking at the schedule, is that adjustable loan schedules are "living" documents. That is, they can be updated over time through a process called recasting. See the next section for information about how recasting works with adjustable loan schedules.

Loan Type:	Adjustable
Loan Amount:	756,500.00 USD
Initial Period:	1 year at 4.500%
Adjustments:	Overnight Federal Funds Rate plus 0.025% adjusted every 6 Months
Rate Caps (Init - Per - Life):	0.500% - 1.250% - 5.000%
Rate Floors (Init - Per - Life):	0.500% - 0.750% - 3.000%
Month Convention:	30
Year Convention:	360
Amortization Periods (yrs.):	20
Term Periods (yrs.):	20
Payment Frequency:	Monthly

Start Date: 11/7/2022

First Payment Date: 12/7/2022

Last Payment Date: 11/7/2042

Period	Adjustment Period	Period Rate	Period Start	Period End	Principal Outstanding	End of Period Principal Reduction	Interest Amount	Total Payment
1		4.500%	11/7/2022	12/7/2022	756,500.00	1,949.12	2,836.87	4,785.99
2		4.500%	12/7/2022	1/7/2023	754,550.88	1,956.42	2,829.57	4,785.99
3		4.500%	1/7/2023	2/7/2023	752,594.46	1,963.76	2,822.23	4,785.99
4		4.500%	2/7/2023	3/7/2023	750,630.70	1,971.12	2,814.87	4,785.99
5		4.500%	3/7/2023	4/7/2023	748,659.58	1,978.52	2,807.47	4,785.99
6		4.500%	4/7/2023	5/7/2023	746,681.06	1,985.94	2,800.05	4,785.99
7		4.500%	5/7/2023	6/7/2023	744,695.12	1,993.38	2,792.61	4,785.99
8		4.500%	6/7/2023	7/7/2023	742,701.74	2,000.86	2,785.13	4,785.99
9		4.500%	7/7/2023	8/7/2023	740,700.88	2,008.36	2,777.63	4,785.99
10		4.500%	8/7/2023	9/7/2023	738,692.52	2,015.89	2,770.10	4,785.99
11		4.500%	9/7/2023	10/7/2023	736,676.63	2,023.45	2,762.54	4,785.99
12		4.500%	10/7/2023	11/7/2023	734,653.18	2,031.04	2,754.95	4,785.99
13	1.1	TBD	11/7/2023	12/7/2023	732,622.14	TBD	TBD	TBD
14	1.2	TBD	12/7/2023	1/7/2024	TBD	TBD	TBD	TBD
15	1.3	TBD	1/7/2024	2/7/2024	TBD	TBD	TBD	TBD
16	1.4	TBD	2/7/2024	3/7/2024	TBD	TBD	TBD	TBD
17	1.5	TBD	3/7/2024	4/7/2024	TBD	TBD	TBD	TBD
18	1.6	TBD	4/7/2024	5/7/2024	TBD	TBD	TBD	TBD
19	2.1	TBD	5/7/2024	6/7/2024	TBD	TBD	TBD	TBD
20	2.2	TBD	6/7/2024	7/7/2024	TBD	TBD	TBD	TBD
232	37.4	TBD	2/7/2042	3/7/2042	TBD	TBD	TBD	TBD
233	37.5	TBD	3/7/2042	4/7/2042	TBD	TBD	TBD	TBD
234	37.6	TBD	4/7/2042	5/7/2042	TBD	TBD	TBD	TBD
235	38.1	TBD	5/7/2042	6/7/2042	TBD	TBD	TBD	TBD
236	38.2	TBD	6/7/2042	7/7/2042	TBD	TBD	TBD	TBD
237	38.3	TBD	7/7/2042	8/7/2042	TBD	TBD	TBD	TBD
238	38.4	TBD	8/7/2042	9/7/2042	TBD	TBD	TBD	TBD
239	38.5	TBD	9/7/2042	10/7/2042	TBD	TBD	TBD	TBD
240	38.6	TBD	10/7/2042	11/7/2042	TBD	TBD	TBD	TBD

Adjustable Loan Schedule Recasting

Recasting refers to the recalculating of interest, payments, and balances at the start of an adjustment period.

With AMCalc, recasting is done automatically and in the background by a Salesforce Flow process that is installed with the AMCalc package. For details on how it works and how to configure recasting, see the AMCalc Administration Guide.

The below sample schedule shows an adjustable loan schedule that has had its first adjustment period recast. The recasting occurred on the Period Start day of adjustment period 1.1 which was November 8, 2022.

On this day, the AMCalc recasting process took the current rate for the Overnight Fed Funds Rate index (in our example scenario that rate was 3.83%) and added a margin of 1% to arrive at an interest rate for adjustment period 1 of 4.83%. Using that interest rate, the recast process then took the principal outstanding for period 1.1, calculated the payments and new balances for the six payments that will be due during adjustment period, and then used that information to update the saved schedule.

In addition to determining the interest rate to use for an adjustment period, the recasting process will also determine if any rate caps or rate floors specified in the adjustable loan definition apply. If so, the index plus margin rate may be modified by the recast process based on the cap or floor that applies. See the next section for an example of an adjustable loan schedule that has had rate caps applied to it.

Loan Type:	Adjustable
Loan Amount:	567,000.00 USD
Initial Period:	1 year at 4.500%
Adjustments:	Overnight Federal Funds Rate plus 1.000% adjusted every 6 Months
Rate Caps (Init - Per - Life):	1.500% - 2.000% - 5.000%
Rate Floors (Init - Per - Life):	0.500% - 0.750% - 3.000%
Month Convention:	30
Year Convention:	360
Amortization Periods (yrs.):	20
Term Periods (yrs.):	20
Payment Frequency:	Monthly
Start Date:	11/8/2021
First Payment Date:	12/8/2021
Last Payment Date:	11/8/2041

Period	Adjustment Period	Period Rate	Period Start	Period End	Principal Outstanding	End of Period Principal Reduction	Interest Amount	Total Payment
1		4.500%	11/8/2021	12/8/2021	567,000.00	1,460.87	2,126.25	3,587.12
2		4.500%	12/8/2021	1/8/2022	565,539.13	1,466.35	2,120.77	3,587.12
3		4.500%	1/8/2022	2/8/2022	564,072.78	1,471.85	2,115.27	3,587.12
4		4.500%	2/8/2022	3/8/2022	562,600.93	1,477.37	2,109.75	3,587.12
5		4.500%	3/8/2022	4/8/2022	561,123.56	1,482.91	2,104.21	3,587.12
6		4.500%	4/8/2022	5/8/2022	559,640.65	1,488.47	2,098.65	3,587.12
7		4.500%	5/8/2022	6/8/2022	558,152.18	1,494.05	2,093.07	3,587.12
8		4.500%	6/8/2022	7/8/2022	556,658.13	1,499.65	2,087.47	3,587.12
9		4.500%	7/8/2022	8/8/2022	555,158.48	1,505.28	2,081.84	3,587.12
10		4.500%	8/8/2022	9/8/2022	553,653.20	1,510.92	2,076.20	3,587.12
11		4.500%	9/8/2022	10/8/2022	552,142.28	1,516.59	2,070.53	3,587.12
12		4.500%	10/8/2022	11/8/2022	550,625.69	1,522.27	2,064.85	3,587.12
13	1.1	4.830%	11/8/2022	12/8/2022	549,103.42	1,474.49	2,210.14	3,684.63
14	1.2	4.830%	12/8/2022	1/8/2023	547,628.93	1,480.42	2,204.21	3,684.63
15	1.3	4.830%	1/8/2023	2/8/2023	546,148.51	1,486.38	2,198.25	3,684.63
16	1.4	4.830%	2/8/2023	3/8/2023	544,662.13	1,492.36	2,192.27	3,684.63
17	1.5	4.830%	3/8/2023	4/8/2023	543,169.77	1,498.37	2,186.26	3,684.63
18	1.6	4.830%	4/8/2023	5/8/2023	541,671.40	1,504.40	2,180.23	3,684.63
19	2.1	TBD	5/8/2023	6/8/2023	540,167.00	TBD	TBD	TBD
20	2.2	TBD	6/8/2023	7/8/2023	TBD	TBD	TBD	TBD
232	37.4	TBD	2/8/2041	3/8/2041	TBD	TBD	TBD	TBD
233	37.5	TBD	3/8/2041	4/8/2041	TBD	TBD	TBD	TBD
234	37.6	TBD	4/8/2041	5/8/2041	TBD	TBD	TBD	TBD
235	38.1	TBD	5/8/2041	6/8/2041	TBD	TBD	TBD	TBD
236	38.2	TBD	6/8/2041	7/8/2041	TBD	TBD	TBD	TBD
237	38.3	TBD	7/8/2041	8/8/2041	TBD	TBD	TBD	TBD
238	38.4	TBD	8/8/2041	9/8/2041	TBD	TBD	TBD	TBD
239	38.5	TBD	9/8/2041	10/8/2041	TBD	TBD	TBD	TBD
240	38.6	TBD	10/8/2041	11/8/2041	TBD	TBD	TBD	TBD

Since the recast process occurs in the background without the need for any user interaction, you may be wondering how you will know what adjustable schedules have been recasted. The AMCalc package comes with a set of reports that you can access to determine what adjustable loan schedules will be recasted within the next 30, 60, or 90 days. Additionally each time the recast process runs, the results of the run is logged in the recast history table. You can access the information in the recast history table via a set of standard reports that come with AMCalc.

The following recast reports can be found in the *AMCalc Standard Reports* folder:

- Adj Loans Recasting in the next 30 days
- Adj Loans Recasting in the next 60 days
- Adj Loans Recasting in the next 90 days
- Adjustable Loans Recasted Today

- Recast History: Recasts Today
- Recast History: Recasts Yesterday
- Recast History: Recasts this Month

Use any of these reports as is or customize them for your own purposes.

Simulating a Worst-Case Scenario Adjustable Schedule

Lenders sometimes have requirements to provide borrowers with a schedule that simulates a worst-case rate change scenario. This is very easy to do with AMCalc. Simply input the details of the adjustable loan into the calculator and toggle the *Simulate worst-case scenario* switch to Yes. A schedule similar to the one below will be generated.

Whenever the AMCalc recast processor determines that a rate cap or rate floor applies to an adjustment period, it will modify the interest rate change to conform to the cap or floor and flag the adjustment period on the schedule. In a simulate worst case scenario schedule, all rate caps are applied to each adjustment period in the schedule to show the maximum amount the interest rate can change through the life of the loan. Just like during an automated recast, for each adjustment period, loan balances and payment amounts are recalculated by the AMCalc engine for each new interest rate applied.

In the sample schedule, IC means that the initial cap limited the period's rate change, PC means the periodic cap was applied, and LC mean lifetime cap. If rate floors had been applied, the codes shown on the schedule would be IF, PF, and LF.

You can save a simulated worst-case scenario schedule just like you can for any other AMCalc schedule, but be aware of the following limitations for this type of schedule.

- The *Simulate worst-case scenario* toggle switch will be disabled and not selectable on the calculator if the adjustable loan definition that was selected does not have any rate caps configured in it.
- Simulated worst-case scenario schedules are for example purposes only. The automated AMCalc recasting process will ignore these schedules when it is determining which saved adjustable loan schedules are due for recasting.

Simulated Worst-Case Scenario

Maximum rate caps applied to all adjustment periods

Loan Type:	Adjustable
Loan Amount:	567,000.00 USD
Initial Period:	1 year at 4.500%
Adjustments:	Overnight Federal Funds Rate plus 1.000% adjusted every 6 Months

Rate Caps (Init - Per - Life): 1.500% - 2.000% - 5.000%

Rate Floors (Init - Per - Life): 0.500% - 0.750% - 3.000%

Month Convention: 30

Year Convention: 360

Amortization Periods (yrs.): 20

Term Periods (yrs.): 20

Payment Frequency: Monthly

Start Date: 11/8/2021

First Payment Date: 12/8/2021

Last Payment Date: 11/8/2041

Period	Adjustment Period	Period Rate	Period Start	Period End	Principal Outstanding	End of Period Principal Reduction	Interest Amount	Total Payment
1		4.500%	11/8/2021	12/8/2021	567,000.00	1,460.87	2,126.25	3,587.12
2		4.500%	12/8/2021	1/8/2022	565,539.13	1,466.35	2,120.77	3,587.12
3		4.500%	1/8/2022	2/8/2022	564,072.78	1,471.85	2,115.27	3,587.12
4		4.500%	2/8/2022	3/8/2022	562,600.93	1,477.37	2,109.75	3,587.12
5		4.500%	3/8/2022	4/8/2022	561,123.56	1,482.91	2,104.21	3,587.12
6		4.500%	4/8/2022	5/8/2022	559,640.65	1,488.47	2,098.65	3,587.12
7		4.500%	5/8/2022	6/8/2022	558,152.18	1,494.05	2,093.07	3,587.12
8		4.500%	6/8/2022	7/8/2022	556,658.13	1,499.65	2,087.47	3,587.12
9		4.500%	7/8/2022	8/8/2022	555,158.48	1,505.28	2,081.84	3,587.12
10		4.500%	8/8/2022	9/8/2022	553,653.20	1,510.92	2,076.20	3,587.12
11		4.500%	9/8/2022	10/8/2022	552,142.28	1,516.59	2,070.53	3,587.12
12		4.500%	10/8/2022	11/8/2022	550,625.69	1,522.27	2,064.85	3,587.12
13	1.1	**IC** 6.000%	11/8/2022	12/8/2022	549,103.42	1,296.34	2,745.52	4,041.86
14	1.2	6.000%	12/8/2022	1/8/2023	547,807.08	1,302.82	2,739.04	4,041.86
15	1.3	6.000%	1/8/2023	2/8/2023	546,504.26	1,309.34	2,732.52	4,041.86
16	1.4	6.000%	2/8/2023	3/8/2023	545,194.92	1,315.89	2,725.97	4,041.86
17	1.5	6.000%	3/8/2023	4/8/2023	543,879.03	1,322.46	2,719.40	4,041.86
18	1.6	6.000%	4/8/2023	5/8/2023	542,556.57	1,329.08	2,712.78	4,041.86
19	2.1	**PC** 8.000%	5/8/2023	6/8/2023	541,227.49	1,070.23	3,608.18	4,678.41
20	2.2	8.000%	6/8/2023	7/8/2023	540,157.26	1,077.36	3,601.05	4,678.41
21	2.3	8.000%	7/8/2023	8/8/2023	539,079.90	1,084.54	3,593.87	4,678.41
22	2.4	8.000%	8/8/2023	9/8/2023	537,995.36	1,091.77	3,586.64	4,678.41
23	2.5	8.000%	9/8/2023	10/8/2023	536,903.59	1,099.05	3,579.36	4,678.41
24	2.6	8.000%	10/8/2023	11/8/2023	535,804.54	1,106.38	3,572.03	4,678.41
25	3.1	**LC** 9.500%	11/8/2023	12/8/2023	534,698.16	942.37	4,233.03	5,175.40
26	3.2	9.500%	12/8/2023	1/8/2024	533,755.79	949.83	4,225.57	5,175.40

232	37.4	9.500%	2/8/2041	3/8/2041	44,789.83	4,820.81	354.59	5,175.40
233	37.5	9.500%	3/8/2041	4/8/2041	39,969.02	4,858.98	316.42	5,175.40
234	37.6	9.500%	4/8/2041	5/8/2041	35,110.04	4,897.45	277.95	5,175.40
235	38.1	**LC** 9.500%	5/8/2041	6/8/2041	30,212.59	4,936.22	239.18	5,175.40
236	38.2	9.500%	6/8/2041	7/8/2041	25,276.37	4,975.30	200.10	5,175.40
237	38.3	9.500%	7/8/2041	8/8/2041	20,301.07	5,014.68	160.72	5,175.40
238	38.4	9.500%	8/8/2041	9/8/2041	15,286.39	5,054.38	121.02	5,175.40
239	38.5	9.500%	9/8/2041	10/8/2041	10,232.01	5,094.40	81.00	5,175.40
240	38.6	9.500%	10/8/2041	11/8/2041	5,137.61	5,137.61	40.67	5,178.28

Straight Line

A Straight line loan takes the total loan amount and divides it by the number of loan term periods. The interest amount is calculated for each period and added to this amount to arrive at the total payment amount for the period. Straight Line loans will have a variable payment amount for each period of the loan and do not require a loan amortization value to generate the loan payment schedule.

Loan Type:	Straight Line
Loan Amount:	365,456.00
Interest Rate (%):	2.67000%
Month Convention:	Actual
Year Convention:	Actual
Loan Term (yrs.):	20
Payment Frequency:	Monthly
Start Date:	9/28/2020
First Payment Date:	10/28/2020
Last Payment Date:	9/28/2040

Period	Period Start	Period End	Principal Outstanding	End of Period Principal Reduction	Interest Amount	Total Payment
1	9/28/2020	10/28/2020	365,456.00	1,522.73	802.00	2,324.73
2	10/28/2020	11/28/2020	363,933.26	1,522.73	825.28	2,348.01
3	11/28/2020	12/28/2020	362,410.53	1,522.73	795.32	2,318.05
4	12/28/2020	1/28/2021	360,887.80	1,522.73	818.37	2,341.10
5	1/28/2021	2/28/2021	359,365.06	1,522.73	814.92	2,337.65
6	2/28/2021	3/28/2021	357,842.33	1,522.73	732.94	2,255.67
7	3/28/2021	4/28/2021	356,319.60	1,522.73	808.02	2,330.75
235	3/28/2040	4/28/2040	9,136.40	1,522.73	20.72	1,543.45
236	4/28/2040	5/28/2040	7,613.66	1,522.73	16.71	1,539.44
237	5/28/2040	6/28/2040	6,090.93	1,522.73	13.81	1,536.54
238	6/28/2040	7/28/2040	4,568.20	1,522.73	10.03	1,532.76
239	7/28/2040	8/28/2040	3,045.46	1,522.73	6.91	1,529.64
240	8/28/2040	9/28/2040	1,522.73	1,522.73	3.45	1,526.18

Fixed Principal Reduction

For Fixed Principal Reduction, the principal reduction amount field is displayed on the calculator so that the user can indicate the dollar amount that should be applied to the principal in each period of the loan. For each period, the interest amount is calculated against the loan balance for that period and added to the principal payment amount to arrive at the total payment for the period. Fixed principal reduction loans will have a variable total payment amount for each period of the loan and do not require a loan amortization value to generate the loan payment schedule.

If the principal reduction amount indicated pays off the loan before the loan's last period, the schedule will show zero payment amounts for the remainder of the loan's term.

Note that the below example has a payment frequency of quarterly, which you will see reflected in each period's start and end date.

Loan Type:	Fixed Principal Reduction
Loan Amount:	1,230,900.00
Principal Reduction Amount (per period):	15,450.00
Interest Rate (%):	2.78000%
Month Convention:	Actual
Year Convention:	Actual
Loan Term (yrs.):	20
Payment Frequency:	Quarterly
Start Date:	9/28/2020
First Payment Date:	12/28/2020
Last Payment Date:	9/28/2040

Period	Period Start	Period End	Principal Outstanding	End of Period Principal Reduction	Interest Amount	Total Payment
1	9/28/2020	12/28/2020	1,230,900.00	15,450.00	8,531.32	23,981.32
2	12/28/2020	3/28/2021	1,215,450.00	15,450.00	8,331.66	23,781.66
3	3/28/2021	6/28/2021	1,200,000.00	15,450.00	8,408.55	23,858.55
4	6/28/2021	9/28/2021	1,184,550.00	15,450.00	8,300.29	23,750.29
5	9/28/2021	12/28/2021	1,169,100.00	15,450.00	8,102.98	23,552.98
6	12/28/2021	3/28/2022	1,153,650.00	15,450.00	7,908.03	23,358.03
7	3/28/2022	6/28/2022	1,138,200.00	15,450.00	7,975.51	23,425.51
75	3/28/2039	6/28/2039	87,600.00	15,450.00	612.15	16,062.15
76	6/28/2039	9/28/2039	72,150.00	15,450.00	504.18	15,954.18
77	9/28/2039	12/28/2039	56,700.00	15,450.00	391.91	15,841.91
78	12/28/2039	3/28/2040	41,250.00	15,450.00	285.12	15,735.12
79	3/28/2040	6/28/2040	25,800.00	15,450.00	180.78	15,630.78
80	6/28/2040	9/28/2040	10,350.00	10,350.00	72.52	10,422.52

Interest Only

Interest only loans have payment periods where only interest is paid. During these periods, no portion of the payment amount is applied to the loan principal. For interest only loans, the first interest only period always starts on the first payment period of the loan.

There are two variations of interest only loans that generate different schedule results:

1. Interest only with interest periods within the amortization of the loan
2. Interest only with interest periods outside of the amortization of the loan

Each one of these variation is discussed below.

Interest only with interest periods within the amortization of the loan

When the interest only periods are included within the amortization of the loan, the total length of the loan is equal to the loan's term and no principal is paid during the interest only periods. Because the loan is amortized over the loan term and no principal is paid during interest only periods, this will create a loan payment schedule with a balloon payment in the last period of the loan.

The first interest only period of the loan will be the first payment period and interest only periods will continue down the schedule until all interest only periods indicated in the calculator have been added to the schedule.

The total number of interest only periods that can be input can be any number between one and the total number of the payment periods of the loan. If the total number of interest only periods input in the calculator is equal to the total number payment periods for the loan, interest only will be paid for the life of the loan and the total principal will come due in the last period of the loan.

In the schedule shown, there are five interest only periods at the beginning of the loan. Both interest and principal begin to be paid starting in period six of the schedule. In the example, because the loan was amortized over twenty years (240 months), but no principal was paid for the first five months of the loan, the last loan payment must be a balloon payment in order to pay off the loan in the last period.

Also note in this example that the interest payment in the first five periods is not fixed. This is because the month and year convention are both set to *Actual*. Because some months have 30 days and others have 31 (and 28 or 29 days in February), the calculated interest for months with 31 days will be slightly more than those with less days. If this schedule used a month/year convention of 30/365, for example, the interest payments in the first five periods would be the same amount.

Loan Type:	Interest Only
Loan Amount:	356,000.00
Interest Rate (%):	2.70600%
Month Convention:	Actual
Year Convention:	Actual

Loan Amortization (mos.):	240
Loan Term (mos.):	240
Payment Frequency:	Monthly
Start Date:	9/29/2020
First Payment Date:	10/29/2020
Last Payment Date:	9/29/2040
Include Interest Only Periods Within Loan Term?:	Yes

Period	Period Start	Period End	Principal Outstanding	End of Period Principal Reduction	Interest Amount	Total Payment
1	9/15/2020	10/15/2020	356,000.00	0.00	791.78	791.78
2	10/15/2020	11/15/2020	356,000.00	0.00	818.18	818.18
3	11/15/2020	12/15/2020	356,000.00	0.00	791.78	791.78
4	12/15/2020	1/15/2021	356,000.00	0.00	818.18	818.18
5	1/15/2021	2/15/2021	356,000.00	0.00	818.18	818.18
6	2/15/2021	3/15/2021	356,000.00	1,183.31	739.00	1,922.31
7	3/15/2021	4/15/2021	354,816.69	1,106.85	815.46	1,922.31
235	3/15/2040	4/15/2040	20,817.54	1,874.47	47.84	1,922.31
236	4/15/2040	5/15/2040	18,943.07	1,880.18	42.13	1,922.31
237	5/15/2040	6/15/2040	17,062.89	1,883.10	39.21	1,922.31
238	6/15/2040	7/15/2040	15,179.79	1,888.55	33.76	1,922.31
239	7/15/2040	8/15/2040	13,291.24	1,891.76	30.55	1,922.31
240	8/15/2040	9/15/2040	11,399.48	11,399.48	26.20	11,425.68

Interest only with interest periods outside of the amortization of the loan

With this type of interest only loan, the number of interest only periods indicated in the calculator is added to the loan term. The result is that the life of the loan is increased by the number of interest only periods and, once the interest only periods are complete, the schedule will show a fixed payment throughout the life of the loan. This is assuming that the value for the loan amortization and the value of the loan term are equal. If they are not, the last period will show a balloon payment.

The example schedule below has the same calculator inputs as the above schedule but with the exception that the interest only periods are outside of the amortization of the loan. You will note that with this example, interest only periods were added to the life of the loan making the last payment of the loan in period 245 as opposed to period 240 above. Also note that the schedule below does not have a balloon payment in the last payment period.

There is one other fact about this type of interest only schedule that is not obvious. Note that the start date of the loan input into the calculator is 9/15/2020 and that the AMCalc engine uses that date for the first period of the loan, as expected. However, the date that the engine uses to start amortizing the loan is moved forward to the beginning date of period 6, which in this example is 2/15/2021. This means that you might see slightly different fixed payment amounts if the month/year convention is set to *Actual*, then you might otherwise see if the amortization began on the loan start date that was input into the calculator.

Loan Type:	Interest Only
Loan Amount:	356,000.00
Interest Rate (%):	2.70600%
Month Convention:	Actual
Year Convention:	Actual
Loan Amortization (mos.):	240
Loan Term (mos.):	240
Payment Frequency:	Monthly
Start Date:	9/15/2020
First Payment Date:	10/15/2020
Last Payment Date:	2/15/2041
Include Interest Only Periods Within Loan Term?:	No

Period	Period Start	Period End	Principal Outstanding	End of Period Principal Reduction	Interest Amount	Total Payment
1	9/15/2020	10/15/2020	356,000.00	0.00	791.78	791.78
2	10/15/2020	11/15/2020	356,000.00	0.00	818.18	818.18
3	11/15/2020	12/15/2020	356,000.00	0.00	791.78	791.78
4	12/15/2020	1/15/2021	356,000.00	0.00	818.18	818.18
5	1/15/2021	2/15/2021	356,000.00	0.00	818.18	818.18
6	2/15/2021	3/15/2021	356,000.00	1,183.17	739.00	1,922.17
7	3/15/2021	4/15/2021	354,816.83	1,106.71	815.46	1,922.17
8	4/15/2021	5/15/2021	353,710.12	1,135.48	786.69	1,922.17
240	8/15/2040	9/15/2040	11,442.63	1,895.87	26.30	1,922.17
241	9/15/2040	10/15/2040	9,546.76	1,900.94	21.23	1,922.17
242	10/15/2040	11/15/2040	7,645.82	1,904.60	17.57	1,922.17
243	11/15/2040	12/15/2040	5,741.22	1,909.40	12.77	1,922.17
244	12/15/2040	1/15/2041	3,831.82	1,913.36	8.81	1,922.17
245	1/15/2041	2/15/2041	1,918.46	1,918.46	4.41	1,922.87