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## Topic 1: Strategy overview

### Introduction

Most investors have had the experience of buying a stock and then seeing the price fall.

Investors typically see their choice as selling the stock at a loss, or trying to breakeven.

Two 'conventional' ways to breakeven are:

- hold on in the hope the share price recovers to the original purchase price, which may take a long time, or
- averaging down, which lowers your breakeven point, but requires you to buy more shares, increasing the risk of your position.

In this module we look at a third way to break even, an options strategy called the 'stock repair'.

### When can the stock repair be considered?

The goal of the stock repair is to get back to breakeven on a losing stock position in the near term. At that point you can decide whether to continue to hold the stock in the long term or get out of the investment altogether.

The strategy is best implemented when the stock has fallen moderately from your purchase price. If the stock has fallen too far, it may not be possible to achieve breakeven using this strategy.

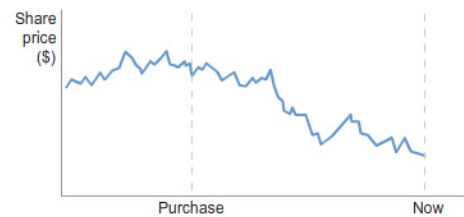
You think the stock will partially recover in the near term. The strategy does not protect you if the stock continues to fall.

The stock repair is not appropriate if you expect the stock to bounce back strongly, as it places a cap on your upside.

### Construction

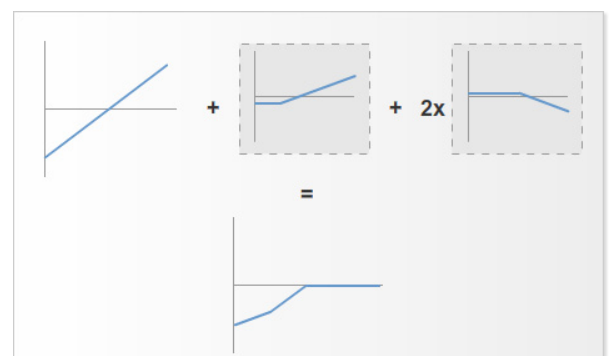
The strategy is a combination of the stock you hold, plus, for every 100 shares:

- one taken call, with a strike around the price the stock has fallen to, and
- two written calls, with a strike midway between the price the stock has fallen to and the price you paid for it.



	Try to breakeven			
	Sell	Hold	Average down	Stock repair
Crystallise loss?	Yes	No	No	No
Potential to breakeven?	No	Unchanged	Increased	Increased
Exposure to risk?	No	Unchanged	Increased	Unchanged

Stock movement since purchase	<input type="radio"/> No change	<input checked="" type="radio"/> Moderate fall	<input type="radio"/> Very large fall	Correct.
Stock movement expected	<input type="radio"/> Continued fall	<input type="radio"/> No charge	<input checked="" type="radio"/> Partial recovery	Correct.



**Example**

You hold 100 XYZ shares, for which you paid \$10.00. Following a fall in the stock price to \$9.00, you:

- buy one XYZ \$9.00 call @ \$0.38, and
- write two XYZ \$9.50 calls @ \$0.19.

The strategy in our example is placed at zero cost (excluding transaction costs).

**Outcome**

Your best result is for the share price at expiry to be around the strike price of the written options, at which point you should be at, or close to, breakeven.

At the written call strike:

- you should be able to sell your taken call for a profit
- your shares have benefited from the partial recovery, and
- your written calls will be worth very little or nothing, giving you the benefit of the premium income.

The net result is that you may be able to break even without the stock getting back to your purchase price.



## Topic 2: Profits, losses and breakevens

For most option strategies that include a stock leg, you use the current stock price in calculating your potential profit, loss and breakeven point.

The most useful way to assess the possible outcomes of your stock repair, however, is to use your purchase price for the stock, not the current price. Consequently you take into account your loss on the stock since the time of purchase.

This makes it easier to see at what point the strategy will return you to breakeven.



### Breakeven

The breakeven point at expiry is around the strike price of the written calls.

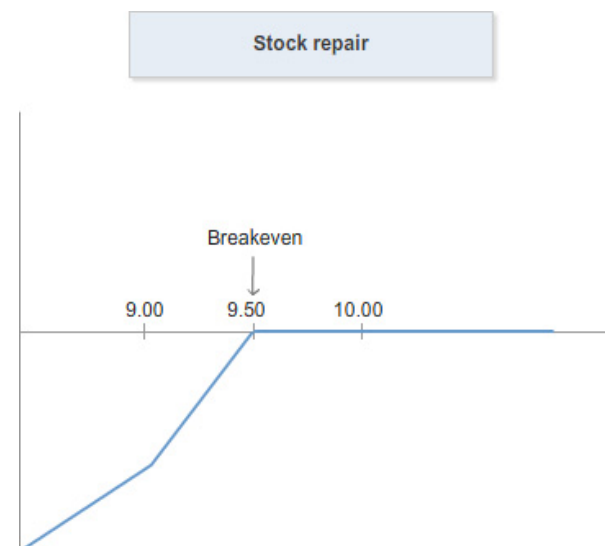
Working out your exact breakeven is a fairly complex calculation.

The breakeven depends on:

- the price you paid for the shares
- the strike prices of the options you use, and
- the credit or debit the strategy was placed for.

In the example, in which you placed the strategy for zero cost, the breakeven point is \$9.50.

A tool such as the [Strategy Modelling Tool](#) can show you where you will break even.



### Strategy outcome

The outcome of your strategy at expiry must take into account:

- the loss on the shares from the time of purchase, and
- the outcome of the option legs.

The loss on the shares is the difference between your purchase price and the share price at expiry.

The outcome of the option legs is the value of the options at expiry less the premium you paid (or plus the premium you received) for the strategy.

Cost of stock	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Stock at expiry	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25
P/L on stock	\$(1.25)	\$(1.00)	\$(0.75)	\$(0.50)	\$(0.25)	\$-	\$0.25
Value of taken \$9.00 call	\$0.00	\$0.00	\$0.25	\$0.50	\$0.75	\$1.00	\$1.25
Value of 2 written \$9.50 calls	\$0.00	\$0.00	\$0.00	\$0.00	\$(0.50)	\$(1.00)	\$(1.50)
DR/CR on opening position	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Options P/L	\$0.00	\$0.00	\$0.25	\$0.50	\$0.25	\$0.00	\$(0.25)
Net P/L	\$(1.25)	\$(1.00)	\$(0.50)	\$0.00	\$0.00		

## Outcomes at expiry

Rather than considering the strategy in isolation, it generally makes sense to compare the outcome of the stock repair to the outcome if you were simply to continue holding the stock.

The outcomes considered here assume you paid \$10.00 for your shares, and enter the following strategy when the stock price has fallen to \$9.00:

- buy one XYZ \$9.00 call @ \$0.38, and
- write two XYZ \$9.50 calls @ \$0.19.

The benefits of the stock repair are gained if the share price at expiry is between the strike of the taken call and the purchase price of the shares.

### Share price between strikes

You should make a profit on your option legs. The taken call will be in the money, but both written calls will expire worthless. This profit can be added to the improvement in the share price, giving you a better result than simply holding the shares.

### Above written strike but below purchase price

Once the share price reaches the upper strike, you get your best result, breakeven.

Any share price increase beyond this does not improve your result, as the increase in value of the stock and the taken call are offset by the increase in value of the written calls.

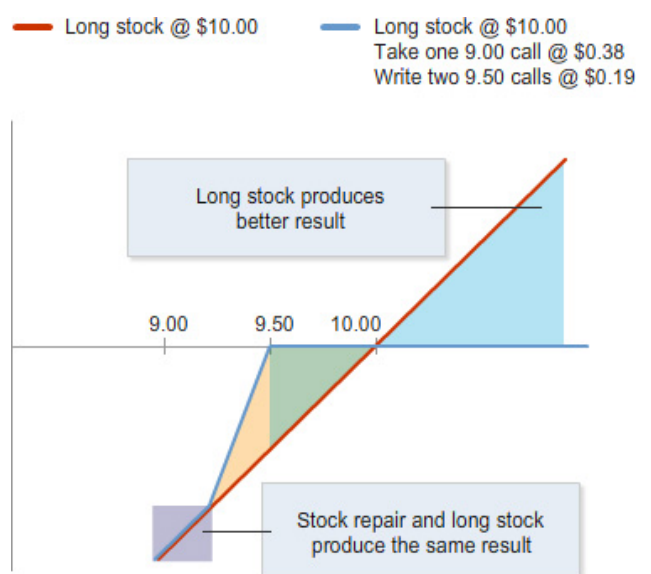
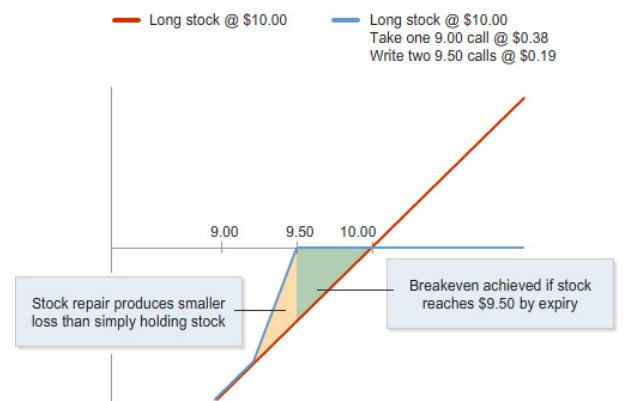
### Share price rises strongly

If the stock rebounds above your purchase price, the stock repair will lead to a worse result than simply holding the shares. The written calls cap your profit for any share price rise above the upper strike.

### Share price falls

All options will expire worthless.

The stock repair offers no protection against a continued drop in the share price, but you will not be worse off either.



### Can I always break even with the stock repair?

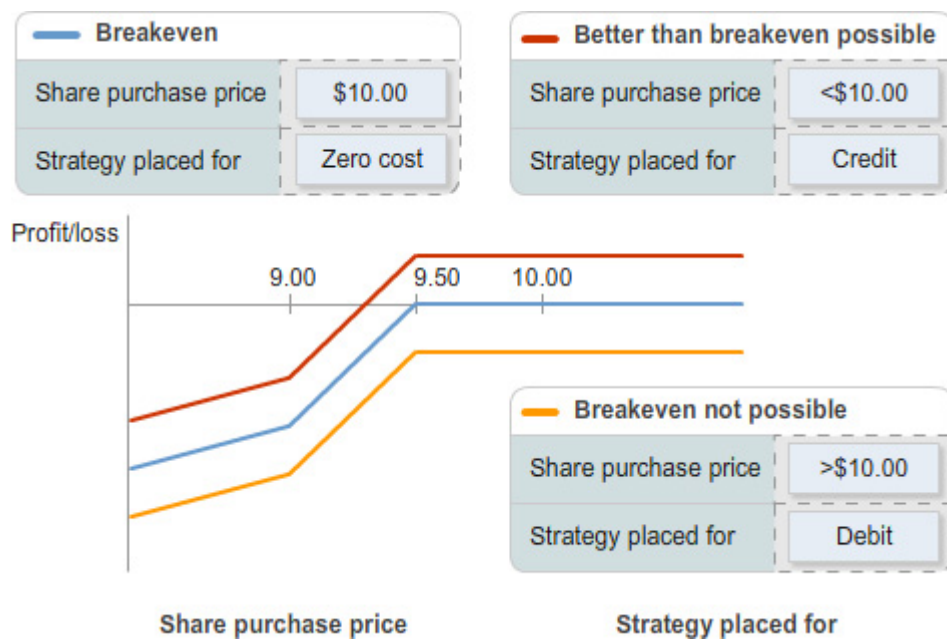
Even if the stock price recovers to the strike of the written calls, it is not always possible to break even.

In some cases, the profit you can make from the options strategy may not be enough to offset the fall in the stock price.

It depends on:

- how much you paid for the stock, and
- the credit/debit on opening the option positions.

On the other hand, it may be possible to do slightly better than breakeven if the stock price has not fallen too far, or if you place the strategy for a credit.



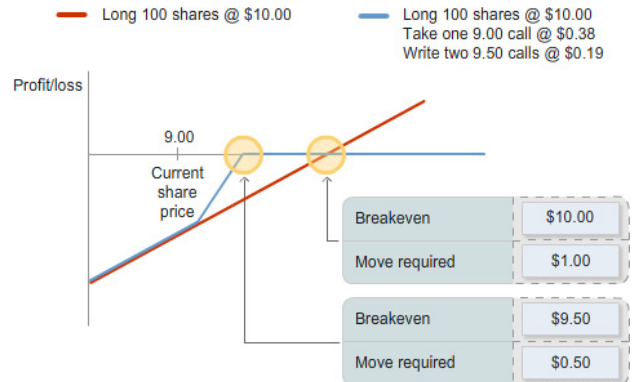
## Topic 3: Benefits, risks and other features

### Break even sooner

The main benefit of the stock repair is that you can return to breakeven twice as fast as if you do nothing.

The stock price only needs to recover to around the strike price of the written calls by expiry for you to break even.

Without the option position, the stock needs to return to your purchase price - a recovery that may take a long time, or which may not take place at all.



### Consider longer dated options

When creating this strategy, the choice of expiry date for the options will affect the amount of premium you receive.

Writing longer dated options provides greater level of premium income.

Consider that longer dated options mean you are obligated for a longer period of time.

### Low cost strategy

The stock repair can generally be placed for a small credit, a small debit, or at no cost, depending on the market price of the component options.

This means you are not significantly altering the risk you are already exposed to. If the share price falls further, the stock repair will not make your position any worse.

Compare this to averaging down, which lowers your breakeven point, but requires you to buy more shares, increasing the risk of your position.

	Lowers breakeven?	Increases risk?
Averaging down	Yes	Yes
Stock repair	Yes	No



### No margins

As long as you lodge the underlying stock as specific cover with ASX Clear, no margins are payable on the stock repair.

One written call is covered by the shares you lodge.

The other written call is covered by the taken call.

### Capped profits

The main disadvantage of the stock repair is that your benefits are limited if the share price makes a strong recovery.

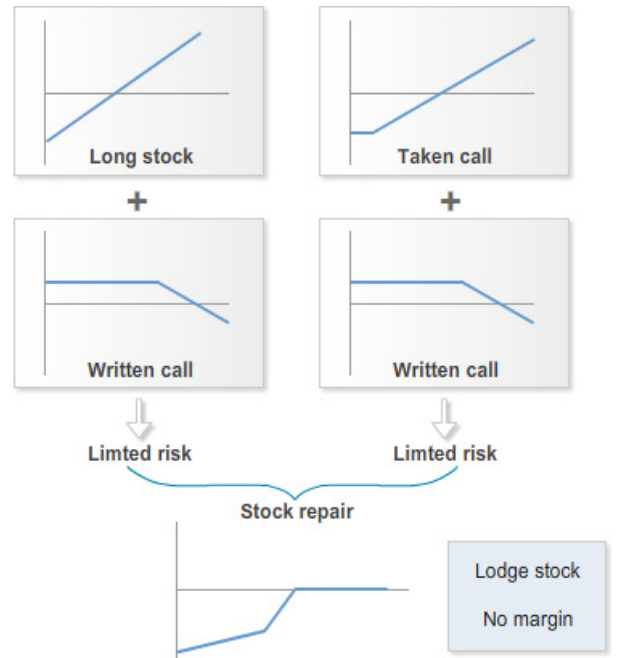
The best outcome the stock repair can offer is breakeven or thereabouts, which occurs if the stock reaches the strike of the written calls at expiry. Any rise in the share price above this point does not improve your position.

If the stock bounces back to above your original purchase price, you would have been better off not having entered the strategy.

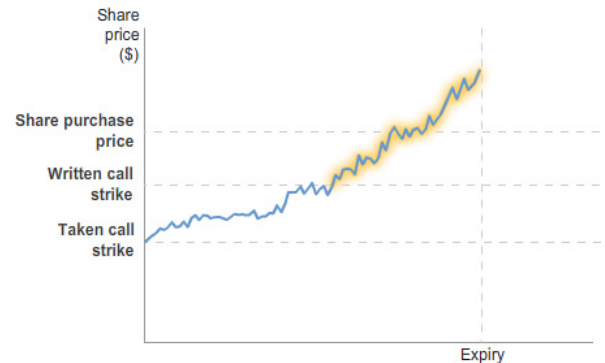
### No protection against continued fall

If the share price continues to fall, the strategy will not make your position any worse - but neither will it help you, as both the taken and the written calls will expire worthless.

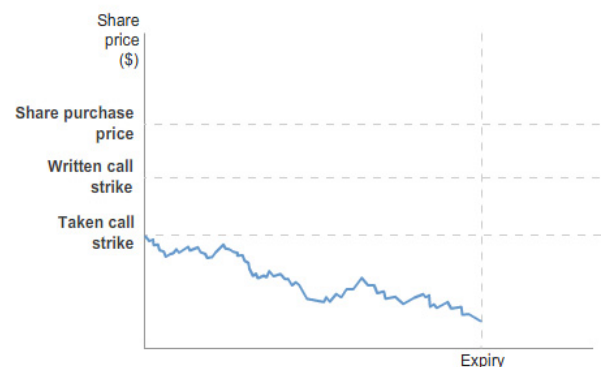
If your view is that the stock will continue to fall, you might consider cutting your losses and selling.



If the stock recovers strongly your position does not improve for any rise above the written call strike.



If the stock price continues to fall your shares will lose value, and your options will expire worthless.



## Topic 4: Follow-up action

### At expiry

You will need to take action on any legs that are in the money at expiry.

#### Stock price below taken call strike

All options will expire worthless and you need take no action.

#### Stock price between strikes

The written calls will expire worthless.

You will need to close out the taken call option on market to realise its intrinsic value.

#### Stock price above written call strike

If you want to retain your shares, you will need to close out your taken call and both written calls.

If you are happy to let the stock go, you could close out the taken call and one of the written calls, allowing the other written call to be exercised. You will sell your shares at the strike price of the written option. Alternatively, you could close out all option legs, and sell your shares on market.

### Before expiry

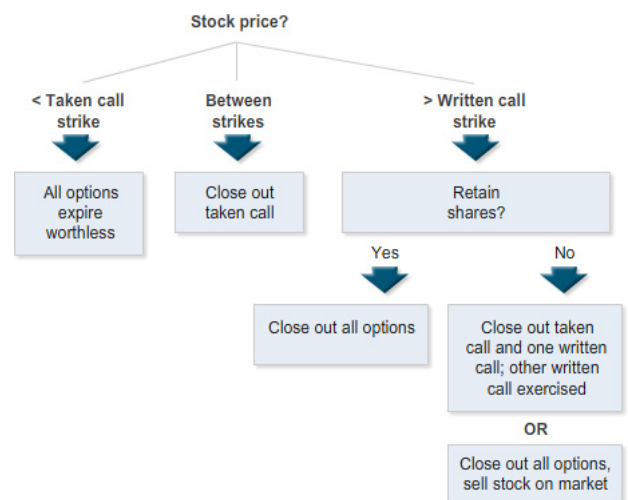
The stock repair typically is held to expiry, rather than being closed out early. Breakeven is usually only possible at expiry, when time value has fallen to zero.

However, if the stock price rises well above the written call strike ahead of expiry, you might change your view on the stock and believe the price may rise further. If so, you can consider closing out the written calls to remove the cap on your upside.

If you decide not to close out your written calls, you should be aware of the risk of early exercise.

This risk of exercise is greatest if the stock goes ex-dividend during the life of your strategy. If the written calls are deep in the money, you may want to consider closing them out before the ex-dividend date to remove the risk of exercise.

Share price at expiry	Taken 900 call		Written 950 calls	
	Close out?		Close out?	
	No	Yes	No	Yes
\$8.80	✓	✗	✓	✗
\$9.30	✗	✓	✓	✗
\$9.80	✗	✓	✗	✓



## Summary

- The stock repair can help you to break even more quickly on a losing stock position.
- The strategy is a combination of stock, one taken call with a strike around the current stock price, and two written calls with a strike midway between the current stock price and the price you paid for it.
- Your best result at expiry is for the share price to be around the written option strike, at which point you should be close to breakeven.
- The result is that you do not need the stock to recover to your purchase price to break even.
- The stock repair can generally be placed for a small credit, a small debit, or at no cost.
- The stock repair will generally give you a better result than simply holding the shares if at expiry the share price is between the taken call strike and the purchase price of the shares.
- The main disadvantage is that your benefits are limited if the share price makes a strong recovery.
- The stock repair offers no protection against a continued fall in the share price.
- No margins are payable if specific cover is lodged.
- You will need to take action on any legs that are in the money at expiry.

Practical examples of option strategies are given throughout these modules.

Prices used in the examples were calculated using an option pricing model, and are based on the following, unless otherwise specified:

- Underlying stock price: \$10.00
- Volatility: 25%
- Risk free interest rate: 5%
- Days to expiry: 30
- The stock does not go ex-dividend during the life of the option
- American exercise style

Brokerage costs are not included in the examples. It is, however, important to take brokerage costs into account when trading options.

Please note that some payoff diagrams that appear in this course are conceptual in nature, and may not be drawn exactly to scale.