

# Range Straddle Hedge

Expert Advisor Documentation

## PLATFORM

MetaTrader 5 (MT5)

## TYPE

Breakout Hedge (Price Action)

## TIMEFRAME

M15 / M30

## WEBSITE

[www.algotbot.live](http://www.algotbot.live)

**⚠ Important Disclaimer** This document is for educational and informational purposes only. It does not constitute financial or investment advice. Trading forex, CFDs, and other leveraged instruments involves substantial risk of loss and is not suitable for all investors. Past backtest performance does not guarantee future results. Never trade with capital you cannot afford to lose.

## Overview

**Range Straddle Hedge** is a pure price-action Expert Advisor that trades the boundaries of a consolidation range — with no indicators of any kind. It uses no moving averages, RSI, ATR, pivots, or chart patterns. Every decision is driven by raw bar highs and lows and by the floating profit/loss of the open basket, exactly like a hand-managed hedge book.

The EA measures a recent consolidation range and *straddles* it with a mirror-image pair of pending stop orders — a BUY STOP above the range and a SELL STOP below it. The defining feature is what happens after one side fills: unlike a conventional one-cancels-the-other (OCO) straddle, the opposite resting order is deliberately **left alive as a hedge**.

**The edge thesis.** Ranges resolve in two ways — a genuine breakout that runs, or a *false* breakout that pokes a boundary and snaps straight back. A naive breakout straddle wins the first case but bleeds to death on the second: it is stopped out, then stopped out again on the reverse — the classic whipsaw. By keeping the opposite leg resting as a hedge, Range Straddle Hedge captures the return move when price whips back across the range, offsetting the first leg's loss. Genuine breakouts are harvested by the running leg's take-profit; false ones are recovered by the hedge — turning the usual whipsaw loss into a scratch or a win.

**Natural habitat.** This system is designed for liquid, range-prone FX majors such as **EURUSD** or **AUDUSD** on the **M15 / M30** timeframes — the natural home of the false-breakout whipsaws a hedge is built to recover.

## How It Works

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The EA runs as a three-state machine over a single (primary) timeframe. All structural decisions are taken once per newly-closed bar, while the basket money-management layer is evaluated on every tick.

### The State Machine

- **IDLE** — Flat with nothing resting. The EA measures the consolidation range over the last **RangeLookback** closed bars (range high = highest high, range low = lowest low) and straddles it with a pending stop pair. → ARMED.
- **ARMED** — The straddle is resting and no leg has filled yet. If neither side triggers within **ExpiryBars** bars, both orders are pulled and a fresh range is hunted. → IDLE.
- **ENGAGED** — One stop has filled (the breakout). The opposite stop is deliberately left resting as the **hedge**. If the breakout is real, the running leg reaches its take-profit and the un-triggered hedge is cancelled. If the breakout is false and price reverses across the range, the hedge stop also fills — the EA now holds both a long and a short, a genuine locked hedge.

### Entry Logic

While IDLE, the EA computes the range width over the lookback window and places two mirror-image pending stop orders, each offset from the boundary by a buffer:

```
width = rangeHigh - rangeLow
buffer = max(BufferFrac × width, broker minimum stop distance)

BUY STOP @ rangeHigh + buffer (long breakout leg)
SELL STOP @ rangeLow - buffer (short breakout leg)
```

Each leg is placed only if its trigger price sits a valid broker distance away from the current Ask/Bid. A straddle is skipped entirely while the spread exceeds **MaxSpreadPoints** (set to **0** to disable the spread filter).

### Exit Logic

Exits operate on two layers. The basket money layer is dominant and is what banks the recovered whipsaw.

#### PER-LEG TP / SL (PRICE-DISTANCE BASED)

Every leg carries a fixed take-profit and a wide catastrophic stop-loss, both scaled to the range width so they adapt to any symbol or timeframe:

Take-Profit = entry  $\pm$  RewardRatio  $\times$  width (banks a clean runaway breakout)  
Stop-Loss = entry  $\mp$  StopMult  $\times$  width (a single leg can never live forever)

The stop is intentionally wider than the opposite range boundary, so on a reversal the **hedge fills first** and the two legs can coexist rather than stop-and-reverse.

#### BASKET MONEY MANAGEMENT (THE DOMINANT EXIT)

- **Basket Take-Profit** — The instant the whole basket's floating P/L reaches **BasketTpMoney** (account currency), everything is closed and the EA re-straddles. This is what banks the recovered whipsaw the moment the net turns green.
- **Basket Stop-Loss** — If floating loss hits **BasketSlMoney**, the entire book is flattened. This is the hard ceiling on hedge risk — a strong one-way trend after a hedge has locked is the strategy's failure mode.

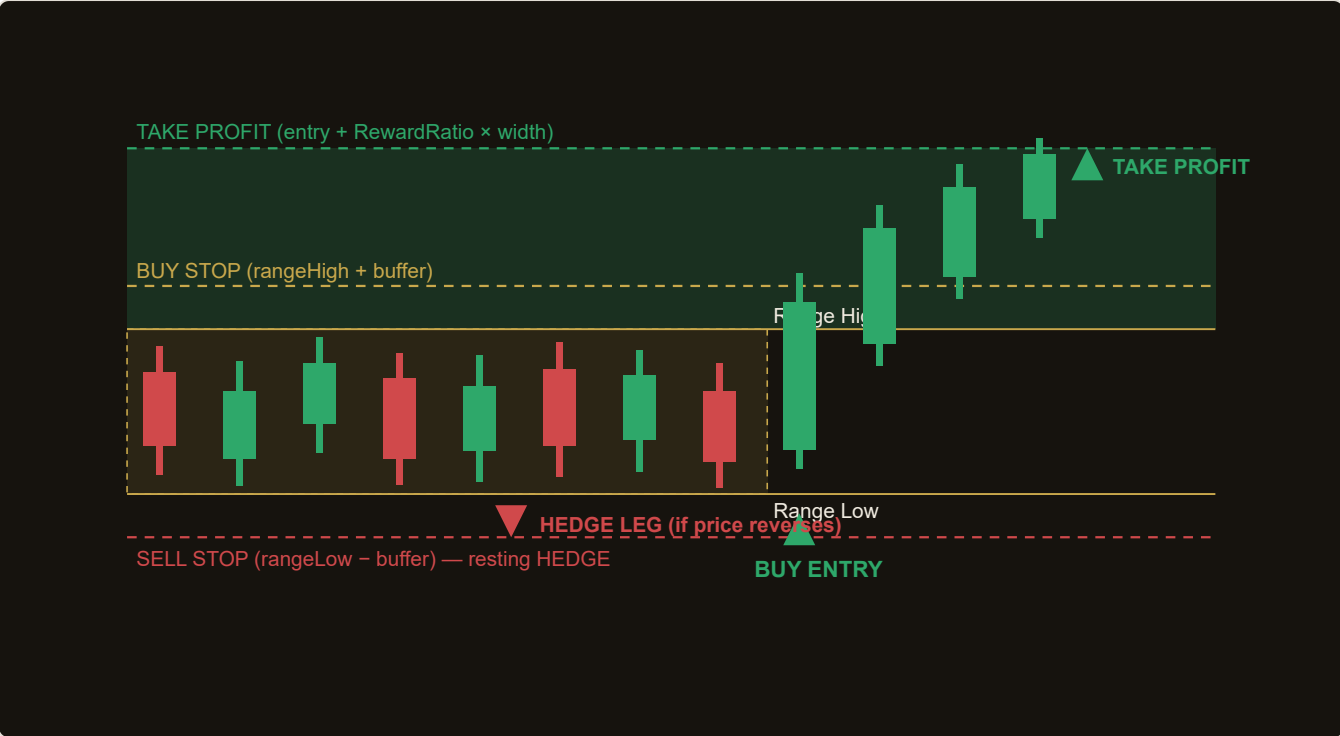
#### Worked example — recovered false breakout

Price has been coiling in a 25-pip range on EURUSD M15. The EA straddles it: BUY STOP just above, SELL STOP just below. Price spikes up through the upper boundary — the BUY STOP fills (ENGAGED). But the breakout is false: price snaps back down through the range and triggers the resting SELL STOP. Now both legs are open — a locked hedge. As price continues down, the short leg's profit outpaces the long leg's loss; the basket's floating P/L crosses **BasketTpMoney** and the EA closes everything for a net gain, then re-measures the range and arms a fresh straddle.

## Strategy in Action

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The illustration below shows an example of how the strategy identifies a setup and triggers its entry and exit. This is a simplified, illustrative example for educational purposes — not real market data.



*Illustrative example only. Actual market behaviour varies.*

## Parameters

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Parameter	Default	Description
RangeLookback	20	Number of closed bars whose highest high and lowest low define the range. Range 5–120, step 1.
BufferFrac	0.10	Breakout offset beyond the range boundary, as a fraction of the range width. Range 0.00–1.00, step 0.05.
RewardRatio	2.00	Per-leg take-profit distance, as a multiple of the range width. Range 0.50–6.00, step 0.25.
StopMult	3.00	Per-leg catastrophic stop-loss distance, as a multiple of the range width. Range 1.00–10.00, step 0.50.
BasketTpMoney	30.0	Close the whole basket once floating profit reaches this amount (account currency). Range 5.0–2000.0, step 5.0.
BasketSiMoney	400.0	Flatten the whole basket once floating loss reaches this amount (account currency). Range 50.0–100000.0, step 50.0.
ExpiryBars	8	Cancel an un-triggered straddle after this many bars, then re-measure the range. Range 1–100, step 1.
MaxSpreadPoints	50	Skip placing a straddle while the spread (in points) is wider than this. Set 0 to disable. Range 0–500, step 5.
Lots	0.10	Volume traded per leg, snapped to the symbol's volume step and min/max limits. Range 0.01–1.00, step 0.05.
Magic	5210	EA magic number used to identify and manage this strategy's orders. Range 0–9,999,999, step 1.

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## Recommended Settings

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The defaults are tuned for a liquid FX major on an intraday timeframe. Use the following as a starting point and forward-test before committing capital.

Setting	Suggested	Notes
Symbol	EURUSD / AUDUSD	Liquid, range-prone majors with tight spreads.
Timeframe	M15 / M30	The natural habitat of false-breakout whipsaws.
RangeLookback	20	Lower for faster, tighter ranges; higher for broader consolidations.
RewardRatio / StopMult	2.00 / 3.00	Keep StopMult > the opposite boundary so the hedge fills first.
BasketTpMoney / BasketSlMoney	Scale to balance	Size both to your account; the basket TP is the primary profit engine.

**Tip.** Because every distance is expressed as a multiple of the measured range width, the per-leg TP and SL adapt automatically across symbols and timeframes. Only the money-based controls ( `BasketTpMoney` , `BasketSlMoney` , `Lots` ) need rescaling to your account size.

**Hedging account required.** This EA holds simultaneous long and short positions on the same symbol. It must run on a **hedging** MT5 account, not a netting account. The failure mode is a strong one-way trend after a hedge has locked — this is exactly what `BasketSlMoney` is there to cap, so never disable it.

## How to Install on MetaTrader 5

- 1 Copy `RangeStraddleHedge.ex5` to your MT5 `MQL5\Experts\` folder
- 2 Restart MetaTrader 5 and refresh the Navigator panel
- 3 Drag the EA onto a chart matching the recommended symbol and timeframe
- 4 Configure the input parameters and click **OK**
- 5 Enable **Algo Trading** in the MT5 toolbar

## Risk Warning

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