

Swing Boundary Engulfing Hedge

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Price-Action Mean Reversion + Breakout Hedge

TIMEFRAME

M15 – H1

WEBSITE

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

Swing Boundary Engulfing Hedge is a pure price-action Expert Advisor that uses **no indicators of any kind** — no moving averages, RSI, ATR, Bollinger Bands, or floor pivots. Instead it works with the three discretionary tools a chart-reading trader actually relies on: horizontal **support and resistance** drawn from genuine swing pivots, the two-bar **engulfing** candle pattern as a trigger, and a single pre-armed protective **hedge**.

The strategy is built around one observation about how price behaves at a level. When price reaches a recent swing high or swing low, it does one of two things: it *rejects* the level — an engulfing candle snaps it back into the range — or it *fails* the level, closing clean through so the old support becomes resistance and a runaway move begins. A trader who only fades the boundary banks the rejection but gets steam-rolled by the break.

Swing Boundary Engulfing Hedge fades the engulfing rejection back toward the middle of the range **and**, at the same moment, parks a resting stop order a fraction of the range beyond the level. If the level holds, the fade reaches its target and the unused hedge is cancelled. If the level instead fails, that resting stop fills automatically — the EA is now **locked in both directions** (a true hedge), and the new leg rides the breakout the other way. The textbook “I faded a level that then ran” disaster is converted into a scratch or a win.

The edge thesis. Boundaries either reject or fail — this EA does not try to predict which. It commits to the high-probability fade while pre-positioning for the failure, so a wrong directional call still has a structured, hedged exit rather than an open-ended loss.

Because every distance — zones, hedge offsets, stops, and targets — is expressed as a fraction of the live range (`Resistance - Support`), the EA scales to any symbol or timeframe with no hard-coded pip values. It is designed for liquid, range-respecting markets such as EUR/USD, AUD/USD, or XAU/USD on M15, M30, or H1, where swing rejections and false breaks regularly alternate.

How It Works

1. Building the boundary from swing pivots

On every freshly closed bar, the EA recomputes its levels from the primary timeframe only. A **swing high** is a bar whose high is the highest within \pm `SwingStrength` neighbouring bars; the most recent one becomes **resistance**. A mirror-image **swing low** — the lowest low within the same window — becomes **support**. The active range is simply `Resistance - Support`, and that single value sizes every zone, hedge offset, stop, and target used below.

```
range = resistance - support
minDist = (StopsLevel + 1) * point // broker's minimum stop distance
// A setup is only considered when range > 0 and range ≥ 2 * minDist
```

2. Entry logic — the engulfing rejection

The EA only hunts a new setup when it is **completely flat** — no live positions and no resting hedge. Entries are distinct, mirror-image long and short cases, and both require a two-bar engulfing pattern formed in raw price (a candle whose body fully covers the prior bar's body).

LONG SETUP — BULLISH ENGULFING AT SUPPORT

- The just-closed candle dips into the support zone: `Low ≤ Support + (ZoneFrac × range)`
- It closes **back above** support: `Close > Support`
- It is a **bullish engulfing**: a green bar whose body fully covers the prior red bar's body

Interpretation: sellers were overwhelmed at support. The EA buys and aims to fade price back toward the middle of the range.

SHORT SETUP — BEARISH ENGULFING AT RESISTANCE

- The just-closed candle pokes into the resistance zone: `High ≥ Resistance - (ZoneFrac × range)`
- It closes **back below** resistance: `Close < Resistance`

- It is a **bearish engulfing**: a red bar whose body fully covers the prior green bar's body

Interpretation: buyers were overwhelmed at resistance. The EA sells and aims to fade price back toward the middle of the range.

3. The hedge mechanic (the signature feature)

At the very moment the base trade is opened, the EA also parks **one opposite stop order** a fraction of the range beyond the faded level — a **sell stop** under support for a long, or a **buy stop** over resistance for a short. The base stop-loss is deliberately placed *beyond* that hedge trigger, so if the level fails the hedge fills **first** and both legs coexist: a genuine locked hedge that rides the break while the losing base leg is offset.

```
// LONG example
hedgeTrigger = support - max(HedgeFrac × range, minDist) // SELL STOP rests here
baseSl       = hedgeTrigger - max(StopPadFrac × range, minDist) // base SL sits BELOW the hedge
```

Why the hedge sits beyond the stop pad. Ordering matters. Because the resting hedge trigger is closer to price than the base stop-loss, a true break fills the hedge before the base is stopped out — producing a locked, two-sided position instead of a clean loss. `StopPadFrac` controls how much extra room the base stop gets beyond that trigger.

4. Exit logic

Every exit is a structural per-leg stop-loss or take-profit — there is no basket money management and no indicator-based exit.

- **Base leg take-profit:** `RewardFrac` of the range back toward the middle (capped to stay inside the range and remain a valid order distance).
- **Base leg stop-loss:** beyond the hedge trigger by `StopPadFrac` of the range — reached only when the level is decisively gone.
- **Hedge leg take-profit:** `HedgeRewardFrac` of the range further along the break direction.
- **Hedge leg stop-loss:** `ReclaimFrac` of the range back on the far side of the level — if price reclaims the level, the break was false, so the hedge was wrong and is cut while the base recovers.

5. Housekeeping and re-arming

If the base leg resolves (hits its TP or SL) while the hedge never triggered, the resting hedge would still be sitting in the order book. The EA detects this state — zero open positions but a pending order present — cancels the leftover hedge, resets to flat, and re-arms on the next qualifying swing setup. A filled hedge always shows as a position, so this clean-up only fires when the level genuinely held.

Two further gates keep behaviour disciplined: structural and entry logic runs **once per freshly closed bar** (housekeeping still runs every tick), and new entries are skipped while the spread exceeds `MaxSpreadPoints`

points.

Strategy in Action

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. Price drifts down to the swing-low support, prints a bullish engulfing that holds the level (BUY ENTRY), and fades back toward the middle of the range to take profit. A resting sell-stop hedge sits below support; if the level had failed instead, that hedge would have filled before the base stop-loss to ride the breakdown.

Parameters

Parameter	Default	Description
SwingStrength	3	Fractal half-width: a swing high/low must be the extreme within \pm this many neighbouring bars. Higher values find larger, less frequent swings. Range 1–12.
ZoneFrac	0.18	How close to the level the candle's wick must reach, as a fraction of the range, to qualify as a touch. Range 0.02–0.60.
HedgeFrac	0.20	Distance beyond the level where the resting hedge stop is parked, as a fraction of the range. Range 0.05–1.00.
StopPadFrac	0.30	Extra base stop-loss pad placed beyond the hedge trigger, as a fraction of the range. Ensures the hedge fills before the base is stopped. Range 0.05–2.00.
RewardFrac	0.60	Base take-profit distance back toward mid-range, as a fraction of the range. Range 0.20–3.00.
ReclaimFrac	0.35	Hedge invalidation: if price reclaims the far side of the level by this fraction of the range, the hedge is cut. Range 0.05–1.50.
HedgeRewardFrac	0.90	Hedge take-profit distance further along the break, as a fraction of the range. Range 0.20–4.00.
MaxSpreadPoints	50	Skip new entries while the spread (in points) exceeds this value. Set to 0 to disable the filter. Range 0–500.
Lots	0.10	Trade volume per leg, in lots. Automatically snapped to the symbol's volume step and min/max limits. Range 0.01–1.00.
Magic	8630	Magic number used to identify and manage this EA's orders. Range 0–9,999,999.

Everything scales with the range. Notice that all distance parameters are fractions of `Resistance - Support`, not fixed pip amounts. This is why the same settings can be applied across very different symbols and timeframes — the EA automatically sizes itself to the live trading range.

Recommended Settings

Swing Boundary Engulfing Hedge performs best on liquid, range-respecting markets where rejections and false breaks alternate. The defaults are a sensible starting point; tune them per symbol with a backtest before going live.

SUGGESTED STARTING CONFIGURATION

- **Symbols:** EUR/USD, AUD/USD, or XAU/USD (Gold)
- **Timeframe:** M15, M30, or H1 — the EA runs on whatever timeframe is selected at attach time
- **SwingStrength:** 3–5 (lower for faster timeframes, higher for cleaner structural swings)
- **ZoneFrac / HedgeFrac / StopPadFrac:** start at the defaults (0.18 / 0.20 / 0.30)
- **RewardFrac / HedgeRewardFrac:** defaults of 0.60 / 0.90 balance the fade target against the breakout run
- **MaxSpreadPoints:** tighten this on majors; widen it for Gold or during volatile sessions

Worked example — a long that holds

On EUR/USD M30 the EA finds support at 1.0820 and resistance at 1.0920 (range = 100 pips). A candle dips to 1.0815, closes back at 1.0838 as a bullish engulfing — a long is opened. A sell stop hedge is parked at 1.0800 (support - 0.20 × range), with the base stop-loss below it at 1.0770. The base take-profit sits at 1.0880 (support + 0.60 × range). Price rejects support and rallies to 1.0880: the base banks its target and the untouched hedge is cancelled. Had price instead broken to 1.0800, the hedge would have filled first — locking the position and riding the breakdown toward its own target.

Hedging account required. This EA opens an opposite-side leg while a base position is live. It must run on a **hedging** account type (the MT5 default for most brokers), not a netting account, or the two legs will offset into a single net position and the hedge logic will not behave as designed. Always validate on a demo account first.

How to Install on MetaTrader 5

- 1 Copy `SwingBoundaryEngulfingHedge.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

Trading foreign exchange, CFDs, and other leveraged financial instruments involves substantial risk of loss and is not suitable for all investors. The strategies and tools described in this document are provided for **educational purposes only** and do not constitute financial advice, investment recommendations, or solicitation to trade. Always consult a qualified financial adviser before making trading decisions. Past backtest performance is not indicative of future results.