

Pivot Engulfing Recovery

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Price Action — Engulfing + Recovery Hedge

TIMEFRAME

M15 – H1

WEBSITE

www.algotbot.live

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Overview

Pivot Engulfing Recovery is a pure price-action Expert Advisor — it uses *no indicators whatsoever*. Market structure is mapped directly from price using confirmed **swing pivots** (fractal highs and lows), giving genuine support and resistance derived from the candles themselves rather than from a smoothing formula.

Against that structure, the EA trades two distinct edges using **engulfing candles**:

- **Reversal** — a bullish engulfing that sweeps and reclaims a swing low goes **long**; a bearish engulfing that rejects a swing high goes **short**.
- **Breakout** — a strong-bodied bullish engulfing that closes decisively beyond a swing high (break of structure) goes **long**; the mirror image goes **short**.

Stops and targets are sized from a manual **N-bar range proxy** (the average candle range over a recent window), so the EA adapts to the instrument's volatility without any indicator buffer. A built-in **recovery hedge** manages adverse runs: if the primary scalp moves against the position, a larger opposite leg is opened so the net book flips to the prevailing direction, and both legs hand control to a volume-weighted basket break-even. The basket is closed once price clears break-even by a recovery margin, or stopped out if it runs too far past it — keeping risk bounded with **no martingale**.

How It Works

1. Market Structure — Swing Pivots

On every newly-closed bar the EA runs a streaming swing-pivot detector. A candidate bar sitting `PivotRight` bars back is confirmed as a **swing high** only if its high is the strict extreme versus the `PivotLeft` older neighbours *and* the `PivotRight` newer neighbours; the symmetric test confirms a **swing low**. The most recent confirmed swing high (`_pivHigh`) and swing low (`_pivLow`) become the active resistance and support levels.

2. Volatility — The Range Proxy

Instead of an indicator such as ATR, the EA computes a pure price-action volatility proxy: the average bar range (high – low) over the last `RangePeriod` bars. This single value scales the entry zone, the stop, the target, and every level of the recovery basket.

```
RangeProxy = average( High[i] - Low[i] ) for i = 1 .. RangePeriod
```

3. Entry Signals

A fresh primary trade is only sought when the book is **fully flat** (no primary and no hedge leg open). The EA inspects the last two closed candles for an engulfing pattern and measures the entry tolerance as `zone = ZoneFrac × RangeProxy`.

- **Reversal long** — bullish engulfing whose low pierces to within the zone of the swing low (`Low ≤ pivLow + zone`).
- **Reversal short** — bearish engulfing whose high reaches within the zone of the swing high (`High ≥ pivHigh - zone`).
- **Breakout long** — a *strong* bullish engulfing (body ≥ 50% of its range) that closes beyond the swing high (`Close > pivHigh + zone`).
- **Breakout short** — a *strong* bearish engulfing that closes below the swing low (`Close < pivLow - zone`).

Tip: If a single bar qualifies as both long and short (an ambiguous signal), the EA stands aside and takes no trade — a deliberate filter that avoids trading conflicted structure.

4. Stops & Targets

The primary scalp is sized entirely from the range proxy:

- **Stop loss** = `SlRangeMult × RangeProxy` from entry.
- **Take profit** = `TpRangeMult × RangeProxy` from entry.

With the defaults (`SlRangeMult = 1.50` , `TpRangeMult = 1.20`), the scalp aims for a clean, quick exit at the take profit before any recovery logic is needed.

5. Recovery Hedge & Basket Management

Basket management runs on *every tick* so adverse runs are caught promptly, and it operates in two phases:

- **Phase 1 — un-hedged primary.** If the open scalp runs adverse by `HedgeTrigger × RangeProxy` , the EA opens a larger opposite leg (`HedgeMult × Lots` , on a separate magic number). Because the recovery leg is bigger than the primary, the *net* book flips to the prevailing direction. The original scalp's stop is then dropped — the basket governs from here.
- **Phase 2 — hedged basket.** Both legs are managed together by a volume-weighted break-even price. The net profit function is $\text{NetP}(x) = x \times \text{netVol} + k$, where `netVol = sum(buy volume) - sum(sell volume)` ; the break-even is `be = -k / netVol` .

```
be      = -k / netVol           // net P/L is zero at this price
recover = RecoverMult * Range  // profit margin to bank the basket
maxAdv  = MaxAdverseMult * Range // disaster stop past break-even
```

Once hedged, the whole basket is flattened when either:

- **Recovery:** price clears break-even by `recover` in the net-favourable direction — the basket is closed in profit.
- **Disaster stop:** price runs `maxAdv` past break-even in the adverse direction — the basket is closed to cap the loss.

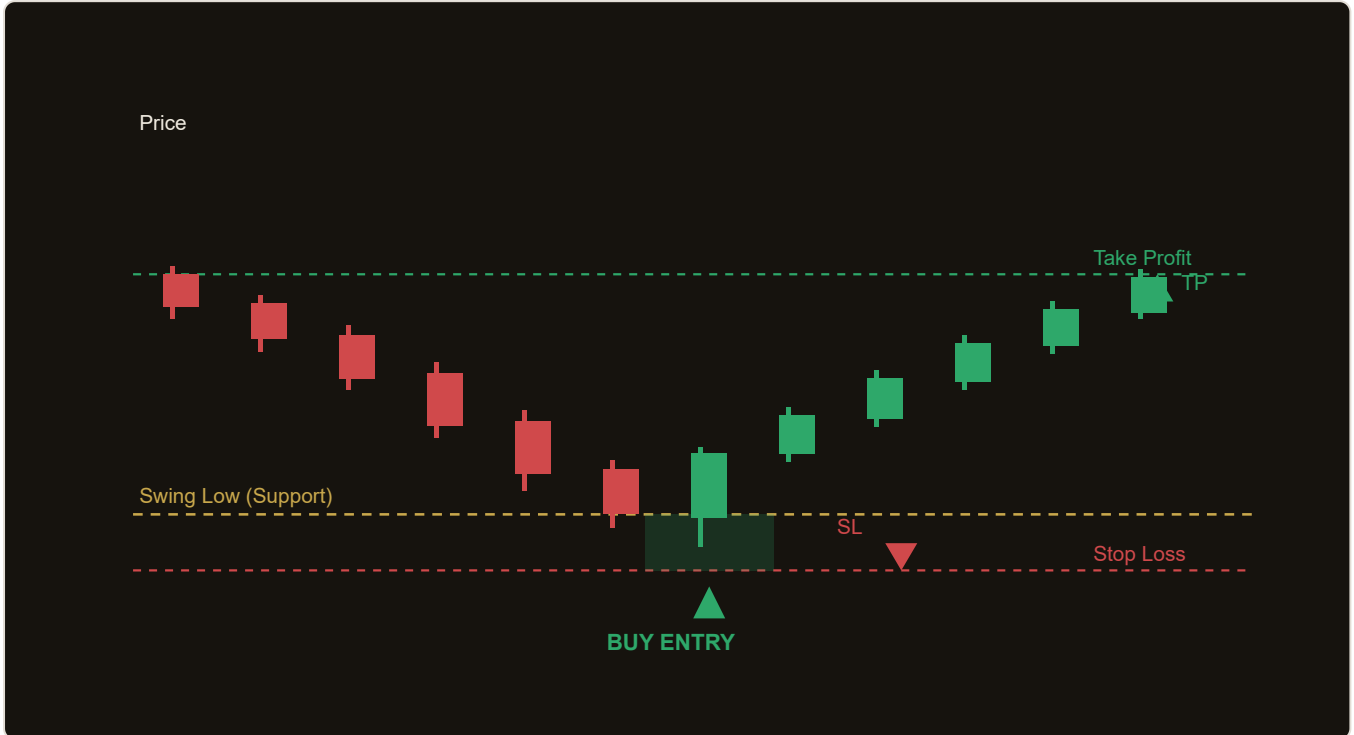
No martingale, but real exposure. The recovery leg is a single larger hedge, not a doubling ladder — risk is bounded by the disaster stop. Even so, the basket can carry combined volume of `(1 + HedgeMult) × Lots` while it resolves. Size `Lots` conservatively for your account.

Worked example (long scalp turns into a hedge)

Suppose `RangeProxy = 20 pips` . A reversal long is opened at the swing low. Price falls `HedgeTrigger × 20 = 20 pips` against it, so a `0.20` -lot short (`HedgeMult = 2.0 × 0.10`) is opened. The net book is now `0.20 short - 0.10 long = 0.10 net short` , aligned with the down-move. The basket break-even is computed from both fills; price only needs to fall a further `RecoverMult × 20 = 10 pips` below break-even for the whole basket to be banked in profit.

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. It depicts the **reversal long** edge: a bullish engulfing candle sweeps below a confirmed swing low, reclaims it, and the EA goes long with the range-sized stop and target.



Illustrative example only. Actual market behaviour varies.

Parameters

Parameter	Default	Description
PivotLeft	3	Older neighbour bars required left of a pivot candidate. Range 2–10, step 1.
PivotRight	3	Newer neighbour bars required right of a pivot candidate (confirmation lag). Range 2–10, step 1.
RangePeriod	14	Window for the N-bar average-range volatility proxy. Range 5–30, step 1.
ZoneFrac	0.50	Swing-zone tolerance as a fraction of the range proxy. Range 0.10–2.0, step 0.10.
SlRangeMult	1.50	Scalp stop-loss distance as a multiple of the range proxy. Range 0.50–4.0, step 0.10.
TpRangeMult	1.20	Scalp take-profit distance as a multiple of the range proxy. Range 0.50–5.0, step 0.10.
HedgeTrigger	1.00	Adverse run (in range units) that opens the recovery hedge. Range 0.30–3.0, step 0.10.
HedgeMult	2.00	Recovery-leg lot size as a multiple of the primary lots. Range 1.20–3.0, step 0.10.
RecoverMult	0.50	Profit margin beyond basket break-even to bank the basket (range units). Range 0.10–2.0, step 0.10.
MaxAdverseMult	3.00	Disaster-stop distance past break-even, in range units. Range 1.50–6.0, step 0.50.
Lots	0.10	Primary trade lot size. Range 0.01–1.0, step 0.05.
Magic	880800	Primary magic number. The recovery hedge uses <code>Magic + 1</code> to keep the basket legs separable.

Note: `HedgeMult` is constrained to be at least 1.20 so the recovery leg is always strictly larger than the primary — this guarantees the net book flips direction and prevents a degenerate zero-volume basket.

Recommended Settings

The defaults are tuned for liquid major FX pairs on intraday timeframes. As a starting point:

- **Symbols:** liquid majors (EURUSD, GBPUSD, USDJPY) with tight spreads.

- **Timeframe:** M15 to H1 — enough structure for clean pivots without excessive noise.
- **Pivot depth:** `PivotLeft = PivotRight = 3` gives responsive structure; increase to 4–5 for stricter, less frequent swing levels.
- **Risk geometry:** keep `SlRangeMult ≥ TpRangeMult` only if you accept a sub-1R scalp that relies on the recovery basket; many users prefer raising `TpRangeMult` for a positive scalp R:R.
- **Lots:** start at the minimum (`0.01`) and forward-test, remembering the basket can hold `(1 + HedgeMult) × Lots` in combined volume.

Tip: Always validate any parameter set in the MT5 Strategy Tester across multiple market regimes (trending, ranging, news-driven) before considering live deployment, and confirm behaviour on a demo account first.

How to Install on MetaTrader 5

- 1 Copy `PivotEngulfingRecovery.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

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