

Broken Leg Trap Reversal

Expert Advisor Documentation

PLATFORM

MetaTrader 5 (MT5)

TYPE

Trend Continuation / Trap Reversal

TIMEFRAME

H1 (single primary timeframe)

WEBSITE

www.algotbot.live

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Overview

Broken Leg Trap Reversal is a trend-continuation Expert Advisor that hunts for a very specific stop-run pattern inside an established trend. In a trend, price advances in *legs* separated by swing pivots. Occasionally a corrective pullback pierces the last protective swing — running the stops of trend followers and luring in counter-trend traders — only to fail and close back on the trend side within a few bars. That failed break is a *broken leg*: a trap. The reclaim of the pierced level signals that the trend is resuming, and the EA joins the dominant trend in the direction of that reclaim.

The strategy combines three ingredients: **fractal swing detection** to locate the protective pivots, an **EMA slope filter** to confirm the dominant trend, and an **ATR-based stop** parked just beyond the trap extreme with the target expressed as a reward multiple (R-multiple) of that risk. It trades a single primary timeframe and takes at most one decision per newly closed bar, with a maximum of one open position per symbol.

Core idea: A failed break of the last swing is more meaningful than a clean break. When a pullback pierces a swing but cannot hold below it, the traders who sold the "breakdown" are now trapped. Their forced exit fuels the next leg of the trend — and that is exactly where this EA enters.

How It Works

1. Trend Filter (EMA slope)

An Exponential Moving Average of the close (`TrendEmaPeriod` , default 50) defines the dominant trend. The EA compares the EMA at the just-closed bar to the EMA one bar earlier so that it reads both *price position* and *slope*:

- **Up-trend:** close is above the EMA *and* the EMA is rising (`ema > emaPrev`). Only long traps are armed.
- **Down-trend:** close is below the EMA *and* the EMA is falling (`ema < emaPrev`). Only short traps are armed.

2. Swing Detection (fractal pivots)

Swings are confirmed as fractal pivots using `SwingLookback` bars on each side (default 3). A bar is a confirmed **swing low** when its low is strictly lower than every bar within the lookback window on both sides; a **swing high** is defined symmetrically. Because the pattern needs an equal number of bars to the right, a pivot is only confirmed `SwingLookback` bars after it prints. The EA always keeps the most recently confirmed swing low and swing high.

3. Arming the Trap (the broken leg)

In an up-trend, when a bar both *pierces* below the last confirmed swing low and *closes* below it, a long trap is armed: the leg has broken. The EA records the break bar, the trap extreme (the lowest low reached), and the broken level. It tags the swing so it will not re-arm on the same pivot. A short trap is armed in a down-trend when a bar pierces and closes *above* the last confirmed swing high.

4. The Reclaim (trap sprung → entry)

Once a trap is armed, the EA watches the next `ReclaimBars` bars (default 3):

- **Reclaim:** if a close returns back above the broken level (long) or below it (short), the trap is sprung and a trade is opened in the trend direction.
- **Expiry:** if the reclaim window passes without a reclaim, the break is treated as a genuine structural breakdown/breakout and the trap is discarded — no trade is taken.

5. Stop Loss, Take Profit & Risk

Risk is anchored to the trap extreme and sized by ATR (`AtrPeriod` , default 14):

LONG:

Stop Loss = trapLow - AtrSlMult * ATR

Risk (R) = entry - StopLoss

Take Profit = entry + RewardMult * Risk

SHORT:

Stop Loss = trapHigh + AtrSlMult * ATR

Risk (R) = StopLoss - entry

Take Profit = entry - RewardMult * Risk

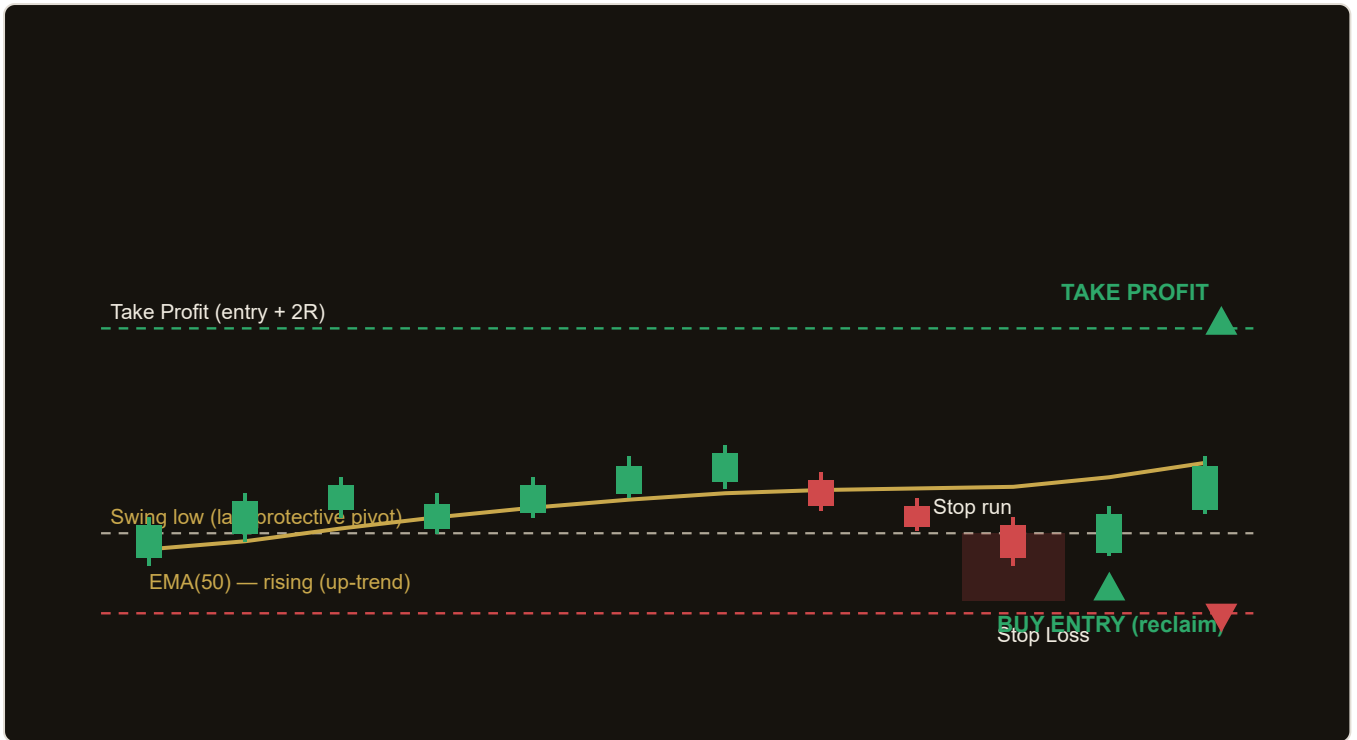
The stop is parked `AtrSlMult` ATRs beyond the trap's own extreme, so it sits below the very low that trapped the counter-trend sellers (or above the high, for shorts). The take profit is a fixed `RewardMult` multiple of the measured risk (default 2.0, i.e. a 2R target). If the computed risk is non-positive, the trade is skipped.

6. Execution Rules

- **One decision per bar:** the EA evaluates only once per newly closed bar (`IsNewBar`).
- **One position at a time:** a new trade is blocked while a position with the same magic number is already open on the symbol.
- **Market entry:** longs enter at the Ask, shorts at the Bid, with SL/TP attached and normalized to symbol digits.
- **No trailing / no averaging:** each position runs to its fixed stop or target.

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.

Worked example (long)

In a rising trend (price above a rising EMA), the last confirmed swing low sits at 1.0950. A pullback prints a bar that dips to 1.0932 and closes at 1.0944 — below the swing — arming a long trap with the trap low at 1.0932. Two bars later price closes at 1.0958, reclaiming the 1.0950 level: the trap is sprung. With $ATR = 0.0020$ and

$AtrSlMult = 1.0$, the stop is $1.0932 - 0.0020 =$

1.0912

, giving a risk of 0.0046. At $RewardMult = 2.0$ the target is $1.0958 + 2 \times 0.0046 =$

1.1050

Parameters

Parameter	Default	Description
SwingLookback	3	Fractal swing lookback — bars required on each side to confirm a pivot. Range 2–8, step 1. Higher values find larger, rarer swings.
TrendEmaPeriod	50	Period of the EMA trend filter (on close). Range 20–200, step 10. Longer periods demand a stronger, slower trend.
ReclaimBars	3	Reclaim window: number of bars after a leg break in which price must close back on the trend side, or the trap is discarded. Range 1–6, step 1.
AtrPeriod	14	ATR period used to size the protective stop distance. Range 7–30, step 1.
AtrSIMult	1.0	ATR multiple parked beyond the trap extreme to set the stop loss. Range 0.3–3.0, step 0.1. Larger = wider stop.
RewardMult	2.0	Take-profit distance as an R-multiple of the measured risk. Range 0.5–5.0, step 0.5.
Lots	0.10	Fixed trade volume in lots. Range 0.01–1.0, step 0.05.
Magic	720104	Magic number identifying this EA's positions, used to enforce one open position per symbol.

Recommended Settings

The EA operates on a single primary timeframe. Because it relies on clean fractal swings and a legible trend, it is best suited to liquid instruments on intraday-to-swing timeframes where structure is well defined.

- **Timeframe:** H1 as a starting point; M30–H4 also suit the swing/EMA structure. Very low timeframes tend to produce noisy, false traps.
- **Instruments:** major FX pairs and liquid indices with tight spreads.
- **Trend filter:** keep `TrendEmaPeriod` at 50 for balanced trend sensitivity; raise it (100–200) to trade only strong, established trends.
- **Reclaim window:** `ReclaimBars` = 3 balances patience and freshness. Lower it (1–2) to demand a sharp, immediate reclaim; raise it for slower structures.
- **Risk/reward:** the default 1.0 ATR stop with a 2.0R target is a reasonable baseline. Optimise `AtrSIMult` and `RewardMult` per instrument.

Tip: Always validate a parameter set with the MT5 Strategy Tester on your target symbol and broker feed before going live. Optimise `SwingLookback`, `TrendEmaPeriod` and `RewardMult` together — they interact strongly, since a bigger swing needs a wider stop and a longer runway to reach its target.

How to Install on MetaTrader 5

- 1 Copy `BrokenLegTrapReversal.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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