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Supply Demand Rebound Hedge

Expert Advisor Documentation

PLATFORM	TYPE	TIMEFRAME	WEBSITE
MetaTrader 5 (MT5)	Price-Action Mean Reversion	H1 (M30–H4)	www.algobot.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

Supply Demand Rebound Hedge is a pure price-action Expert Advisor — it uses **no indicators** whatsoever. Instead of moving averages, oscillators, or ATR, it reads raw market structure directly from the candles. The EA maps the prevailing **supply** (resistance) and **demand** (support) by tracking the highest high and lowest low over a rolling window of recent bars, then waits for a **wick-rejection candle** to confirm a zone is holding before trading *against* the test.

The premise is classic mean reversion at structure: when price stabs into a demand floor and snaps back, leaving a long lower wick, buyers have defended the level — so the EA buys the rebound. The mirror logic applies at the supply ceiling for sells. Each trade carries a fixed, structure-based stop just beyond the rejection wick and a reward-multiple take-profit.

What sets this EA apart is its **single-shot hedge**. If a trade is taken at a zone but price keeps grinding adversely toward the stop, the EA opens one opposite-direction hedge part-way to the stop. If price reverts back into the zone, the hedge is closed for a small cost and the original position is left to run to target. If instead the zone breaks, the hedge's take-profit captures the continuation while the original is stopped — capping the net loss of a failed setup.

Core idea: Buy the rejection of demand, sell the rejection of supply, and use a one-time directional hedge to defend the position when price pushes against it before resolving.

How It Works

1. Mapping Supply & Demand

On each newly closed bar, the EA scans the prior range — from `shift 2` back to `Lookback + 1` bars — to find the structural **resistance** (highest high) and **support** (lowest low). The currently forming bar (shift 0) and the signal candle (shift 1) are deliberately excluded so the zone is defined by history, not by the candle being evaluated.

```
resistance = highest High over bars [2 .. Lookback+1]
support    = lowest  Low  over bars [2 .. Lookback+1]
zone height = resistance - support   (must be > 0)
```

2. The Rejection Trigger

The just-closed candle (shift 1) is the rejection candidate. The EA measures its body and wicks and requires a genuine pin-bar style rejection at the relevant zone, scaled by a tolerance band proportional to the zone height (`tol = (resistance - support) × ZoneTolerance`).

- **Bullish rejection (Buy):** the candle's low dips into the demand zone (`Low ≤ support + tol`), its lower wick is at least `WickRatio` of the full candle range, and it closes bullish (`Close > Open`).
- **Bearish rejection (Sell):** the candle's high pierces the supply zone (`High ≥ resistance - tol`), its upper wick is at least `WickRatio` of the full candle range, and it closes bearish (`Close < Open`).

If both conditions somehow fire on the same bar (an inside ambiguous candle), the EA skips the trade — only a clean, one-sided rejection is acted upon.

3. Entry Logic

A new setup is only evaluated when the EA is flat and there are no open positions for its symbol and magic number. Entries are taken at market once a valid rejection closes:

- **Buy** at the current Ask after a bullish rejection of demand.
- **Sell** at the current Bid after a bearish rejection of supply.

4. Stop Loss & Take Profit

Risk is purely structural — there is no ATR. The stop is placed just beyond the rejection wick (a 10% buffer of the candle's range), and the take-profit is a multiple of that risk distance set by `RewardRatio`.

```
// Buy example
risk = entry - (candleLow  - range × 0.10)
SL   = candleLow  - range × 0.10
TP   = entry + RewardRatio × risk

// Sell example
risk = (candleHigh + range × 0.10) - entry
SL   = candleHigh + range × 0.10
TP   = entry - RewardRatio × risk
```

5. The Hedge Mechanism

This is the EA's defining feature. After a primary position is opened, two reference levels are armed:

- **Hedge trigger** — a price part-way from entry toward the stop, set by `HedgeTrigger` (e.g. 0.65 = 65% of the way to the SL).
- **Zone reclaim** — the original entry price, used to decide when the hedge is no longer needed.

Exactly **one** hedge is allowed per setup. Its lifecycle:

1. If price moves adversely and reaches the hedge trigger, the EA opens a single opposite-direction position (same lot size, tagged `SDRH-HDG`).
2. The hedge's stop is the original entry price — so if price reverts (a reclaim) the hedge is closed for a small, controlled cost.
3. The hedge's take-profit sits just beyond the original stop — so if the zone truly breaks, the hedge profits on the continuation while the primary is stopped, capping the net loss.
4. If price climbs back through the zone-reclaim level (the original entry) while hedged, the EA closes the hedge and leaves the primary to run to its take-profit.

> **Why hedge instead of just widening the stop?** The hedge converts an "am I right or wrong?" moment into a defined outcome: a small cost if the setup recovers, or a continuation profit that offsets the loss if the zone fails. The primary's original SL/TP remain unchanged throughout.

6. Trade Lifecycle & Reconciliation

On every tick the EA re-scans open positions (filtered by symbol and magic) and identifies the primary (`SDRH-PRI`) and hedge (`SDRH-HDG`) by their comment tags. If the primary has closed (hit SL or TP), any orphaned hedge is closed and the internal state resets to flat — ready for the next setup. While a setup is live, no new entries are sought.

Worked example — bullish rebound

Suppose demand support sits at 1.0840 and a candle closes with Low 1.0838, a long lower wick, and a bullish body — a clean rejection. The EA buys at Ask 1.0852. The stop goes just below the wick at, say, 1.0834 (risk ≈ 18 pips); with `RewardRatio = 2.0` the take-profit is 1.0888. The hedge is armed at roughly 1.0840 (65% toward the stop). If price dips to 1.0840 it opens a sell hedge; a recovery back above 1.0852 closes the hedge cheaply and the long runs on toward 1.0888.

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.

Parameters

Parameter	Default	Description
Lookback	`20`	Number of historical bars used to map the supply (resistance) and demand (support) range. Range 8–60, step 2. Larger values track wider, slower structure; smaller values react to recent swings.
WickRatio	`0.55`	Minimum fraction of the candle's total range that the rejection wick must occupy to qualify as a pin. Range 0.40–0.80, step 0.05. Higher values demand more pronounced rejections (fewer, stronger signals).
ZoneTolerance	`0.15`	Tolerance band around the zone, as a fraction of zone height, within which a wick counts as a test. Range 0.05–0.40, step 0.05. Wider tolerance accepts tests that fall slightly short of the exact level.
RewardRatio	`2.0`	Take-profit distance as a multiple of the structural risk (entry-to-stop distance). Range 1.0–4.0, step 0.5. A value of 2.0 targets twice the risk.
HedgeTrigger	`0.65`	How far price must travel from entry toward the stop (as a fraction of the risk distance) before the single opposite-direction hedge is opened. Range 0.40–0.90, step 0.05.
Lots	`0.10`	Fixed trade volume in lots, used for both the primary and the hedge. Range 0.01–1.0, step 0.05. Size this to your account and risk tolerance.
Magic	`1001`	Unique magic number identifying this EA's positions. Use a distinct value per chart/instance so the EA only manages its own trades.

Recommended Settings

The defaults are a balanced starting point for liquid major FX pairs on the **H1** timeframe. As always, validate on a demo account and run the MT5 Strategy Tester across your chosen symbol before going live.

- **Timeframe:** H1 is the primary target; M30 to H4 also suit the structural lookback. Lower timeframes generate more noise and weaker rejections.
- **Symbols:** liquid majors with tight spreads (e.g. EUR/USD, GBP/USD, USD/JPY) where supply/demand levels are respected.
- **Lookback 20 / WickRatio 0.55:** a good default balance of signal frequency and quality. Raise `WickRatio` toward 0.70 for fewer, cleaner pins in choppy markets.
- **RewardRatio 2.0:** a sensible 2:1 target. Trending instruments may justify 2.5–3.0; ranging conditions may prefer 1.5.

- **HedgeTrigger 0.65:** opens the hedge once a trade is clearly under pressure but not yet stopped. Lower it for earlier defense, raise it to hedge only on deep adverse moves.

> **Tip:** Because hedging opens a second simultaneous position in the opposite direction, confirm your broker account is **hedging-enabled** (not a netting account) so both the primary and hedge can coexist.

> ⚠ **Hedging note** The hedge doubles your simultaneous exposure for the duration it is open. Ensure your account has sufficient free margin to hold both the primary and the hedge at the chosen `Lots` size. On a netting account the two opposite positions would offset rather than coexist, defeating the mechanism.

How to Install on MetaTrader 5

1. Copy `SupplyDemandReboundHedge.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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