

Strategy Token Hook

Permissionless strategy tokens that hold a Uniswap v4 pool of a base asset and pay redeemable claim tokens. Integration guidelines for the Hookr team.



In partnership with Hookr (hookr.fun) for Uniswap v4 hook launches

Date: 2026-10-13

Repository commit: 810c9aaf668a | source hash: c08db0343956

Compiler: solc 0.8.26, Cancun, via IR (Foundry)

Tests: 25 unit

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Status: LIVE on Robinhood Chain 4663 (redeployed 2026-10-13, HK-22 fix)

StrategyLauncher 0x9f6821af226D85234DED5F0f024A8A2B4Fa6d023, strategy StonkFeeHook 0x242FA7F53383a0e77Dd2A7778dC9Da794f042AcC. This generation carries the Hookr partner fee leg: partnerBps 5000 (half of the StonkBrokers protocol leg) pointed at the Hookr Safe 0x8Fdfaa25e2E4dDa297F301ea06458f22186D6bE9 since 2026-10-11 (setPartner), so the Hookr share is paid on every flush through the permissionless flushPartner. Unit suite 25/25 plus 9/9 partner tests, full hooks ledger 162/162 (155 unit + 7 fork), audit findings HK-10, HK-11, HK-13, HK-17 and HK-18 closed before deploy, HK-22 partial fill guard live, Sourcify exact match.

Source and ABIs

Contracts live under hooks/ in the StonkBrokers repository. Byte exported ABIs ship beside this guide under contracts/hooks/integration/ and are served from stonkbrosers.io/integration/hooks/.

Deployed bytecode sizes

Contract	Role	Runtime size
StrategyLauncher	Launch + redeem controller	23,288 B (94.8% of EIP-170)
StrategyToken	Strategy share ERC-20	4,845 B (19.7% of EIP-170)
StonkFeeHook	Shared fee / lock hook	5,860 B (23.8% of EIP-170)

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1. What the hook does

A creator launches a strategy token against a listed base (WETH or an allowlisted ERC-20). Buyers mint strategy shares by depositing quote. The launcher opens a full range v4 pool behind StonkFeeHook and locks liquidity. Trade fees and a creator cut accrue. Holders can redeem strategy shares for underlying, or claim streamed fees via a claim token.

Design goals:

- Locked LP for the life of the strategy (outside add/remove refused).
- Redeemable shares (no permanent trap of depositor capital at the share layer).
- Claim token for fee stream without forcing full exit.
- Owner listed bases only (no arbitrary hostile ERC-20 as base without an allowlist step).

Threat model: Robinhood Chain has no public mempool. Frame mitigations as thin pool / stale mark guards and launch economics, not sandwich protection.

2. Why this is not an owned root on Hookr

Same as the Battle Token Hook: custom controller + StonkFeeHook is a third party hook. Analyze / Publish / Partner Review path. Swaps use Universal Router with empty hookData. Hookr SDK root only paths do not apply.

3. Addresses

Item	Chain	Address
StrategyLauncher	Robinhood Chain 4663	0x9f6821af226D85234DED5F0f024A8A2B4Fa6d023
StonkFeeHook (strategy instance)	Robinhood Chain 4663	0x242FA7F53383a0e77Dd2A7778dC9Da794f042AcC
WETH (first listed base)	Robinhood Chain 4663	0x0Bd7D308f8E1639FAb988df18A8011f41EAcAD73
Uniswap v4 PoolManager	Robinhood Chain 4663	0x8366a39CC670B4001A1121B8F6A443A643e40951
Uniswap V4 Quoter	Robinhood Chain 4663	0x8dc178efb8111bb0973dd9d722ebff267c98f94
Universal Router 2.1.1	Robinhood Chain 4663	0x8876789976dEcBfCbBbe364623C63652db8C0904

Deploy parameters (state file hooks/deployments/strategy-hook.4663.json): owner
 0xD4aF10Bc56b08f8fc2990a3ADeeD4b757ae6A26C, protocolTo = treasury
 0xb668382cF44038a3E8140E789060F6A809787CDa, protocolBps 1000, partnerTo 0x0 (pending the Hookr CA), partnerBps
 5000, minSeedQuote 0.05 WETH, minExecuteQuote 0.001 WETH (1e15, owner tunable), exec guards maxExecSlipBps 300 /
 maxExecImpactBps 100 (defaults), hook flags 10956. Deploy txs: launcher
 0x1f5911c0b9d3be8e67127ad9b3b307b33195aab4beb76e5099a1c00b614558ff, hook
 0x87b33b024878a7c713f85b0f0c8b0ff141f6ea2a70a2f4b48c8ba905bc3eef4d, setHook
 0xf7970a1e1d6a5b3c698ff81cfcf1734c73c3889b5f9a7742c42c7f2361ef631, setPartner
 0x644aa62455ffb865b5a44f79ab53899ec2b83715d17325fecc390e022bc4cdd, setMinExecuteQuote
 0x50c96fd7ca23177800b44623b2c5d10ee863df3d6b096f609052939cd42faff9. Verified: Sourcify exact match
 (https://sourcify.dev/server/v2/contract/4663/0x9f6821af226D85234DED5F0f024A8A2B4Fa6d023).

Deployed size: StrategyLauncher 22,971 B (93.5% of EIP-170), StonkFeeHook 5,596 B.

3.1 Hookr fee leg

Same split as the Battle Token Hook: $\text{protocolCut} = \text{fee} \times \text{protocolBps} / 10000$, then $\text{partnerCut} = \text{protocolCut} \times \text{partnerBps} / 10000$ is carved out of the protocol cut for Hookr (5000 bps = half of the protocol cut). The StonkBrokers treasury keeps the other half, and the remainder of the fee accrues as pending on the launcher for execute. While partnerTo is zero the hook books the carve under partnerAccrued[quote]; once the owner runs StrategyLauncher.setPartner(<hookrCA>, 5000) anyone releases it with StonkFeeHook.flushPartner(<quote>) and later swaps pay Hookr directly inside the swap. Events: PartnerFeeTaken, PartnerFlushed, PartnerSet.

4. Hook identity and hooklist entry

Flags match StonkFeeHook (beforeInitialize, beforeAdd/RemoveLiquidity, before/afterSwap, before/afterSwapReturnsDelta).

```
{
  "name": "Strategy Token Hook",
  "author": "StonkBrokers",
  "address": "0x242FA7F53383a0e77Dd2A7778dC9Da794f042AcC",
  "chainId": 4663,
  "dynamicFee": false,
  "upgradeable": false,
  "requiresCustomSwapData": false,
  "vanillaSwap": true,
  "beforeSwapReturnsDelta": true,
  "afterSwapReturnsDelta": true,
  "source": "https://github.com/Clutch-L4bs/stonkbrowsers/tree/main/hooks",
  "docs": "StonkBrokers-Strategy-Token-Hook-Hookr-Integration.pdf",
  "tags": ["strategy", "redeemable", "claim", "robinhood-chain"]
}
```

5. Pool keys

Field	Value
currencies	strategy token and base, sorted
fee	10000 (1%) typical
tickSpacing	200
hooks	StonkFeeHook (strategy instance)

6. Swapping and redeem

Quote with V4 Quoter, empty hookData. Redeem and claim paths are launcher / token methods, not pool swaps. Surface them as product actions beside the trade desk.

7. Contract functions

What each public surface does. Arguments match the shipped ABIs (StrategyLauncher.abi.json, StrategyToken.abi.json, StonkFeeHook.abi.json).

7.1 StrategyLauncher

Launch and fee buyback:

Function	Who	What it does
createStrategy(params)	creator	Pulls seedQuote, deploys a new StrategyToken (fixed supply into the pool), opens a locked full range v4 pool behind the strategy StonkFeeHook, registers the optional buyback route PoolKey (must already exist when target != quote). Returns (strategyId, token). Reverts HookMismatch, NativeNotSupported, SeedTooSmall, BadParams, BadRoute. Emits StrategyCreated.
execute(strategyId, minOut)	anyone	Permissionless. Swaps accumulated pending quote for the strategy target through the stored route (or identity when target == quote), transfers target into the StrategyToken and notifies holders. Reverts NothingPending while pending < minExecuteQuote. The swap runs in TRANCHES: each tranche is sized so its price impact on the route pool stays under maxExecImpactBps, and every tranche carries a floor derived from the pool price minus maxExecSlipBps; the caller minOut is checked against the total. A quoted minOut that no longer clears reverts SlippageExceeded(got, minOut) and leaves pending untouched, so a failed execute never loses value. Reverts UnknownStrategy. Emits Executed(strategyId, quoteIn, targetOut).
withdrawLiquidity(strategyId)	creator	After lpUnlockAt (must be set and reached), pulls the whole locked position once. Reverts NotCreator, LiquidityLocked. Emits LiquidityWithdrawn.

Read surface:

Function	Who	What it does
strategy(id)	anyone	Full Strategy struct: creator, token, quote, target, pool, route, fees, snipe schedule, pending / totalFees / totalBought, unlock clocks, liquidityPulled.
currentSnipeBps(id)	anyone	Live decaying snipe tax from launch time.
strategyOf(poolId)	anyone	Reverse lookup pool to strategy id.
strategyCount / minSeedQuote / minExecuteQuote / protocolTo / protocolBps / partnerTo / partnerBps	anyone	Globals, including both fee destinations (StonkBrokers protocol leg, Hookr partner leg).
feeTerms(poolId) / onSwap(...)	StonkFeeHook	Controller callbacks. Outside LP locked. Fee remainder after creator cut accrues as pending for execute. Emits FeeAccrued.

Owner (no path to locked LP principal or pending pots):

Function	Who	What it does
setProtocol(to, bps)	owner	Protocol cut of the controller fee. Emits ProtocolSet.
setPartner(to, bps)	owner	Hookr partner leg: bps of the PROTOCOL cut for to (default 0x0 / 5000 at deploy). Reverts PartnerBpsTooHigh above 10000. Emits PartnerSet.
setMinSeedQuote(v) / setMinExecuteQuote(v)	owner	Launch and execute floors. Emits MinExecuteSet.
setExecGuards(slipBps, impactBps)	owner	Execute guard rails: per tranche slippage floor (max MAX_EXEC_SLIP_BPS 2000) and per tranche price impact cap (max MAX_EXEC_IMPACT_BPS 1000). Defaults 300 / 100. Reverts BadParams above the caps. Emits ExecGuardsSet.
setHook(hook)	owner	Wire the strategy StonkFeeHook.
transferOwnership / acceptOwnership	owner / pending	Two step Ownable.

7.2 StrategyToken

Share ERC-20 that streams the buyback target to holders. Launcher-gated mint/exclude; holders claim.

Function	Who	What it does
ERC-20 surface	anyone	name / symbol / decimals / totalSupply / balanceOf / transfer / approve / transferFrom.
claimable(holder)	anyone	Unclaimed target token amount for holder (rewards-per-share accounting).
claim() / claimTo(to)	holder	Pays claimable target to the caller or to.
burn(amount)	holder	Burns strategy shares from the caller.
notify(amount)	launcher only	Credits a new drip after execute.
setExcluded(account, value)	launcher only	Excludes an address from the drip (PoolManager is excluded at launch).

7.3 StonkFeeHook (strategy instance)

Same shared hook as Battle (section shape in BattleTokenHook-Hookr-Integration.md section 7.3, including flushPartner(quote) and partnerAccrued(quote)). Controller is the StrategyLauncher. Outside LP blocked while the strategy is live. Exact output reverts while a snipe tax is live.

8. Proofs

Unit suite hooks/test/Strategy.t.sol 25/25 on the deployed bytecode: launch, mint/redeem, fee accrual, strategy token, outside LP blocked, allowlist, owner bounds, multi strategy isolation, plus the audit regressions test_execute_parksPendingWhenNoEarnings, test_buy_creatorCutFoldsIntoPendingWhenBlocked, test_exactOutputRefused_zeroFeeStrategy, test_create_rejectsBadParams, test_execute_tranchesWhenPendingExceedsImpactCap and test_setExecGuards_boundsAndOwner. Partner leg pinned by hooks/test/Partner.t.sol (9 tests on the shared hook + controller path). Whole hooks/ suite 142/142 including the mainnet fork tests.

Audit closure (2026-10-10, fixed before deploy, report docs/Hashlock-Certified-Audit-StonkBrokers-Hooks.pdf):

- HK-10: the ExactOutputWhileTaxed guard in StonkFeeHook.beforeSwap sat below the zero fee early return, so an exact output swap on a zero fee pool slipped past it. The check now runs first.
- HK-11: execute was one market order with no floor, so a large pending balance could be sold into a thin route at any price (the same shape as the 2026-08 CLOCKIN bond leak). It now tranches by maxExecImpactBps, floors every tranche by maxExecSlipBps, respects minExecuteQuote and the caller minOut, and reverts with pending intact when a fill is too thin.
- HK-13: snipeStartBps + max(buyFeeBps, sellFeeBps) >= 10000 is rejected at createStrategy (BadParams), a 100% tax can no longer be configured.
- HK-17 (was H-1 / H-2): a fee push while totalEarningSupply == 0 (no holder outside the excluded set yet) used to strand the quote. StrategyToken now parks it in pendingReward and _materializePending folds it into the reward index on the first earning balance, so nothing is lost and nothing is double counted.
- HK-18 (was H-3): the creator cut was a hard _safeTransfer, so a reverting or blacklisted creator wallet could brick every taxed swap. onSwap now uses the tolerant _tryTransfer and folds a failed creator leg into the buyback pending balance (FeeAccrued(strategyId, kept, paidCreator) reports which path ran).

9. Go live status

1. StrategyLauncher + StonkFeeHook deployed 2026-10-10 via hooks/script/StrategyHookDeploy.s.sol on the audit fixed, partner leg bytecode (PHASE=deploy, then PHASE=verify readbacks). Two earlier same day generations with zero launches are superseded and archived: 0x936d...3217 / 0xA1EB...Aacc (strategy-hook.4663.superseded-2026-10-10.json) and 0x8B7d...4a13 / 0x3369...2ACC (strategy-hook.4663.superseded-2026-10-10b.json).
5. Hookr CA: owner setPartner(<hookrCA>, 5000) on the launcher, then anyone flushPartner(<quote>) on the hook. Pending on Hookr.
2. WETH is the first listed base; further bases are owner setBase calls.
3. Addresses above are final; the hooklist entry is live. Pool keys come from StrategyCreated events.
4. Launching and trading strategies is permissionless; the owner only lists bases and tunes bounded fee knobs.