



AIR · CS-112

THE LAST SHOT BEFORE THE FENCE

Aimed, direct-fire, tethered — the net that stays connected to the gun that threw it.

PERIMETER · GATE · CHECKPOINT · SHIP-SIDE · STATIC POST

- PATENT PENDING
- EXPORT-CONTROLLED — INTERNATIONAL TRANSFER SUBJECT TO CANADIAN GOVERNMENT PERMITS
- TETHERED CAPTURE CARRIER — NO WARHEAD, NO FUZE, NO ENERGETIC MATERIAL

~25 M/S MUZZLE VELOCITY CLASS	4 CORNER MASSES — THE NET’S OPENING DRIVER	1 STORED-ENERGY SOURCE — A COMPRESSED-GAS CHARGE, NOTHING ELSE	0 RADIO OR GPS LINKS — HUMAN AIM, HUMAN FIRE DECISION
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OVERVIEW

THE BACKSTOP FOR WHAT GETS PAST THE TUBE-LAUNCHED LAYER.

Part of the 4-system Air line — shares its envelope and doctrine with Goose, Encapsulator, Gyr Falcon.

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Matrix CS-112 is a direct-fire, tethered-net launcher for the last metres of counter-drone defence — the point where a threat has closed inside the reach of the tube-launched Goose CS-110 interceptor round and its capture sibling, Encapsulator CS-111. It is not a flying round. It is a compact, aimed gun a person carries or mounts, and it fires a net.

Every other tool in the Air family is a round that leaves the launcher and does not come back. Matrix is built the opposite way: the net stays tethered to the launch unit from the instant it leaves the muzzle. Fired at a target already inside the wire — hovering, slow, approaching, or already past the checkpoint — the net opens, fouls the target’s propellers on contact, and the tether takes the load: a controlled lower to the ground instead of a free-fall crash, and a captured airframe instead of a debris field. The launcher, not a flying body, is where the engineering lives.

Matrix is a sibling in the family registry, not a nose variant riding the Goose round — it shares the family’s doctrine (pneumatic/ compressed-gas mechanism, no pyrotechnics, the GF-nylon structural boundary) but no Goose hardware. Its gas train sits orders of magnitude below the Goose ground launcher’s energy, because its job is a few metres, not a few hundred.

THE CLAIM

AIM IT. FIRE IT. REEL IT BACK IN.

Every round upstream in the family is spent on the shot. Matrix is spent on the mission. The tether means the net, the target and the launch point stay one system from trigger pull to recovery — so a static post can hold a threat down without ever losing sight of what it caught.

HOW IT WORKS

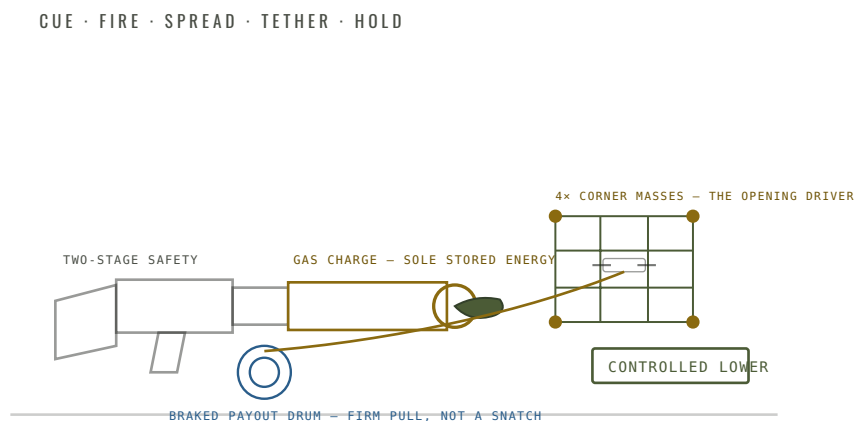
MECHANISM

ONE TRIGGER PULL, ONE TETHERED SHOT

The mechanism is deliberately simple: a compressed-gas charge is the only stored energy in the entire system. An operator aims down an iron or reflex sight, cues the shot and pulls a purely mechanical trigger — no electrical firing chain, no arming sequence, nothing to spool up.

On release, the gas charge drives a net-round canister out of the launcher. Four corner masses carry the net open into a spreading lattice as it crosses the engagement window; on contact it fouls the target's propellers — a mechanical, not explosive, kill. The tether, paying out from a braked drum inside the launcher, then takes the load: friction arrests a fouled target as a firm pull rather than a snatch, so the target comes down under control instead of free-falling. The net, tether and canister remain connected to the launch point throughout — nothing is lost downrange, and the canister is built to be reset by the operator for the next shot.

There is no autonomy in the loop anywhere. Guidance sits at the doctrine's own floor: the fire-control computer is the operator, full stop — aim and fire are a person's job, on every shot, on this platform alone in the family.



CS-112 · ONE GAS CHARGE, ONE TETHERED SHOT, ONE RECOVERABLE CANISTER

SPECIFICATIONS

CAPABILITIES & SPECIFICATIONS

MATRIX CS-112

DIMENSIONS & MASS		PERFORMANCE	
Configuration	Direct-fire, compressed-gas launcher · tethered net effector	Muzzle velocity class	~25 m/s
Net-round pack mass	0.35 kg	Launch stroke	0.30 m
Corner masses	4 × ~0.03 kg — the net's opening driver	Muzzle kinetic energy	~109 J
Furniture	Handheld shoulder kit or fixed-mount spigot kit — one launcher core	Gas work per shot	~365 J at ~30% efficiency
		Engagement window	~10–25 m — a window, not a point range
		Round flight time	~1.0–1.5 s
		In-bore acceleration on corner masses	~106 g, average over stroke
		Recoil impulse, handheld	~8.8 kg·m/s — 12-gauge class

LAUNCH & FIRE CONTROL		NET & TETHER	
Launch mechanism	Compressed gas — 16 g CO ₂ cartridge or refillable HPA; no pyrotechnics, ever	Effector	Tethered net — fouls the target's propellers on contact
Safety	Two-stage safety ahead of a purely mechanical trigger	Effector variants	Tethered net · net + drogue · training round
Sighting	Iron or reflex optic — human aim, human fire decision	Net deployed span	~3.5 × 3.5 m — commercial net-launcher precedent, not a Canadian Shield figure
Guidance / fire control	Operator-cued, direct-fire — no radio, no GPS, no autonomous engagement	Tether payout	Braked drum — friction arrests a fouled target as a firm pull, not a snatch
		Tether steady load	~20 N with a 2 kg fouled target hanging
		Energetic material	None — no warhead, no fuze, no primer, no propellant

MATERIALS & CONSTRUCTION		SIGNATURE & POWER	
Structure	Moulded GF-nylon launcher body · machined metal pressure group	Stored energy	One compressed-gas charge — the system's only stored energy
Furniture material	rPET, non-structural only	Electronics aboard the net round	None — purely mechanical trigger and release chain
Tooling	Dies cut in Canadian Shield's own shop	Emissions	None — no radio, no GPS aboard, nothing to jam or geolocate

COMPLIANCE	
Patent status	Patent pending
Export control	Export-controlled — international transfer subject to Canadian government permits; export posture is counsel-first
Munitions classification	Carrier, not a munition — the net is the effector; non-explosive
Scope	Standalone direct-fire launcher — shares the Air family's doctrine, not Goose hardware

IN-BORE ACCELERATION IS STATED AS AN AVERAGE OVER THE 0.30 M LAUNCH STROKE. THE ENGAGEMENT WINDOW IS STATED AS A WINDOW, NOT A POINT RANGE; THE NET'S DEPLOYED SPAN IS ANCHORED TO COMMERCIAL NET-LAUNCHER PRECEDENT, NOT A CANADIAN SHIELD MEASUREMENT.

THE TRADES, STATED

REACH AT RANGE. CERTAINTY INSIDE THE FENCE.

The Air family's interceptor stack is layered by design: Goose and Encapsulator reach out and engage at range, tube-launched and expended in salvo. Gyrfalcon adds powered reach for targets the unpowered round cannot catch. Matrix is the layer behind all of them — the tool for a target that is already close, already slow, already inside the wire, where a longer-reach round has no room left to work.

No radio, no GPS, no autonomous engagement — Matrix sits at the family's no-radio doctrine floor with nothing at all to jam, because there is nothing aboard to receive a signal in the first place. The fire-control computer is the operator: a human aims, a human decides, a human fires. That is not a limitation bolted on for policy reasons — it is the design point for a tool meant to be used at point-blank range around people and property. The manufacturing thesis carries through unchanged: a moulded GF-nylon launcher body, on dies cut in Canadian Shield's own shop, with rPET honestly confined to non-structural furniture.

FAMILY CONTEXT

ONE CAPTURE TIER. TWO WAYS TO BRING A TARGET DOWN INTACT.

Matrix stands beside Encapsulator as the family's capture tier — Encapsulator rides the Goose round and its launcher at range; Matrix is the close-in, hand-aimed answer with the net that never leaves the operator's control. Together they give the family the lowest-collateral option available: the target survives to be examined, not destroyed.

DEPLOYMENT

A POST, WALKED THROUGH.

One post, walked end to end — illustrative of how the launcher is used, not a range record.

01 · POST

HANDHELD OR MOUNTED, AT THE LINE

Matrix stands the post at a gate, checkpoint, ship-side rail or static perimeter point — carried on its shoulder kit or seated on a fixed-mount spigot. The operator checks the two-stage safety, confirms the canister is seated, and holds. No link check — there is no link to check.

02 · CUE & SHOT

AIM, CONFIRM, FIRE

A target closes inside the engagement window — hovering, slow, or already past the outer layer. The operator aims down the sight, confirms the shot is theirs to take, and pulls the mechanical trigger. The net opens on its corner masses and fouls the target's propellers on contact.

03 · RECOVER & RESET

HELD, LOWERED, READY AGAIN

The braked tether takes the load and lowers the fouled target under control rather than letting it fall. The target is retrieved at the tether's end, still connected to the launch point throughout. The canister is inspected and the launcher reset for the next post — a launcher, not a round that is spent and gone.

THE FAMILY

RELATED SYSTEMS

CS-110 · LEAD ROUND

GOOSE

Kinetic slug nose, fully unpowered — the round built to be bought in numbers.

CS-111 · CAPTURE NOSE

ENCAPSULATOR

The same round envelope and the same tube, with a capture nose for a controlled take-down.

CS-120 · POWERED INTERCEPTOR

GYRFALCON

The family's premium interceptor — carries the tail motor and bow-thruster scope that Goose gives up to stay cheap.

Matrix CS-112 · patent pending · export-controlled — international transfer requires Canadian government permits; export posture is counsel-first. A tethered-net capture carrier for the last metres of counter-drone defence — never a strike platform. The net is the effector: no warhead, no fuze, no primer, no propellant, no energetic material anywhere in the system; the compressed-gas charge is its only stored energy. Operator-cued, direct-fire only — no radio, no GPS, no autonomous engagement.



THE LAST SHOT BEFORE THE FENCE

MATRIX · AIR · CS-112

One capture tier. Two ways to bring a target down intact.

01

REQUEST A TECHNICAL EXCHANGE

A working session with engineering, not sales — bring your engagement problem, we bring the mechanism.

02

REQUEST THE AIR FAMILY DATA PACK

Drawings, tolerances and test basis for Matrix and its siblings, gated behind export screening.

03

DISCUSS A TRIAL QUANTITY

Tell us end-user, jurisdiction, quantity band and timeline — we respond against your program, not a price list.

SALES

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GENERAL

info@cdnshield.ca

WEB

cdnshield.ca

Direct lines, named points of contact and facility details are shared with qualified programs following screening — not withheld, sequenced.

Canadian Shield is a defence and industrial drone company, backed by SIG: four-domain uncrewed systems built for jammed, GPS-denied environments — no-radio by design, manufactured for cost and salvo depth.

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