CANADIAN SHIELD
A DIVISION OF SIG | SUSTAINABLE INFRASTRUCTURE GROUP

AIR · CS-130

CARRY THE SIGNAL. NOT THE STRIKE.

A moulded electric aircraft that carries the network — decoy, relay, electronic support. Non-kinetic. Recoverable.

DECOY PRESENTATION · COMMS RELAY · ELECTRONIC SUPPORT

PATENT PENDING

EXPORT-CONTROLLED — INTERNATIONAL TRANSFER SUBJECT TO CANADIAN GOVERNMENT PERMITS

ELECTRONIC CARRIER — NO WARHEAD, NO ENERGETIC PAYLOAD, NO KINETIC EFFECTOR

5.0 KG	~75 MIN	3	0
ALL-UP MASS	ENDURANCE AT THE WORKING POINT	NON-KINETIC PAYLOAD MODULES, ONE BAY SOCKET	WARHEADS, ENERGETICS OR KINETIC EFFECTORS, IN ANY MODULE

OVERVIEW

AN ELECTRONIC CARRIER. THE AIR FAMILY'S SIGNAL, NOT ITS STRIKE.

Part of the **4-system Air line** — shares its envelope and doctrine with Goose, Owl, Kestrel.

5.0 KG	~75 MIN	3	0
ALL-UP MASS	ENDURANCE AT THE WORKING POINT	NON-KINETIC PAYLOAD MODULES, ONE BAY SOCKET	WARHEADS, ENERGETICS OR KINETIC EFFECTORS, IN ANY MODULE

Raven CS-130 is a moulded, battery-electric fixed-wing aircraft built to carry electronic payloads aloft — not a warhead, not a kinetic effector. What it carries decides what it does: a decoy signature, a comms-relay node, or a partner electronic-support payload, one bay socket at a time.

It sits apart from the rest of the Goose air family by design. Goose, Encapsulator, Matrix and Gyrfalcon are effectors — rounds and nets built to intercept or capture a hostile aircraft by contact. Raven intercepts nothing. It is the family's deliberate RF exception: the one airframe built to radiate, in a fleet built by default to stay silent — carrying the signal so the rest of the fleet doesn't have to emit at all.

The airframe follows the same carrier logic as its siblings: a moulded polymer shell, an electric powertrain, and a no-radio-by-default architecture where only a payload adds the link. Raven does not choose to jam, decoy or relay on its own — the ground operator's mission plan does, through scheduled EMCON windows that make silence the default even on this platform.

THE CLAIM

CARRY THE SIGNAL. NOT THE STRIKE.

Raven carries no warhead and no energetic payload — an electronic carrier. What flies in its bay is a decoy, a relay node, or a partner-supplied electronic-support module. What it never carries, in any configuration, is a kinetic effector of any kind.

HOW IT WORKS

MECHANISM

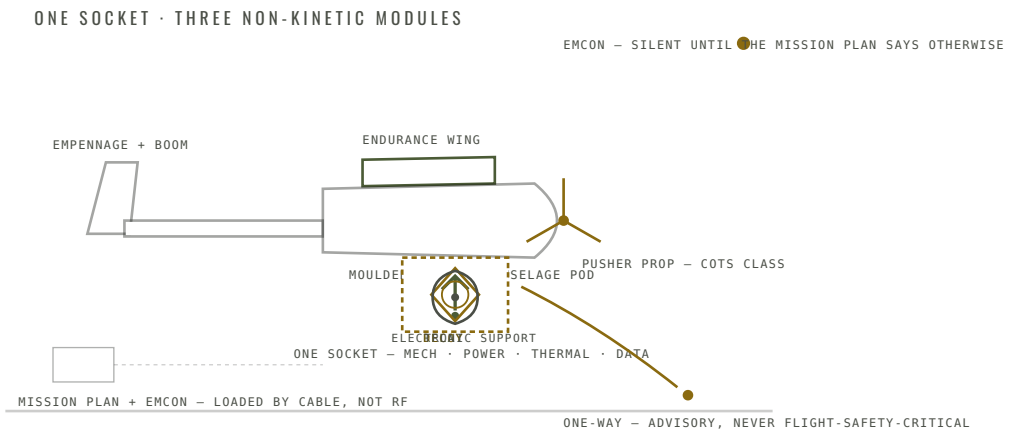
ONE SOCKET. THE MODULE DECIDES THE MISSION.

Under the fuselage sits a single payload-bay socket — one mechanical, power, thermal and data interface, built once, so a new mission is a module change, not a new airframe. Before flight, a ground crew seats one of three non-kinetic modules into that socket.

Relay lifts a partner radio to altitude, extending line-of-sight between friendly ground stations, operators and receive-only fleet platforms. **Decoy** presents a plausible target signature — RF presence and radar-cross-section augmentation via passive reflectors, plus a thermal element — so defences spend attention on the wrong aircraft. **Electronic support** is partner-supplied hardware for detecting and characterizing emissions, carried under a strict scope fence: Canadian Shield engineers the power, cooling, apertures and connector, and stops there — no waveform, frequency, or jamming method ever appears on our own drawings, counsel-first at every step.

Navigation runs the fleet's no-radio doctrine on the flight side even while the payload radiates: preset, plan-set routes are the compliant baseline, with autonomous no-GPS cueing as the partner-leaning alternative. The radiating payload is the platform's one logged exception — a one-way broadcast architecture: Raven transmits, nothing aboard listens for a reply, so there is nothing to direction-find back to the aircraft. Scheduled transmit windows, geofenced silence zones, an instant-silent command and a fully passive ferry mode mean Raven flies to station exactly as quietly as its no-radio siblings, and radiates only when the mission plan says so.

Launch is a gentle rail or catapult release — no pyrotechnics, ever — far gentler than the family's pneumatic interceptor rounds because there is no barrel to survive, only a short stroke to flying speed. Recovery stays an open trade: belly skid, net-and-wire or parachute today, collapsing to a vertical landing if a VTOL configuration is adopted.



CS-130 · ONE BAY, ONE SOCKET — THE MODULE DECIDES THE MISSION

SPECIFICATIONS

CAPABILITIES & SPECIFICATIONS

RAVEN CS-130

DIMENSIONS & MASS

All-up mass	**5.0 kg**
Battery pack	**~1.5 kg · ~30% mass fraction**
Overall dimensions	**Not yet established — configuration fork open**
Configuration	**Fixed-wing monoplane baseline; VTOL and multirotor configurations under evaluation**

PERFORMANCE

Cruise speed	**~18 m/s**
Cruise lift-to-drag	**~10**
Station altitude band	**150–300 m AGL**
Endurance at working point	**≈1.25 h · ~75 min**

PROPULSION & NAVIGATION

Launch method	**Rail or catapult release — no pyrotechnics**
Launch — stroke / release / shock	**3.0 m stroke · 18–20 m/s release · ~6.8 g average**
Cruise electric power	**≈147 W**
Guidance	**Preset / plan-set baseline; autonomous no-GPS cueing as the partner-leaning alternative**
Recovery	**Belly skid / net-and-wire / parachute — open trade; collapses to vertical landing if a VTOL configuration is adopted**

PAYLOAD & EFFECT

Payload bay	**One socket — mechanical retention, DC power, thermal path, data by cable, RF-transparent antenna keep-outs**
Payload modules	**3 — relay (comms node) · decoy (signature presentation) · electronic support (partner scope)**
Effector	**None**
Energetic material	**None — no warhead, no energetic payload in any module**

MATERIALS & CONSTRUCTION

Airframe material	**Moulded GF-nylon fuselage; RF-transparent aperture zones stay glass/nylon by design rule**
Shared lineage	**Moulded-airframe lineage and manufacturing logic shared with the Goose air family**

SIGNATURE & POWER

Payload + avionics draw	**15 W relay tx + 10 W avionics ≈ 25 W**
Total electrical draw	**≈172 W**
Usable energy	**≈216 Wh**
Radio horizon (relay geometry)	**≈77 km at 300 m AGL to a 2 m ground node · ~56 km at 150 m · ~143 km relay-to-relay**
Link margin	**~10–20 km per leg — link-budget-limited, not horizon-limited**
Emissions	**RF-active by mission only — the fleet's one logged, scheduled exception to no-radio-by-default**

COMPLIANCE

Patent status	**Patent pending**
Export control	**Export-controlled — international transfer subject to Canadian government permits; export posture is counsel-first**
Munitions classification	**Electronic carrier, not a munition — no warhead, no energetic payload, no kinetic effector of any kind**
Payload scope	**Module electronics for relay, decoy and electronic support are partner scope; Canadian Shield engineers the airframe, socket, power, cooling and apertures only**

CRUISE POWER, ENERGY AND ENDURANCE FIGURES FOLLOW FROM THE STATED MASS, SPEED AND LIFT-TO-DRAG INPUTS. THE WING'S LIFT-TO-DRAG ASSUMPTION SETS THE ENDURANCE BUDGET — RAISING IT, OR RELAYING BY ROTATION WITH MORE THAN ONE AIRFRAME, ARE THE REAL LEVERS, NOT A BIGGER BATTERY ALONE.

THE TRADES, STATED

THE FLEET STAYS SILENT. RAVEN CARRIES THE EXCEPTION.

No-radio-by-default is the rule for the rest of the fleet — Raven is how a unit keeps an optional link without breaking it. Every other airframe complies with zero-emission doctrine by having nothing to emit; when a unit needs a relay, it flies one aloft on a carrier built for exactly that job, on the mission's schedule, not by default.

The fleet's carrier-not-munition logic extends to signal here. Canadian Shield engineers the airframe, the payload-bay socket, the power, cooling and apertures for every module — including the electronic-support module. The module's own electronics, and any operating technique, are partner-supplied and partner-scoped: no waveform, frequency, or jamming method appears on a Canadian Shield drawing, and any foreign disclosure is gated by counsel and by Canadian export control before it happens.

The manufacturing thesis rides along unchanged: a moulded GF-nylon airframe, cut on the same owned 5-axis dies and structural canon as the rest of the Goose family, built in Canada. Raven does not decide when to emit — the mission plan and its EMCON windows do — and the airframe stays a simple, sovereign shell around whatever module it is carrying that day.

FAMILY CONTEXT

SIX AIR PLATFORMS. ONE RADIATES.

Goose, Encapsulator, Matrix and Gyrfalcon are effectors; Owl, Loon and Kestrel are passive sensors that emit nothing. Raven alone is built to radiate — a deliberate, logged exception, carried with its costs: an emitter is findable and targetable, which is why the design leans on attritable cost discipline even though Raven is engineered to come home.

DEPLOYMENT

ONE SORTIE, WALKED THROUGH.

One engagement, walked end to end — illustrative of how Raven is used, not a mission record.

01 · ARRIVAL & FIT

ONE MODULE, ONE SOCKET

Raven arrives cased or on a rail. A ground crew seats one of three non-kinetic modules into the single bay socket — relay, decoy, or a partner electronic-support unit — and loads the mission plan and EMCON schedule by cable, not by radio. No link check before launch; there is nothing transmitting yet.

02 · LAUNCH & TRANSIT

GENTLE OFF THE RAIL, SILENT TO STATION

A short catapult or rail stroke releases the aircraft at flying speed — no pyrotechnics, a fraction of the shock a pneumatic round takes. Ferry is passive and silent: Raven transits exactly as quietly as its no-radio siblings until the mission plan calls for the payload to work.

03 · ON STATION

THE MODULE DOES ITS JOB

Under EMCON discipline — scheduled transmit windows, geofenced silence zones, an instant-silent command — the seated module relays, presents a signature, or supports a partner's electronic-support mission. The airframe itself navigates without GPS the whole time, and decides nothing about when to emit.

04 · RECOVER & TURN

BACK, SWAPPED, READY AGAIN

Recovery is skid, net-and-wire, or parachute — an open trade today. At the depot the module swaps or recharges for the next leg, and the moulded airframe goes back out carrying whatever the next mission needs, without ever having to be redesigned for it.

THE FAMILY

RELATED SYSTEMS

CS-110 · EFFECTOR

GOOSE

The lead interceptor round — a kinetic effector, and the family's no-radio baseline.

CS-140 · PASSIVE SENSOR

OWL

A passive sensor platform — watches and listens, emits nothing.

CS-160 · PASSIVE SENSOR

KESTREL

Another passive sensor in the family — no emitter, no signature to find.

Raven CS-130 · patent pending · export-controlled — international transfer requires Canadian government permits; export posture is counsel-first. An electronic carrier for relay, decoy and electronic-support payloads — never a strike platform. No warhead, fuze or energetic material in any module or variant. Payload electronics for relay, decoy and electronic support are partner scope; Canadian Shield engineers the airframe, socket, power, cooling and apertures, and stops there — counsel-first at every step.

CARRY THE SIGNAL.
NOT THE STRIKE.

RAVEN · AIR · CS-130

Six air platforms. One radiates.

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 Raven 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
sales@cdnshield.ca

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.

Raven CS-130

Raven CS-130 · patent pending · export-controlled — international transfer requires Canadian government permits; export posture is counsel-first. An electronic carrier for relay, decoy and electronic-support payloads — never a strike platform. No warhead, fuze or energetic material in any module or variant. Payload electronics for relay, decoy and electronic support are partner scope; Canadian Shield engineers the airframe, socket, power, cooling and apertures, and stops there — counsel-first at every step.