CDNS INSTITUTIONAL

PEDESTAL MOUNT

A SLEWING PEDESTAL FOR THE Ø90 BORE AT A FIXED SITE

A two-axis head carrying tube pods and Canadian Shield's own sensor head, on a cabinet pedestal that holds the power, the control and the wired network, firing the Goose-family rounds off the Launch Platform's pneumatic chain.

Ø90.00 mm	**30 bar**	**18,191 N**	**3.00 m**	**36,382 N**	**±170°**
BORE, EVERY TUBE, UNCHANGED	CHARGE PRESSURE, AIR ONLY	PEAK REACTION INTO THE MOUNT, PER BARREL	STROKE, EVERY BARREL	EQUIVALENT STATIC LOAD INTO THE MOUNT, PER BARREL	AZIMUTH; −3° TO +75° ELEVATION

AT A GLANCE

THE LAUNCH PLATFORM'S CHAIN. STANDING STILL, ON A CABINET.

One tube module, one bore, one charge pressure and one stroke, carried on a two-axis pedestal head with the sensing, the interlocks, the structure and the network a fixed site needs.

AIR, NOT CHEMISTRY

NOTHING IN THE ENERGY PATH BURNS

The launch energy is compressed air. There is no warhead, no fuze, no primer, no propellant and no energetic material on the mount or in any round it fires. The round is a carrier, and it stays one in every option on it.

ONE BARREL, ONE ARM ACTION

A PERSON TURNS THE KEY FOR EVERY SHOT

Eight permissives stand in series ahead of the arm relay, and a ninth at a site that requires canopy rounds. The relay drops when the fire command completes, so the key is turned again for the next shot and the mount returns to SAFE between shots. A cue proposes; it never authorizes.

NOTHING TRANSMITS

NO ANTENNA, NO GNSS, EVERY LINK WIRED OR FIBRE

Detect, track, classify and cue are Canadian Shield's own, on a sensor head that is passive but for an eye-safe rangefinder under emission control. No copper leaves the head except its supply and its bond, and there is no external data port on the mount.

THE BRAKES CARRY THE SHOT

THE DRIVES LAY; THE BRAKES HOLD

A shot puts up to 3,274 N·m of yaw on a centred pod, orders above any laying torque. Both axis brakes are engaged before the breech may open, and they are sized at twice the worst torque of the configuration fitted.

IN THIS SHEET

01 · SPECIFICATION

FIGURE BY FIGURE, ACROSS THE POD OPTIONS. WITH THE BASIS OF EACH BESIDE IT.

The design definition works every result across pod options of 6, 9, 12 and 16 tubes and rules none of them. Where a figure changes with the pod, all four are given.

01 THE TUBE MODULE

PARAMETER	VALUE	BASIS
Bore	Ø90.00 mm	design value, unchanged from the Launch Platform
Bore area	63.617 cm²	calculated from the Ø90 bore
Stroke	3,000 mm	design value
Barrel length	About 3,500 mm	the 3.00 m stroke plus the breech length, which the shop drawing set assumes at 500 mm
Barrel stock	Drawn-over-mandrel steel tube without a weld seam, to ASTM A519, AISI 4130 or equivalent	the shop drawing's general notes
Barrel wall and proof test	At least 6 mm, proof tested at 45 bar	the shop drawing's general notes
Tube outside diameter	Ø102 mm	calculated: Ø90 + 2 × 6 mm of wall
Pod pitch	At least about 110 to 130 mm	calculated from the Ø102 mm tube with clamp clearance
Tube clamping	Clamps and cradle, at a safety factor of at least 2.0 on the 9,546 N mean base force	the shop drawing, carried into the pod interface
Breech valve	Normally closed solenoid, energize to open, one per barrel, rated 30 bar, port at least 95 cm²	the Launch Platform design definition
Valve opening time	<5 ms	the Launch Platform design definition
Rounds	Goose CS-110 and Encapsulator CS-111, both 1.600 kg, unchanged	a requirement of the design definition; design value for the mass
Mixed loads	Allowed: both rounds share one envelope, one mass and one indexing	the Encapsulator systems package, carried into the mount
Barrels fired	One at a time; one solenoid energized at a time	the pneumatic schematic's solenoid note
Power or signal to the round	None; the rounds are unpowered	a requirement of the design definition

02 THE LAUNCH CASE, PER BARREL

PARAMETER	VALUE	BASIS
Charge pressure	30 bar, shop-air class	design value
Ambient pressure in the load case	1.013 bar	the round's design definition
Round mass	1.600 kg	design value
Obturator seal drag	250 N	the round's design definition, carried into the load case
Velocity at the muzzle	189.2 m/s	design value, interior ballistics
Muzzle energy	28.64 kJ	calculated: $\frac{1}{2}mv^2$
Peak acceleration of the round	11,369 m/s², or 1,159 g, at t = 0.14 ms	the round's design definition, at the start of the stroke
Mean acceleration	5,966 m/s², or 608 g	the round's design definition
Time in the barrel	31.7 ms	calculated on constant acceleration: 2S ÷ v

03 LOADS INTO THE MOUNT, PER BARREL

PARAMETER	VALUE	BASIS
Gas load on the breech	18,441 N	calculated: (30 − 1.013) bar across the bore area
Peak net reaction into the mount	18,191 N	calculated: the gas load less the seal drag; it reproduces the source's peak base force
Mean base force over the stroke	9,546 N	calculated: $\frac{1}{2}mv^2$ ÷ stroke
In-bore impulse	357.3 N·s	calculated: the round's momentum plus the charge gas's momentum in the bore
Equivalent static load, first sizing	36,382 N	calculated: 2.0 × the peak reaction, for a step-applied load
Factored load for member checks	72,764 N	calculated: the equivalent static load with a safety factor of 2.0 on top
Reaction at −3° and 0° elevation	18,166 N horizontal with 952 N up; 18,191 N horizontal	calculated from the reaction along the bore
Reaction at 45° and +75°	12,863 N each way; 4,708 N horizontal with 17,571 N down	calculated; overturning is worst at low elevation
Base overturning moment	110.3 kN·m per barrel	calculated: the equivalent static load at the modelled 3.032 m trunnion height, at 0°
Anchor load	About 68.9 kN per anchor	calculated on an illustrative eight anchors on a 0.8 m bolt circle, before dead-load relief; the anchor design is the structural engineer's
Yaw torque on the azimuth axis	9.1 kN·m	calculated at an illustrative 0.5 m lateral offset of the bore line, at 0°
Torque on the elevation axis	2,365 N·m	calculated at one row pitch, 130 mm, off the trunnion axis

PARAMETER	VALUE	BASIS
Fatigue	The shot count over the mount's life is set per site; anchor preload is checked for load reversal	the design definition's fatigue note

04 DYNAMIC RESPONSE OF THE STRUCTURE

PARAMETER	VALUE	BASIS
Modelled first bending mode	22.8 to 34.6 Hz across the 6 to 16-tube pod options	calculated by hand on a uniform-cantilever model carrying the rotating mass at the trunnion
Corresponding periods	28.9 to 43.8 ms	calculated
The shot against the period	The peak arrives in 0.3 % to 0.5 % of a cycle	calculated; to the first mode the shot is a step
Dynamic load factor	1.55 to 1.74 undamped; 1.50 to 1.69 at 2 % damping	calculated by driving a single-degree-of-freedom oscillator with the published force history
Step factor carried	2.0	the design definition carries it until a modal analysis replaces it; it holds 15 % to 29 % over the first mode
Axial wave in the barrel steel	5,048 m/s, crossing a 3.5 m barrel in 0.69 ms	calculated; longer than the 0.14 ms rise, so the barrel does not respond as a lumped mass
Roof stool, for comparison	33.8 to 51.7 Hz on a 0.60 m stool	calculated; it is not a building's own first frequency, which belongs to the building's engineer of record
What the hand estimate does not cover	Local modes, the slewing bearing's flexibility and clearance, base and foundation flexibility, the barrel as a wave-bearing member, and measured damping	the design definition names all five

05 PEDESTAL GEOMETRY

PARAMETER	VALUE	BASIS
Balance point	1.46 m forward of the breech face	calculated by taking moments about the pivot; the head balances there with no counterweight
Balance against tube count	It does not move: every tube carries the same masses at the same stations	calculated
Breech drop at +75°	1.41 m	calculated from the balance point
Trunnion above the slewing ring	1.66 m	calculated, with 0.25 m of clearance under the breech and manifold
Trunnion above the base plane	3.03 m	calculated, from the modelled column and the base and bearing stack
Muzzle height at +75°	5.00 m above the base plane; the pod top sits about 3.29 m up at 0° with 16 tubes	calculated, from 2.04 m of barrel forward of the trunnion

PARAMETER	VALUE	BASIS
If the pivot is moved to 0.8 m	513 N·m per tube out of balance, needing 392 kg of counterweight at 6 tubes and 1,047 kg at 16	calculated, for a counterweight 0.8 m aft of the trunnion
Balancer	A spring balancer where the pivot is moved; a gas strut is not proposed, because it is one more pressure device at the site	the design definition's balance study
Slewing bearing	Four-point-contact ball or crossed-roller, selected against the tilting moment plus the dead-load moments of an overhung pod	the design definition
Construction	A steel weldment to CSA S16, welds to CSA W59	the design basis named in the design definition and the shop drawing
Cabinet contents	Disconnect, supply and uninterruptible supply; the controller; the fibre terminations; the track and cue computer	the design definition

06 MASS, BY POD OPTION

PARAMETER	VALUE	BASIS
The configuration these masses describe	A single centred pod on 3,500 mm barrels, ready rounds in the tubes, a shared head plenum and a bolted plinth	the mass ledger's stated configuration
Barrels	298 / 448 / 597 / 796 kg at 6 / 9 / 12 / 16 tubes	calculated, from the mass ledger
Breeches, valves and manifold	72 / 108 / 144 / 192 kg	calculated, from the mass ledger
Pod cradle and clamps	104 / 157 / 209 / 278 kg	calculated, from the mass ledger
Head frame, trunnions, balancer, elevation drive and brake	134 / 201 / 269 / 358 kg	calculated, from the mass ledger
Ready rounds in the tubes	10 / 14 / 19 / 26 kg	calculated at 1.600 kg per round
Rotating mass	648 / 958 / 1,267 / 1,679 kg	calculated, from the mass ledger
Slewing bearing, azimuth drive and brake	168 / 190 / 213 / 235 kg	calculated, from the mass ledger
Pedestal: plate, stiffeners, column and cabinet fit-out	575 kg on every pod option	calculated, from the mass ledger
Mount, less the bank and the compressor	1,392 / 1,723 / 2,055 / 2,489 kg	calculated, from the mass ledger
Centre of mass above the base plane	1.76 / 1.98 / 2.13 / 2.27 m	calculated, with the bank and the compressor in a separate enclosure at grade

PARAMETER	VALUE	BASIS
Base, as steel	225 kg bolted plinth; 244 kg embedded socket, Ø700 × 12 mm and 1.2 m deep; 180 kg on four legs	calculated, from the mass ledger; concrete and ballast are not machine mass
One barrel tube	49.7 kg at 3,500 mm; 42.6 kg at 3,000 mm	calculated from the steel section; four of the shorter tubes reproduce the shop drawing's 170 kg
The one check on the model	The reference four-tube system rebuilds at 673 kg against about 640 kg published, +5.1 %	calculated; it is the only check the model has, and nothing has been weighed

07 INERTIA, BRAKES AND THE SHOT

PARAMETER	VALUE	BASIS
Azimuth moment of inertia	646 / 969 / 1,303 / 1,738 kg·m² at 6 / 9 / 12 / 16 tubes	calculated, from the inertia ledger
Elevation moment of inertia	642 / 969 / 1,292 / 1,738 kg·m²	calculated, from the inertia ledger
Twin pods at an illustrative ±0.5 m	Azimuth moment 2,054 kg·m² on twin 8-tube pods	calculated: each pod's mass moved out to ±0.5 m
Worst bore-line offset from the azimuth axis	0.120 m at 6 and 9 tubes; 0.180 m at 12 and 16	calculated from the pod array on a 120 mm pitch
Shot yaw torque, single centred pod	2,183 N·m at 6 and 9 tubes; 3,274 N·m at 12 and 16	calculated: the peak reaction on the worst offset at 0°
Shot pitch torque, single centred pod	1,091 / 2,183 / 2,183 / 3,274 N·m	calculated
Shot yaw torque, twin 8-tube pods at 0.5 m	12,370 N·m, on a 0.680 m worst offset	calculated
Design brake torque	4.4 kN·m at 6 and 9 tubes; 6.5 kN·m at 12 and 16; 24.7 kN·m on twin 8-tube pods	a requirement: 2.0 × the worst torque of the configuration fitted
Brakes	Spring-applied on both axes; the fire command waits on both of them engaged	a requirement of the design definition
Head rotation if a brake let go for one shot	3.8°/s at 6 tubes; 2.1°/s at 16, which is well under a tenth of a degree while the round is in the bore	calculated from the in-bore angular impulse; a brake is sized on torque, not on rotation
Stow	A sensed stow lock pins the head at a stow attitude whenever the mount is SAFE and unattended	a requirement of the design definition

08 THE LAYING ENVELOPE AND ITS LIMITS

PARAMETER	VALUE	BASIS
Azimuth	±170°	a requirement: no wider than the reference envelope, and narrowed per site in hardware

PARAMETER	VALUE	BASIS
Elevation	−3° to +75°	a requirement: no wider than the reference envelope, and narrowed per site in hardware
Continuous rotation	Not carried; the azimuth is the reference envelope	the design definition
Limit, first layer	Mechanical hard stops at the fixed limits	the design definition
Limit, second layer	Cam-operated limit switches on both axes, wired into the sector permissive ahead of the arm relay	the design definition
The cam set	Site hardware, cut from the site's surveyed footprint map, sealed and recorded, changed only under a controlled procedure	the design definition and the safety case
Limit, third layer	A laying solution outside the envelope is refused before the drives move	the published Launch Platform sheet
Limit, fourth layer	The site no-fire map, loaded into the laying software as a cross-check; it never replaces the cam switches	the design definition
Boresight and level	The sensor head is boresighted to the barrels against a stored offset; a tilt switch confirms the base is within tolerance before the mount will arm	the design definition; the published Launch Platform sheet

09 THE INTERLOCK CHAIN

PARAMETER	VALUE	BASIS
Inherited permissives	Four in series ahead of the arm relay: a dual-channel emergency stop, an area-clear key, a muzzle-cover switch and a relief-proven switch	the launcher electrical schematic
Added by this line	Four more, all hard-wired: sector permitted, enclosure closed, base level and wind within limit, with a fifth — round type permitted — at a site that requires canopy rounds	new in the design definition
Arm permissives in series	Eight; nine at a site that requires canopy rounds	counted: the four inherited plus the four added, and the round-type permissive where the site requires it
Fire permissive	Both axis brakes engaged before the breech may open	new in the design definition

PARAMETER	VALUE	BASIS
One shot per arm action	The arm relay drops when the fire command completes; the key is turned again for the next shot	a requirement of the design definition
State after a shot	SAFE	a requirement of the design definition
Fire command	A local operator action at the operator station only	a requirement of the design definition
The cue's authority	A permissive only; no fire command crosses the cue interface	a requirement of the design definition
Automated or remote-only fire path	None; the cue interface is capped in the controller specification	a requirement of the design definition
Fail direction	Any loss of power, bus, arm relay or interlock returns the mount to SAFE with the breech closed; the watchdog de-energizes every output	a requirement of the design definition
The safety chain	Hard-wired and dual-channel; never on a network	a requirement of the design definition
Where the operator station stands	Inside the site's secure area, with a direct view of the mount and its engagement sector, joined to the arm relay by a hard-wired dual-channel loop. A second emergency stop stays at the mount.	the design definition's proposed meaning of a local fire command; the launcher electrical schematic
Arming from the network	No workstation elsewhere can arm or fire; site security sees video and status only	a requirement of the design definition
Event record	Every arm, fire and fault recorded with time, operator and imagery, and not editable in the field	a requirement of the design definition
Energetic material	None, on the mount or in any round it fires	a requirement of the design definition; the schematic's safety-function summary

10 AIR, STORED ENERGY AND THE VESSEL

PARAMETER	VALUE	BASIS
Working pressure	30 bar	design value
Relief valve	33 bar set point, 110 % of working pressure, sized for full compressor flow and proven by a switch in the arm chain	the pneumatic schematic; a requirement of the design definition

PARAMETER	VALUE	BASIS
Relief and vent discharge	Routed clear of people and of the building's air intakes	the pneumatic schematic, carried into the roof interface
Instrumentation	A 0 to 40 bar transmitter on the bank to the controller, and a local glycerine-filled gauge	the pneumatic schematic
Isolation, vent and drain	A lockable manual isolation valve at the bank outlet, and a manual vent and drain at the low point; the bank is ventable to zero	the pneumatic schematic; a requirement of the design definition
Check valve	At the compressor discharge, to prevent backflow	the pneumatic schematic
Air dryer	Upstream of the bank, with a dew point below the site minimum	a requirement of the design definition
Pressure vessel	A certified, registered vessel	a requirement of the design definition
Registration	A Canadian Registration Number on the vessel and on the relief device, registration of the assembled piping, inspection at installation and periodic in-service inspection	the pneumatic schematic's pressure-equipment note
Stored energy in a charged bank	4.66 kJ per litre at 30 bar	calculated: the adiabatic expansion energy; the formula reproduces the reference bank's published figure
Where the bank and compressor stand	In the pedestal, or in a separate enclosure at grade, which is expected for the heat and the noise	the design definition
Compressor	Electric, 17 kW shaft power	calculated from the pneumatic work in the Launch Platform design definition
Lockout	Every energy source lockable: the main disconnect, the compressor, the isolation valve, the vent and the gauge	a requirement of the design definition
Charging	Nobody is inside the charging zone while the bank comes up to pressure	the inherited safety and exclusion-zone data sheet

11 POWER AND THE NETWORK

PARAMETER	VALUE	BASIS
Compressor supply	Three-phase; the reference design is drawn to 480 V	the launcher electrical schematic

PARAMETER	VALUE	BASIS
Site supply	Specified per site: Canadian institutional sites commonly carry 600 V or 208 V three-phase, and many sites abroad run at 50 Hz	the design definition
Compressor current	About 24 A full-load amperes at 480 V	the inherited load analysis
Control bus	24 VDC, physically segregated from the three-phase side	a requirement of the design definition
Voltage-drop limit on the control bus	3 %	a requirement: sized to the fitted configuration at the corrected conductor resistance
Uninterruptible supply	On the 24 VDC bus; it carries an orderly return to SAFE and keeps the sensor head running on loss of supply	the design definition
Loss of power	Safe regardless: the breech is normally closed	a requirement of the design definition
Electrical installation	To CSA C22.1, with surge protection on every copper entry and the protective bond tied to the building's grounding and lightning protection	a requirement of the design definition; the Launch Platform design definition
Control link	CAN 2.0B, point to point from the controller to the operator station, over fibre beyond the copper run	the controller specification; the design definition
Video and track	Ethernet over fibre, segregated, one way and view only to site security	a requirement of the design definition
Cybersecurity design basis	IEC 62443, named as a design basis	the design definition
External data ports	None on the mount; the cue interface is physically capped when not in use	the design definition
Enclosure	IP65, heated and cooled across the environmental range, with that load on the alternating-current side rather than the control bus	a requirement of the design definition, and a design choice it records

12 THE SENSOR HEAD

PARAMETER	VALUE	BASIS
What it does	Detects, tracks, classifies and ranges, and passes bearing, range and height to the laying solution	a requirement of the design definition

PARAMETER	VALUE	BASIS
Who builds it	Canadian Shield, in-house	the owner's ruling of 2026-09-11
Day channel	A day camera with zoom, for identification	the design definition's sensor head
Night channel	A long-wave infrared thermal imager, for night detection and track	the design definition's sensor head
Rangefinder	An eye-safe laser rangefinder, in a band above 1.4 µm where the retina is not the limiting tissue	the design definition's sensor head
Rangefinder class	Class 1 at the aperture to IEC 60825-1, classified by an accredited laboratory	a requirement; an eye-safe wavelength is not the same as Class 1, and the class is the laboratory's to settle
Wide channel	A wide-field situational camera, for the near zone and the key holder's view	the design definition's sensor head
Optional channel	A passive acoustic array, for bearing-only cueing that tells the optics where to look	the design definition's sensor head
Not carried	Radar, a radio-frequency detector, a GNSS receiver and an antenna	a requirement of the design definition
Aperture rule	Every channel's clear aperture is at least 1.22 λ ÷ IFOV, so its detector and not diffraction sets its resolution	a requirement of the design definition
Emission control	The rangefinder emits on the operator's command or on an active track only, and is interlocked off when the stow lock is in	the design definition's sensor head
Links off the head	Fibre. No copper leaves the sensor head but its supply and its protective bond.	a requirement of the design definition
Time	From the site network by IEEE 1588, or from the cabinet's own clock. There is no GNSS aboard.	the design definition's sensor head
Detection range	None is given on this sheet	no measured range exists; the figures the design definition works are limits set by optics, and it says in terms that they are not detection ranges
What the doctrine costs	Detection is limited by fog, snow and rain, and without radio-frequency detection there is no warning of a drone before it can be seen	the design definition's sensor head

PARAMETER	VALUE	BASIS
Mounting and search	Co-mounted and boresighted to the barrels, which stops it watching while the mount lays, or on its own mast, which keeps it watching at the cost of a second gimbal	the design definition's search study

13 ENVIRONMENT, STRUCTURE AND THE SITE

PARAMETER	VALUE	BASIS
Low-temperature design case	−30 °C	the round family's environmental design case
Upper temperature	Set per site	a requirement of the design definition, where the upper end is assumed to cover southern Canadian summers with solar gain
Condensate	Compressed air carries water that freezes at −30 °C; a dryer and drains are required	the design definition
Foundation and roof interface	Designed by a structural engineer licensed where the site is	a requirement of the design definition
Design basis	The National Building Code of Canada as the province adopts it; the anchorage provisions of CSA A23.3 for the loads above including reversal; CSA S16 and CSA W59; CSA C22.1	the design bases named in the design definition and the shop drawing
Geotechnical	The pier or plinth is sized for overturning and lateral soil capacity from a geotechnical report; frost depth and seismic design are site-specific	the design definition
Environmental loads	Wind on the head and pods, snow and ice, drift, seismic and thermal, all to the National Building Code as adopted for the site	the design definition
Site acceptance	No mount is armed at a site without a surveyed footprint and a sector cam set cut for that site	a requirement of the design definition and of the safety case
Permits	A building permit and the building official's review, and provincial pressure-equipment registration	the design definition's roof interface and the pneumatic schematic's note

14 ANTI-TAMPER AND SITE SECURITY

PARAMETER	VALUE	BASIS
Arming	The arm key under key control, with a two-person rule optional. There is no arm path from the network, and no remote fire path to attack.	the design definition's anti-tamper table
Doors and covers	Tamper switches on every door and pod cover. Opening one drops the arm relay, latches FAULT and alarms to site security over a wired input.	the design definition's anti-tamper table
Fasteners and anchors	Security fasteners throughout; the embedded base, or a locked anchor shroud with tamper-evident marks on the nuts	the design definition's anti-tamper table
Rounds	A locked magazine, or ready rounds behind a locked and sensed pod cover, counted at every watch change	the design definition's anti-tamper table
Stored air	The isolation valve lockable, and the bank vented when the mount is unattended where the site rules for charge-on-watch	the design definition's anti-tamper table
Reach and climbing	Anything within reach is anti-climb and carries no ligature point	a requirement of the design definition for sites where it applies
Cam set	Sealed, recorded, and changed only under a controlled procedure	the design definition

15 SUSTAINMENT

PARAMETER	VALUE	BASIS
Each use	Interlocks, emergency stop and breech fail-closed	the inherited maintenance schedule
Monthly and quarterly	Harness and slew checks monthly; compressor service and breech seal inspection quarterly	the inherited maintenance schedule
Breech seals	Logged by shot count	the inherited maintenance schedule
Per certificate	Vessel hydrotest and relief proof; a lapsed certificate takes the mount out of service	the inherited maintenance schedule

PARAMETER	VALUE	BASIS
Added for this line	Sensor window cleaning; dryer and desiccant service; cam-set inspection and seal check; anchor preload check; foundation and roof-penetration inspection; brake holding test; tilt-switch check; uninterruptible-supply test	new in the design definition
Access	Pedestal doors onto service racks; lifting points on the head and on each pod; isolation points at the main disconnect, the compressor, the isolation valve, the vent and the gauge	the design definition's maintenance access
Lifting	A lifting plan is required: the barrels alone are 298 kg at 6 tubes and 796 kg at 16. On a roof, add fall protection, a service platform and a crane or davit plan.	calculated, from the mass ledger; the safety case carries it as a crush hazard

02 · WHAT IT IS

A SLEWING HEAD ON A CABINET. THE LAUNCH PLATFORM'S CHAIN, STANDING STILL.

The Pedestal Mount takes the tube module, the breech and the pneumatic chain the Launch Platform already defines, and gives them a fixed pedestal, a sensor head and an interlock chain built for a site that stays where it is.

The stack reads from the ground up: a foundation, a base plate or an embedded socket, a pedestal column whose cabinet holds the power, the controller, the network and the uninterruptible supply, a slewing bearing with the azimuth drive and brake, a head frame with the elevation trunnions, balancer and brake, one pod or twin pods of tubes, and the sensor head. The compressor and the air bank sit at grade in their own enclosure, because both shed heat and noise.

Nothing in the tube module changes. The bore is Ø90.00 mm, the stroke is 3,000 mm, the charge is 30 bar, and each barrel has its own normally closed breech valve that opens in under 5 ms. The rounds are Goose CS-110 and Encapsulator CS-111 at 1.600 kg, and a mixed load is allowed because both share one envelope, one mass and one indexing.

Ø90.00 mm	3,000 mm	30 bar	1.600 kg
BORE	STROKE	CHARGE, AIR ONLY	ROUND, EITHER HEAD

DOCTRINE

CARRIERS, NOT MUNITIONS. A PERSON ARMS EVERY SHOT.

There is no warhead, no fuze, no primer, no propellant and no energetic material on the mount or in any round it fires. A cue is a permissive; no fire command crosses the cue interface, and no automated or remote-only fire path exists.

03 · SIZE

THREE METRES OF STROKE.
A MACHINE FIVE METRES TALL AT FULL ELEVATION.

The largest consequence of inheriting the launch case is height. A three-metre stroke needs a barrel about 3,500 mm long, and a barrel that long, pivoted where it balances, puts the trunnion three metres up.

The pivot is not assumed. Taking moments about it, with the barrel and its share of the cradle acting at the tube's mid-length and the breech and manifold acting just aft of the breech face, puts the balance point 1.46 m forward of the breech face. The head balances there with no counterweight, and the balance point does not move with tube count, because every tube carries the same masses at the same stations.

That pivot drops the breech 1.41 m below the trunnion at +75°. With clearance under the breech and manifold the trunnion sits 1.66 m above the slewing ring, and 3.03 m above the base plane once the column and the bearing stack are counted. At +75° the muzzle reaches 5.00 m.

The alternative is worse. Moving the pivot to 0.8 m from the breech to lower the machine leaves 513 N·m per tube out of balance, which a counterweight of 392 kg at six tubes and 1,047 kg at sixteen would have to hold — more than half the head again, on a component that is fatigue-loaded and must hold through the shot. The balanced pivot is the recommendation, and the machine is tall because of it.

DIMENSION	VALUE	BASIS
Balance point, forward of the breech face	1.46 m	Calculated by taking moments
Breech drop at +75°	1.41 m	Calculated
Trunnion above the slewing ring	1.66 m	Calculated, with clearance under the breech
Trunnion above the base plane	3.03 m	Calculated, from the modelled column and bearing stack

DIMENSION	VALUE	BASIS
Muzzle height at +75°	5.00 m	Calculated

04 · LOADS

EIGHTEEN KILONEWTONS PER BARREL. THE STRUCTURE SEES A STEP.

The shot load is set by pressure, bore and mass at the instant the valve opens, before the round has moved. It arrives in 0.14 ms, which to a structure whose first mode is in the twenties of hertz is a step.

Thirty bar less one atmosphere acts across 63.617 cm², which is 18,441 N on the closed breech end, the valve body and the barrel-to-breech joint. The obturator's seal drag pulls the tube forward against it, so the net reaction into the mount is 18,191 N — the same number as the source's peak base force, reached by the other route. Over the whole stroke the mean is 9,546 N, and the in-bore impulse, counting the charge gas as well as the round, is 357.3 N·s.

For first sizing the design definition doubles the peak for a step-applied load, giving 36,382 N per barrel, and member checks then take a safety factor of 2.0 on top. A hand modal estimate puts the first bending mode between 22.8 and 34.6 Hz across the pod options; driving a single-degree-of-freedom oscillator with the published force history gives a dynamic load factor of 1.55 to 1.74 undamped and 1.50 to 1.69 at 2 % damping. The factor of 2.0 therefore carries 15 % to 29 % of margin over the first mode, and it stays until a modal analysis replaces it.

At the trunnion height the stroke forces, one barrel puts 110.3 kN·m of overturning into the base at 0° elevation on the equivalent static load. Overturning is worst at low elevation, where the reaction is almost wholly horizontal.

PER BARREL	VALUE	BASIS
Gas load on the breech	18,441 N	Calculated

PER BARREL	VALUE	BASIS
Peak net reaction into the mount	18,191 N	Calculated; it reproduces the source's peak base force
Mean base force over the stroke	9,546 N	Calculated
In-bore impulse	357.3 N·s	Calculated
Equivalent static load	36,382 N	Calculated, at a step factor of 2.0
Factored load for member checks	72,764 N	Calculated, at a safety factor of 2.0 on top
Base overturning moment	110.3 kN·m	Calculated, at the modelled trunnion height

- ✔ **The peak is a pressure problem.** It lands before the round moves, so a slower valve costs muzzle velocity, not peak load.
- ✔ **The impulse governs rocking.** Base rocking and anchor fatigue follow the 357.3 N·s, not the peak.
- ✔ **The barrel is not a lumped mass.** An axial wave crosses a 3.5 m barrel in 0.69 ms, longer than the 0.14 ms rise, so a stress wave runs its length and the clamps see a travelling load.
- ✔ **The hand estimate is not the analysis.** Local modes, the slewing bearing's flexibility, the base and the foundation, and measured damping all wait on a modal analysis.

05 · POINTING AND HOLDING

THE DRIVES LAY THE TUBES. THE BRAKES CARRY THE SHOT.

A pod of six to sixteen tubes is an order heavier than the reference four-tube cradle, and the shot torque it puts on the axes is orders above any laying torque. The two are different jobs, done by different parts.

A single centred pod's polar moment about the azimuth axis runs from 646 kg·m² at six tubes to 1,738 kg·m² at sixteen. Putting the pods out to twin heads at an illustrative half-metre offset raises the sixteen-tube case to 2,054 kg·m². Those are the numbers the drives work against, and the pointing performance the line offers is a decision that follows from them rather than one this sheet fixes.

The shot is a separate matter. A barrel whose bore line sits off the axis applies the peak reaction on that lever: 2,183 N·m at six tubes, 3,274 N·m at sixteen on a centred pod, and 12,370 N·m on twin eight-tube pods at half a metre. The brakes are sized at twice the worst torque of the configuration fitted, and the fire command waits on both of them engaged. The single centred pod is cheaper in brakes by about a factor of four, which is the strongest engineering argument in the pod decision.

If a brake were to let go for one shot, the angular impulse would turn a sixteen-tube head at 2.1°/s and a six-tube head at 3.8°/s. Over the time the round is in the bore that is well under a tenth of a degree, so the shot in flight is unaffected. What a slipping brake does is back-drive the reducer and the motor, and move the lay for the next shot. The brake is sized on torque, and it is tested for holding.

SINGLE CENTRED POD	6 TUBES	9	12	16
Azimuth moment of inertia, kg·m²	646	969	1,303	1,738
Elevation moment of inertia, kg·m²	642	969	1,292	1,738

SINGLE CENTRED POD	6 TUBES	9	12	16
Worst shot yaw torque, N·m	2,183	2,183	3,274	3,274
Worst shot pitch torque, N·m	1,091	2,183	2,183	3,274
Design brake torque, kN·m	4.4	4.4	6.5	6.5
Rotating mass, kg	648	958	1,267	1,679

1. **Mechanical hard stops** At the fixed limits of both axes, independent of everything above them.
2. **Cam-operated limit switches** On both axes, wired into the sector permissive ahead of the arm relay. The cam set is site hardware, cut from the site's surveyed footprint map, sealed and recorded.
3. **Software refusal** A laying solution outside the envelope is refused before the drives move.
4. **The site no-fire map** Loaded into the laying software as a cross-check. It never replaces the cam switches.

06 · THE INTERLOCK CHAIN

EIGHT PERMISSIVES IN SERIES, AND A NINTH. THEN ONE BARREL, AND BACK TO SAFE.

The mount inherits the Launch Platform's four series permissives and adds four of its own, with a fifth at a site that requires canopy rounds, all hard-wired ahead of the arm relay. Any one of them open leaves the relay de-energized and the mount safe.

To a series chain a cut wire and a pressed stop are the same event, which is why the chain is hard-wired and dual-channel and never sits on a network. With every permissive in the chain made the arm relay energizes, and fire is a local operator action. The relay then drops when the fire command completes, so the key is turned again for the next shot and the mount returns to SAFE between shots. Each arm action releases one barrel, and one solenoid is energized at a time.

Where a site requires canopy rounds, a further interlock reads a mechanical round-type key at the breech and confirms the selected tube holds one, and the site's cam set carries the minimum lay elevation the canopy's release threshold implies. The sector cam set, the tilt switch and the anemometer are all hardware, independent of the laying software and of the encoders.

PERMISSIVE	KIND	WHAT IT CONFIRMS
Emergency stop, dual channel	Inherited	Two normally closed channels agree that no stop is pressed
Area-clear key	Inherited	A named person has walked the near zone, as defined for the site, and turned the key
Muzzle cover	Inherited	The cover is off the muzzle
Relief proven	Inherited	The relief path is proven before the mount will arm
Sector permitted	Added	Cam switches on both axes confirm the tubes point into a permitted cell of the site's cam set
Enclosure closed	Added	Every cabinet door and pod cover is shut and sensed
Base level	Added	A tilt switch confirms the base is within tolerance
Wind within limit	Added	A wired anemometer and a threshold relay

PERMISSIVE	KIND	WHAT IT CONFIRMS
Round type permitted	Added, at a site that requires canopy rounds	A breech switch reads the round-type key and confirms the selected tube holds a canopy round
Brakes set	Added, fire permissive	Both axis brakes are engaged before the breech may open

THE BOUNDARY

THE CUE PROPOSES. IT NEVER AUTHORIZES.

Bearing, range and height cross the cue interface as a permissive. No fire command crosses it, no workstation elsewhere on the network can arm or fire, and any loss of power, bus, arm relay or interlock returns the mount to SAFE with the breech closed.

07 · THE SENSOR HEAD

EYES ON THE HEAD, ON FIBRE. NOTHING ON IT TRANSMITS.

Detect, track, classify and cue are Canadian Shield's own. The head is passive but for an eye-safe rangefinder under emission control, and every link off it is fibre.

The head carries a day camera with zoom for identification, a long-wave infrared imager for night detection and track, a wide-field situational camera for the near zone and the key holder's view, and an eye-safe laser rangefinder for range. A passive acoustic array is optional, and earns its place as a bearing-only cue that tells the optics where to look. It carries no radar, no radio-frequency detector, no GNSS receiver and no antenna, and the design reserves nothing for one.

The design definition sets two requirements on the optics rather than naming any product. The first is that every channel's clear aperture is large enough that its detector, and not diffraction, sets its resolution — which at long-wave infrared is a demanding number, and it sizes the head, its mass and its window heaters. The second is that the rangefinder is Class 1 at the aperture to IEC 60825-1, classified by an accredited laboratory: an eye-safe wavelength is a necessary condition, not a sufficient one, and the class depends on pulse energy, divergence, pulse rate and aperture.

No detection range is given, and the design definition gives none. The figures it works are limits set by optics on a clear day against a target of known size and aspect. They leave out atmospheric transmission, contrast against sky or ground, thermal contrast on a battery-electric multirotor, target aspect and the search problem. A detection range for a named target class comes from trials.

WHAT IT CARRIES

EO, LWIR, A WIDE CAMERA AND A RANGEFINDER

Day, night, near zone and range, on one boresighted head, with a passive acoustic array optional.

WHAT IT DOES NOT

NO RADAR, NO RADIO DETECTION, NO GNSS, NO ANTENNA

The design carries none of them. Every data path on the mount is wired or fibre, and no copper leaves the head but its supply and its bond.

WHAT THAT COSTS

WEATHER, AND NO WARNING BEFORE LINE OF SIGHT

Detection is limited by fog, snow and rain, and without radio-frequency detection there is no warning of a drone before it can be seen. The design definition states the cost so the decision is made knowing it.

- ✓ **Emission control.** The rangefinder emits on the operator's command or on an active track only, and is interlocked off when the stow lock is in.

- ✔ **Fibre off the head.** Video, status and sensor control all ride duplex single-mode fibre, which also gives galvanic isolation.
- ✔ **Time without GNSS.** From the site network by IEEE 1588, or from the cabinet's own clock.
- ✔ **The operator decides.** The head shows what a person needs to identify the target; the decision to arm is theirs.

08 · POWER, AIR AND THE NETWORK

THREE-PHASE TO THE COMPRESSOR. FIBRE FOR EVERYTHING THAT LEAVES.

One three-phase load, one segregated control bus, one hard-wired safety chain, and fibre for every data run off the mount.

The compressor is the three-phase load. The reference design is drawn to 480 V, and the motor and supply are specified per site, because Canadian institutional sites commonly carry 600 V or 208 V and many sites abroad run at 50 Hz. Everything else runs on a 24 VDC bus kept physically apart from the three-phase side, sized to the fitted configuration inside a 3 % drop limit. An uninterruptible supply on that bus carries an orderly return to SAFE and keeps the sensor head running; loss of supply is safe regardless, because the breech is normally closed.

On the air side the compressor charges a certified, registered vessel through a filter, a dryer and a check valve. A relief valve set at 33 bar, 110 % of working pressure and sized for full compressor flow, stands above it and is proven by a switch in the arm chain. A transmitter reads the bank for the controller, a local gauge reads it for a person, and a manual isolation valve, vent and drain take the stored air out of the machine. The dryer is not optional at a site that sees −30 °C: compressed air carries water, and water freezes.

The network runs in three parts that never meet. The safety chain is hard-wired and dual-channel. The control link is a point-to-point CAN bus from the controller to the operator station, over fibre beyond the copper run. Video and track run on segregated Ethernet over fibre, one way and view only to site security. There are no external data ports on the mount, and the cue interface is physically capped when not in use.

ELEMENT	WHAT IT IS	BASIS
Compressor	Electric, 17 kW shaft power, on three-phase	Calculated from the pneumatic work
Site supply	Specified per site; the reference design is drawn to 480 V	The electrical schematic and the design definition
Control bus	24 VDC, segregated, inside a 3 % drop limit	A requirement of the design definition
Relief valve	33 bar set point, full compressor flow, proven in the arm chain	110 % of working pressure
Stored energy in the bank	4.66 kJ per litre at 30 bar	Calculated, adiabatic expansion energy
Vessel	Certified and registered, with a Canadian Registration Number on the vessel and the relief device	The pressure-equipment note on the pneumatic schematic
Safety chain	Hard-wired, dual-channel, never on a network	A requirement of the design definition
Data off the mount	Fibre, segregated, view only to site security	A requirement of the design definition

09 · SITING AND THE SAFETY CASE

WHERE A MISS CAN LAND. AND WHAT HAS TO BE TRUE FIRST.

The occupied-site human-safety case is this line's first design driver, and it is open. What follows is what the engineering says about the ground a miss can reach, and the conditions the charter sets before any page may go further.

The safety case treats every round fired as a miss, because no hit or capture probability has been measured. On that basis, and at the round's design drag coefficient of 0.35 from ground level in still air at sea level, a missed round lands out to 1,659 m from the mount, and no elevation in the envelope lands one below 7.3 kJ. The round's terminal velocity is 137.9 m/s, so it never slows below about 95 m/s on any arc. A flat lay puts the round down further away; a steep lay puts it down nearer, not softer, returning from nearly a kilometre up.

The drag coefficient is the weakest figure in the chain. If the fairing the round's design definition names as a live option halved it, the reach would grow to 2,215 m, so a site survey carries the halved-drag radius until the drag is measured. Every footprint figure here is only as good as that coefficient, and it is given with it.

What the mount does about it is hardware. The sector cam set is cut from a surveyed footprint map for that one site and sealed; the mount will not arm with the sector permissive open; and no mount is armed at a site without both. Sectors change where a miss lands, not how hard it lands, and the safety case says so in terms.

THE MISS, AT CD 0.35	VALUE
Maximum range across the envelope	1,659 m, at 39°
Minimum impact energy across the envelope	7.3 kJ, at about 30°
Impact energy at 5°	16.7 kJ, at 525 m
Impact energy at the +75° mount limit	9.7 kJ, at 788 m, from an apogee of 962 m
Terminal velocity of the round	137.9 m/s
Survey radius if the drag were halved	2,215 m

What the charter allows this sheet to say.

- That the Roof Mount and the Pedestal Mount are in engineering.
- That human safety where people are present is the line's first design driver.
- Every figure above, with the drag assumption it rests on.

What it does not say, and why.

- It does not say either mount suits a site with people on it. The charter sets seven conditions before any page may, and none of them is met.
- It gives no descent rate, no landing energy and no drift footprint for the canopy round option, because the safety case bars those until the canopy test program is complete. No canopy has been made, packed or deployed.
- It gives no detection range, because none has been measured.
- It is not an offer, and counsel has still to advise on who may lawfully own and operate either mount.

10 · THE ROUND OPTION

A CANOPY IN THE ROUND'S BODY. A MECHANICAL RELEASE, AND NOTHING THAT BURNS.

On the owner's ruling of 2026-09-11 the line opened a miss canopy as an option on the round rather than as a new round. It is engineering with a test list attached, and this sheet gives its constraints and not its results.

The option is a packed canopy in the round's forward body bay, aft of the nose and head interface, so one option serves the kinetic head and the Encapsulator head alike. It carries no energetic material, no electronics and no power source. It opens by a positive mechanical action and initiates nothing: what it opens is a fabric bay. The round stays at 1.600 kg with the same envelope, the same magazine pitch and the same launch case, and the option's mass comes out of the Goose nose or the Encapsulator ballast rather than being added.

Two things bind it. The first is that every automatic post-launch release needs a lock driven by the launch itself, and a lock plus a release condition is the architecture a fuze's safety-and-arming device uses. That the mechanism opens a fabric bay and starts nothing is the company's own distinction, and no regulator has yet ruled on it; counsel answers before any trigger is chosen. The second is stability: the option's mass is capped by the round's static margin rather than by the mass budget, and the design definition holds it to 150 to 250 g with the margin staying inside the 1.5 to 2.5 calibre band on both baselines.

A canopy round is a steep-lay round. No release has been chosen. The one the design definition recommends for study trips as airspeed decays, and were it set at a 60 m/s threshold it would open before landing only above 54.5° of quadrant elevation, with the round below that landing as any miss would. Where a site requires canopy rounds, the cam set enforces in hardware the minimum elevation the chosen release implies, and the round-type key at the breech enforces the round.

WHAT THE ENGINEERING FIXES	VALUE	BASIS
Round mass, unchanged	1.600 kg	A requirement of the design definition
Option mass band at R0.3	150 to 250 g	Built up by element and capped by the static margin
Static margin with the option fitted	1.56 to 1.91 calibres across every case	Calculated; the design band is 1.5 to 2.5 calibres
Free volume in the forward body bay	315 cm³	Calculated from the bay's bore and clear length
Minimum lay elevation at a 60 m/s threshold	54.5°	Calculated from the modelled arcs, for the airspeed-decay release recommended for study
Steady opening load at that threshold	2.26 kN	Calculated, before any opening-shock factor
What a drogue stage would take off that load	A factor of 5.8	Calculated, for a drogue slowing the round to 25 m/s first
Energetic material in the option	None; a reefing cutter is barred with it	A requirement of the design definition

✔ **It does not shrink the footprint.** The ground a canopy round can reach is as large as the ballistic footprint or larger, because the canopy drifts.

- ✔ **A canopy that does not open leaves a ballistic miss.** That residual governs, and the reliability demonstration is sized from the site's own criterion.
- ✔ **Nothing has been made or deployed.** The canopy, its lock, its release, its planform and its packing are all engineering, with eleven verifications listed against them.
- ✔ **Doctrine comes before hardware.** The owner rules whether a launch-driven unlock sits within the no-fuzing rule, informed by counsel, before any release is chosen.

11 · WHO IT IS FOR

THE PEOPLE WHO HOLD THE KEY. AND THE GROUND A MISS CAN REACH.

A Pedestal Mount is bought by the authority that owns the site, surveys the ground around it, accepts what the survey shows and holds the arm key.

What a buyer brings.

- A fixed site, and three-phase power on it.
- A survey of every parcel a miss can reach, and the authority to accept or refuse what it shows.
- A structural engineer licensed where the site is, for the foundation or the roof interface.
- An accountable authority and a regulator who will name the tolerable risk for the site.
- A named operator who holds the arm key and turns it for every shot.
- A secure area for the operator station, with a direct view of the mount and its sector.

What the mount is not.

- Not a remote weapon station: a person arms every shot, and there is no arm or fire path from the network.
- Not an autonomous system: a cue proposes, and no fire command crosses the cue interface.
- Not a radio system: the design carries no antenna, no radio and no GNSS, and it neither jams nor spoofs.
- Not an energetic system: no warhead, no fuze, no primer, no propellant, and none in the canopy option.
- Not ready for a site with people inside the ground a miss can reach. The charter's seven conditions stand ahead of that, and none is met.
- Not an offer: enquiries are screened, and international transfer is subject to Canadian export permits taken per shipment.

12 · CONFIGURATIONS

ONE HEAD, ONE BORE. SEVERAL WAYS TO FILL AND STAND IT.

What changes between builds is the number of tubes, how they are grouped, how the mount stands on the ground, how it is loaded and where the shot volume sits. The bore, the charge pressure and the stroke do not change with any of them.

POD SIZE

SIX, NINE, TWELVE OR SIXTEEN TUBES

The design definition works every load, mass, inertia and brake figure across all four and rules none of them. Tube count moves the rotating mass from 648 kg to 1,679 kg, the azimuth moment from 646 to 1,738 kg·m² and the design brake torque from 4.4 to 6.5 kN·m. It does not move the balance point or the trunnion height.

ONE POD OR TWO

A SINGLE CENTRED POD, OR TWIN PODS EITHER SIDE

Twin pods move each pod's mass out from the azimuth axis, which raises the polar moment and, far more sharply, the shot yaw torque: 12,370 N·m against 3,274 N·m at the same tube count. The brakes then cost about four times as much, which is the engineering argument for the single centred pod.

THE BASE

BOLTED PLINTH, EMBEDDED SOCKET, OR FOUR LEVELLING LEGS

A bolted anchor on a concrete plinth uses cast-in headed rods, a base plate on levelling nuts and non-shrink grout, with the nuts under a locked shroud. An embedded steel socket cast into a reinforced pier puts the anchors out of reach from outside and gives a stiffer, lower base, at the cost of being permanent. Four screw-jack legs on pads suit a transportable build and must be ground-anchored or ballasted, because legs creep and a base that walks under a shot is not a base.

LOADING

A MAGAZINE, OR PRE-LOADED PODS

The reference auto-index magazine holds twenty-four rounds behind a lock, with a motor and an encoder and no pyrotechnics. Pre-loaded pods hold one ready round per tube behind a locked, sensed pod cover and reload at the breech or by pod exchange; there is then no indexer to design, and the ready rounds sit in the tubes.

WHERE THE AIR SITS

A RESERVOIR AT EACH BREECH, OR ONE PLENUM ON THE HEAD

A reservoir at each breech keeps the shot volume where the interior-ballistics model puts it, at the cost of a certified, registered, individually inspected vessel on a rotating head for every tube. One shared plenum on the head, fed through the azimuth by a hose loop, is far lighter and needs no rotary union for the ±170° travel, but it must refill between shots. The flow analysis that decides it needs a line and valve geometry that does not exist.

THE ROUND OPTION

THE MISS CANOPY, ON EITHER HEAD

A packed canopy in the round's forward body bay, with a mechanical release, no energetic material, no electronics and no power source. It sits aft of the nose interface, so one option serves both heads. Where a site requires it, the round-type key and the cam set enforce both the round and its minimum lay elevation.

13 · DOCTRINE AND SAFETY

CARRIERS, NOT MUNITIONS. A HUMAN ARM ACTION FOR EVERY SHOT.

The lines the mount holds on every build and for every customer, and the one thing this sheet does not say.

- ✔ Carriers, not munitions: no warhead, no fuze, no primer, no propellant and no energetic material on the mount or in any round it fires, including in the miss canopy option.
- ✔ Human safety comes first, on every line: a person arms every shot, each arm action releases one barrel, and the mount returns to SAFE after every shot.
- ✔ A cue is a permissive, never a trigger. No fire command crosses the cue interface, no workstation elsewhere on the network can arm or fire, and no automated or remote-only fire path exists.
- ✔ No radio and no GPS aboard. The design carries no antenna: every data path on the mount is wired or fibre, and nothing on it transmits over the air but an eye-safe rangefinder under emission control.
- ✔ Nothing here says either mount suits a site with people inside the ground a miss can reach. The line's charter sets seven conditions ahead of that — the canopy test program, hardware enforcement at the mount, the site's acceptance of the drift footprint, counsel's written answers, a classification opinion, the owner's open rulings and the frames — and none of them is met.

THE CONVERSATION

BRING THE SITE AND THE SURVEY. THE ANSWER COMES BACK IN WRITING.

A first conversation needs the site, the three-phase power already on it, the ground within the survey radius and who owns it, the authority that will accept the residual risk, and who would hold the arm key.

Start a screened enquiry at cdnshield.ca/enquiries.

DOCUMENT	CDN-PROD-SPC-019 · Pedestal Mount · Specification sheet
REVISION	R1.0 · issued 2026-09-11
WEB VERSION	cdnshield.ca/cdns-institutional/spec-sheets/pedestal-mount · carries the current revision
RELATED SHEETS	Roof Mount
ISSUED BY	Canadian Shield · cdnshield.ca