

TORSION-RING PLASMA CONTAINER

Blueprint Package — Revision C (ring-centered)

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Prepared for	Curt Tucker, TEAMTECH Inc., Saginaw, MI
Fuel (determined Oct 29, 2026)	Tantalum-181 — see Unknowns table, row 1 (RESOLVED)
Companion files	BLUEPRINT.md (full specification) · DETERMINATION.md (fuel) — available on request

What this package is

An experimental containment-vessel design from the designer's physics program: a ceramic vessel holding a spinning metal ring and a heavy-element core, inside a cryogenic jacket, wrapped in a thermal-management skin. Two engineering drawings, a component specification, the operating cycle as designed, and a table of every parameter the design still owes.

What is being asked of the shop

A **buildability read on the mechanical assembly only** — the vessel, the spinning ring and its drive/bearing problem, the cryo jacket, and the cold hardware as a staged mechanical demonstrator. The physics behind the design is a study, graded honestly on the last page of this package. Nobody is being asked to certify the physics — only to say whether the metal can be made, what's missing from these drawings to quote it, and what it would take.

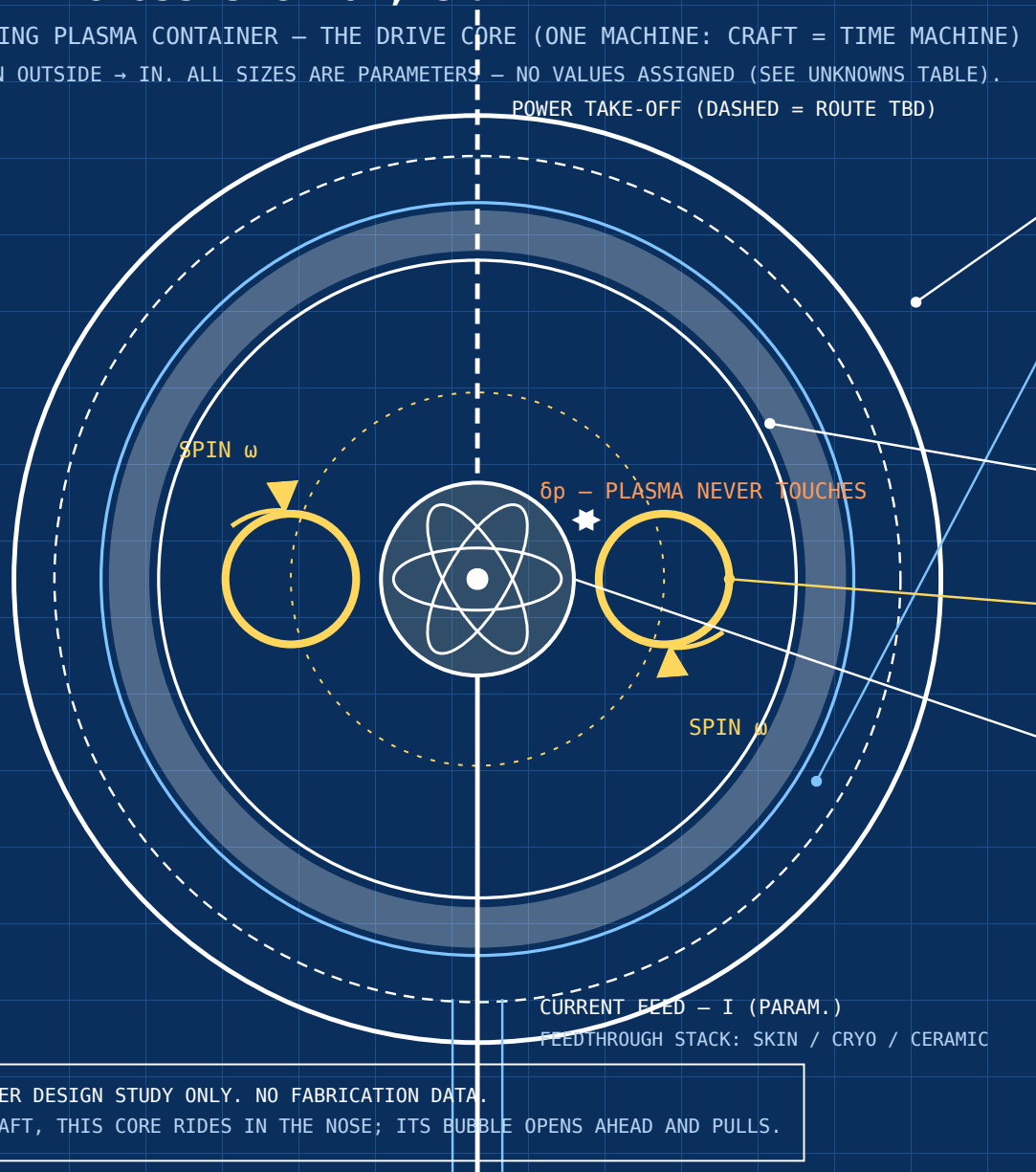
Contents

Sheet 1 — Fig. A: cross-section, side view · Sheet 2 — Fig. B: top view, down the spin axis
Component specification (the stack, outside → in) · The drive cycle, as designed
Unknowns table — 18 open parameters (fuel row resolved) · Grades — what is proven, what is not

Scope / safety: this is a paper design study only. It contains no fabrication steps, no operating procedures, and no values with which anyone could build or run a high-energy plasma device. Every dimension on the drawings is a parameter (a symbol), not a value — the design has no sizes yet, and none have been invented for this package.

FIG. A – CROSS-SECTION, SIDE VIEW

TORSION-RING PLASMA CONTAINER – THE DRIVE CORE (ONE MACHINE: CRAFT = TIME MACHINE)
STACK SHOWN OUTSIDE → IN. ALL SIZES ARE PARAMETERS – NO VALUES ASSIGNED (SEE UNKNOWNNS TABLE).
POWER TAKE-OFF (DASHED = ROUTE TBD)



COMPONENT STACK – OUTSIDE → IN

- 1 · THERMAL SKIN – t_{skin}
GRADED-C conductivity lattice; steers external heat around; hides the hot heart from IR
- 2 · CRYO LAYER – t_{cryo} , T_{cryo}
hyper-cold bath (first method); thermal buffer; holds superconducting elements in state
- 3 · CERAMIC TORSION CONTAINER – t_{cer}
heat-resistant ceramic vessel; keeps radiation in, heat contained; structural boundary
- 4 · TORSION RING – R_{ring} , ω , I
spins/twists INSIDE the container; PRIMARY CENTERING MECHANISM (2026-10-29)
- 5 · PLASMA CORE – R_{core}
heavy superconducting element, spun with current → the ball of light; generates power

CLEARANCES (PARAMETERS, NOT VALUES):
 δp = plasma edge → ring inner edge (must stay > 0)
 δw = ring outer edge → container wall (must stay > 0)
Ring drawn in cross-section: the two yellow lobes are one torus, centerline R_{ring} (dashed).

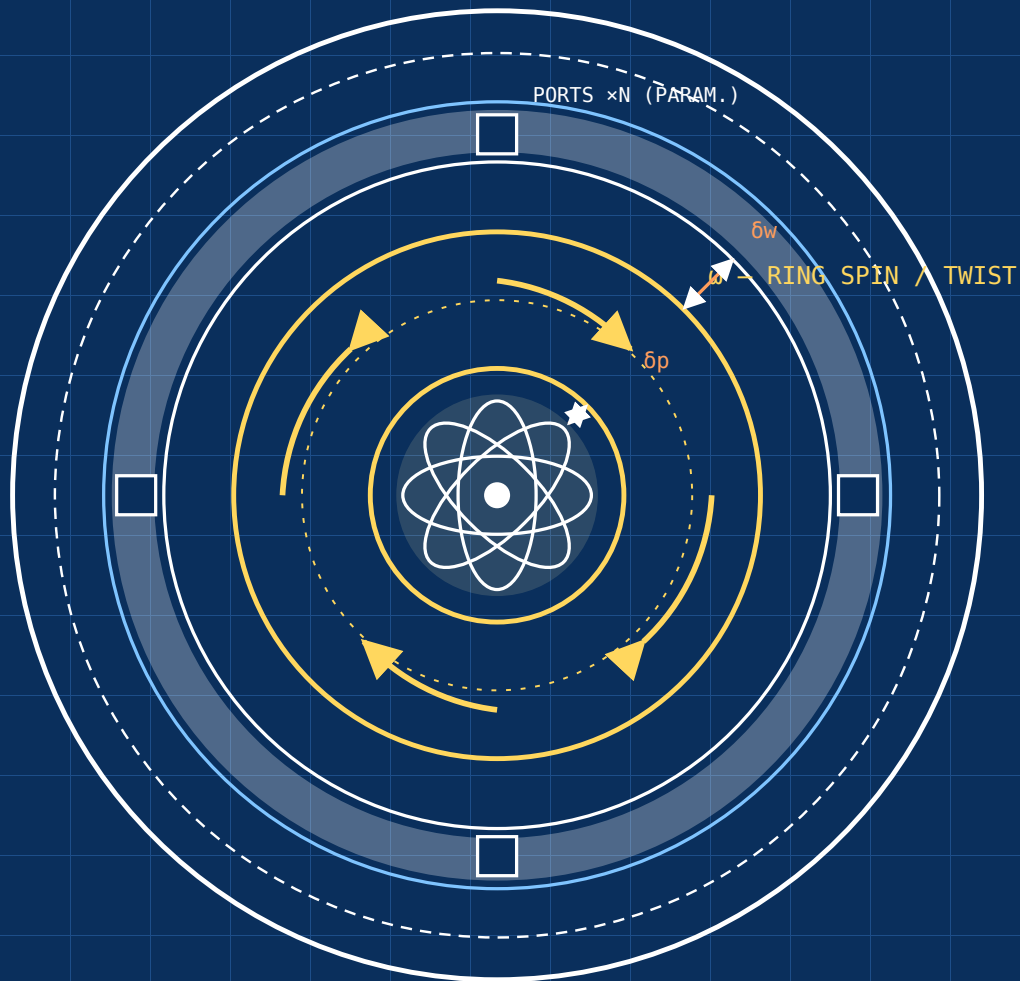
NOTE: PAPER DESIGN STUDY ONLY. NO FABRICATION DATA.
IN THE CRAFT, THIS CORE RIDES IN THE NOSE; ITS BUBBLE OPENS AHEAD AND PULLS.

DESIGN: W. A. ALDRED (TESTIMONY) · DRAWN: DAVE
DATE 2026-10-29 · REV C (RING-CENTERED) · SHEET A / 2

FIG. B – TOP VIEW (DOWN THE SPIN AXIS)

THE RING WHOLE, THE PLASMA AS THE LOOPY BALL – RUBBER-BAND LOOPS IN A CIRCLE

ALL SIZES ARE PARAMETERS – NO VALUES ASSIGNED (SEE UNKNOWN'S TABLE).



HOW TO READ THIS SHEET

Concentric = the stack of Fig. A, seen from above:
skin ($r = R_{out}$) · cryo band · ceramic wall · cavity

THE RING (YELLOW ANNULUS)

One torus: inner radius $R_{ring} - a$, outer $R_{ring} + a$, centerline R_{ring} dashed. The four arrows are one motion – spin with twist, ω . Its spin is what holds the plasma centered. No wall contact, either side:
 $\delta p > 0$ (to plasma) · $\delta w > 0$ (to wall), always.

THE PLASMA (WHITE LOOPS, CENTER)

The ball of light drawn as Bill describes it: loopy, stretchy, rubber-band strands wound in a circle – a living torus/ball, radius R_{core} , floating dead center inside the ring. It is the power source.

CONTROL

No steering wheel. Control is electrical – electrons through the ports and the feed: spin rate, current, and the bubble are worked through the one tongue everything speaks (designer's model).

DRIVE CYCLE (SEE BLUEPRINT §4)

spin-up with current → plasma → centered ball → power take-off → density rise → bubble → drop.

NOTE: PAPER DESIGN STUDY ONLY. NO FABRICATION DATA.

TOP VIEW: RING AND PLASMA SHARE ONE CENTER – THAT SHARING IS THE DESIGN.

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COMPONENT SPECIFICATION — THE STACK, OUTSIDE → IN

All dimensions are parameters (symbols). No values exist yet — see the Unknowns table. Shop-facing summary of BLUEPRINT.md §2.

1 · THERMAL SKIN (outermost)

Parameters: thickness t_{skin}

Graded, anisotropic conductivity lattice that steers externally arriving heat around the machine so its thermal signature blends into background. Form: metal lattice + cast polymer composite, per Li, Wang, Sigmund and Zhang, Nature Communications 17:5739 (2026) — demonstrated, peer-reviewed, passive. Constituents: AlSi10Mg aluminum (thermal conductivity 113 W/m·K) + PDMS (0.16 W/m·K) in a conductive background (2.72 W/m·K class); lattice printed by direct metal laser sintering, 0.5 mm minimum feature. Printed limit: the demonstrated cloak steers heat arriving from outside around a passive cavity; this machine's core makes its own heat — the case the paper names as unsolved. Skin performance in the operating case is Unknown #17.

2 · CRYO LAYER

Parameters: thickness t_{cryo} · bath temperature T_{cryo}

The cold jacket. In the designer's first telling the vessel sat in hyper-cold water; Rev C keeps the bath as the thermal-management layer: it carries off the heat that reaches the vessel wall and holds the superconducting parts (the tantalum core; the ring, if superconducting) in their cold state. Bath temperature is helium-class — colder than liquid nitrogen (Unknown #14). Interfaces: cools the ceramic vessel's outer face; its own heat load must blend through the skin above it.

3 · CERAMIC TORSION CONTAINER (the vessel)

Parameters: wall t_{cer} · cavity radius R_{cav}

Heat-resistant ceramic vessel: the structural, pressure, and radiative boundary of the drive. Keeps radiation in and heat contained; carries every feedthrough (drive current in, power out, sensor/control ports). It is the fixed frame both clearances are measured from, and it must never touch the core — in real fusion machines no wall touches the plasma either; refractory ceramics (boron carbide class) are standard hot/radiation boundary material. Composition is Unknown #13. SHOP NOTE: this vessel, its feedthrough stack, and its mounting in the cryo jacket are the heart of the mechanical ask.

4 · TORSION RING — primary centering mechanism

Parameters: centerline R_{ring} · tube a · spin rate ω · current I

One torus, concentric with the core, spinning and twisting inside the vessel, touching nothing: clearance to the wall and clearance to the core, both greater than zero at all times. In the design's physics (Einstein–Cartan), spin sources torsion; the ring is the driven spin reservoir whose spin is specified to center the core. Driven electrically — the same current system that spins the fuel. Material is Unknown #3; mounting/bearing inside a plasma vessel is Unknown #15 and is, mechanically, the hardest single problem in the package — there is no bearing concept on paper yet. That problem is stated to the shop as an open question, not a solved detail.

5 · CORE — TANTALUM (the ball of light)

Parameters: core radius R_{core} · density ρ_{core}

The fuel: tantalum, specified to isotope tantalum-181 (Unknown #1, RESOLVED — see the Unknowns table). A heavy, refractory metal: atomic number 73, density 16.65 g/cm³, melting point 3,017 °C, an elemental superconductor at 4.47 K. Spun with electric current inside the vessel, the element is specified to become the plasma — a loopy, torus-like ball of light held dead center by the ring (clearance on every side) — and to generate the machine's power. It is the power source and, spun up in density, the gravity source of the design in one body. Fuel mass/inventory is Unknown #2.

Interfaces (from BLUEPRINT.md §3)

Skin↔cryo: heat blend (open performance) · Cryo↔vessel: cooling + support (conventional form) ·

Vessel↔ring: mounting/bearing + current feedthroughs (OPEN) · Ring↔core: the centering interaction itself (THE open interface — asserted by the design, no demonstrated channel; see Grades) ·

Core↔take-off: power out via the feedthrough stack (route drawn, mechanism Unknown #12) ·

Core↔bubble: the design's stated purpose (unproven) · Assembly↔craft: core rides in the nose, bubble opens ahead and pulls; control is electrical only.

THE DRIVE CYCLE — AS DESIGNED

The designer's operating sequence (BLUEPRINT.md §4). Included so the shop can see what the assembly is FOR. Steps 6–7 are the design's stated purpose and are unproven — see Grades.

1 · Load

The tantalum element sits at the vessel's center, cold: cryo layer live, superconducting state established. Nothing is hot yet.

2 · Spin-up with current

Current drives the system: the ring spins up to its rate, and the element is spun with the current, faster and faster in its loop. Control is electrical from the first motion — there is no other control channel.

3 · Ignition (the quench)

Spinning under rising current, the element passes its superconducting critical field; resistance appears and ohmic heating takes it to plasma. (Read per the fuel determination: the quench is the designed ignition, not a failure.) The plasma gathers into the working shape — the loopy ball of light.

4 · Centered burn

The spinning ring holds the ball dead center — clearance to the core and to the wall both stay positive. The cryo layer carries off wall heat; the ceramic keeps radiation in. The plasma cannot hit the sides because the ring is spinning in the middle of it: the design's central claim, drawn as drawn.

5 · Power take-off

The held plasma generates the power; the take-off draws it through the feedthrough stack. Mechanism: Unknown #12.

6 · Density rise

Continued spin-up raises the core's density toward the drop threshold. The design prices the bend in density, not size.

7 · Bubble and drop-through (stated purpose)

At threshold, a gravity bubble opens ahead of the nose, pulls the craft, wraps the hull; the craft drops through — forward, backward, or above time — arriving through a white hole, one-way by the designer's law. The bubble must be startable, stoppable, and aimable under electrical control; an unstoppable bubble is a failed machine by the design's own requirement. UNPROVEN (Grades).

8 · Shutdown (sub-threshold)

Below threshold the cycle reverses: current down, ring spin down, plasma cools and re-condenses to tantalum in place. (A post-arrival configuration is outside the design as given — the trip is one-way and the designer has not specified a return state. Recorded as unspecified, not filled in.)

UNKNOWNNS TABLE — EVERY PARAMETER THE DESIGN STILL OWES

18 open parameters (BLUEPRINT.md §5). Nothing in this table has been given a value anywhere in this package; where a row says Open, nobody has the number — the designer included, by his own account. Row 1 is the one exception: resolved by determination, with its own new unknown handed back honestly.

#	Parameter	What it decides	Status
1	Fuel identity	Everything downstream: plasma behavior, inventory, handling	RESOLVED — TANTALUM-181. Determined Oct 29, 2026 by the Round Table → Voltron process the designer ordered (full record: DETERMINATION.md). Z 73 · density 16.65 g/cm ³ · superconductor T _c 4.47 K at ambient pressure · isotope 181Ta is 99.988% of natural tantalum, nuclear spin 7/2 — the largest polarizable nuclear-spin inventory in the closed candidate set; no enrichment needed. Runner-up lead failed on spin. New owed sub-parameter: aligning those nuclear spins at machine scale (polarization) — filed under #7.
2	Fuel mass / inventory (m _f)	Energy budget; achievable core density	Open
3	Ring material	Survival in its own environment; whether the ring is itself superconducting	Open
4	Ring spin rate (ω)	Strength of the torsion source; centering stiffness	Open
5	Ring geometry (R _{ring} , a)	Coupling geometry to the core; both clearances	Open — drawn as parameters
6	Drive current (I)	Spin-up power; plasma heating (ohmic channel)	Open
7	Torsion↔plasma coupling law (κ_t)	Whether the centering interface works at all, and how stiff it is	Open — the design's central unknown. Includes the fuel-polarization sub-parameter handed back by the determination (row 1)
8	Centering stiffness / stability margin	Disturbance the held center absorbs before a wall strike	Open
9	Plasma temperature (T _p)	Radiation load on the ceramic; power density	Open

#	Parameter	What it decides	Status
10	Core density — operating and drop threshold (ρ_{core} , ρ_{drop})	The drop condition itself; the design prices everything in density	Open
11	Confinement time of the centered state (τ_{conf})	How long the burn can be held; whether take-off nets positive	Open
12	Power take-off mechanism	How plasma energy becomes electrical power out	Open
13	Ceramic composition	Wall temperature / radiation limits (the designer's mesa provenance is testimony, not a spec)	Open
14	Cryogen identity and bath temperature (T_{cryo})	Cold-side temperature; superconducting margins	Open
15	Ring mounting / bearing inside the cavity	Whether a spinning ring can be held concentric inside a plasma vessel at all	Open — the hardest mechanical problem in the package
16	Bubble threshold + start/stop/aim control law	Whether the drop can be commanded rather than merely undergone	Open
17	Thermal-skin performance around a self-heating core	Signature management in the operating case	Open — named open by the cloak paper's own authors
18	Hull/bubble interaction (inertia shielding)	The survival claim in the designer's layout (the craft is uncrewed in his account)	Open

How to read this table as a shop: rows 3, 5, 13, 14, and 15 are the ones a fabricator can move first — materials, geometry, and the bearing problem are mechanical questions with mechanical answers, and the staged demonstrator proposed in the cover note needs only those. Rows 7, 10, and 16 are physics the design still owes; no shop is being asked to supply them.

GRADES — WHAT IS PROVEN, WHAT IS NOT

Tier of the whole design: TESTIMONY / DESIGN. This is one man's stated design, formalized and drawn. No device exists. No dimension in this package has a value. The drawings are a faithful picture of a described machine — evidence that the description is coherent enough to draw, and of nothing else. These grades ride in the package on purpose: a real shop gets the truth up front.

What converges with real machines (shape-level, and genuinely)

- The anatomy is a tokamak's: burning plasma core inside a cryogenically frozen shell — ITER holds ~150-million-degree plasma meters from superconducting magnets at ~4 K in liquid helium.
- Centering is the real problem, correctly identified: every fusion machine ever run exists to keep a plasma off the walls. Real machines solve it with magnetic fields; this design specifies a spinning ring instead. The requirement is real; the mechanism is the open question.
- Cryo + superconductors belong together in every real machine that uses either.
- Ceramic as the hot/radiation boundary is real materials science (boron-carbide class).
- The skin is published physics (the 2026 thermal-cloak paper), within its printed limit.
- Density, not size, is what curves space — the designer's correction on that point grades correct.

What is unproven (at full size)

- **The torsion centering channel** (Unknown #7): in Einstein–Cartan theory, spin does source torsion — that coupling is real in the equations. No experiment has ever demonstrated a torsion-mediated force centering a plasma, and standard estimates put the coupling at laboratory densities as fantastically weak. The design's central mechanism is asserted, not shown.
- **Self-confinement** of the dense core: asserted by the model, not derived.
- **The bubble / drop-through**: the torsion-throat channel has published shape-kin (Einstein–Cartan wormhole literature); folding on demand — start, aim, stop — is an open problem, and the time-travel step is unproven (not theorem-dead: the door is energy/geometry-locked, not law-locked).
- **The ring as hardware**: bearing, drive, and survival of a spinning torus inside a plasma vessel are unsolved even before the torsion question (Unknowns #3, #15).

The house verdict on the design, carried verbatim

**THERMODYNAMICS CLEAN · DESIGN COHERENT · PRICED IN DENSITY, NOT SIZE ·
TORSION-THROAT CHANNEL HAS LITERATURE SHAPE-KIN · CONFINEMENT + ON-DEMAND
FOLDING = THE OPEN PROBLEMS.**

What this means for the shop

The ask in the cover note is staged and mechanical: could the vessel + spinning tantalum ring assembly + cryo jacket be fabricated as a cold demonstrator — hardware that spins, seals, and gets cold, with no plasma and no physics claims attached? The physics questions stay on the designer's side of the table until the hardware questions have answers.