

CALIBRATION

Production Bible

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CONFIDENTIAL

PRODUCTION OVERVIEW

Parameter	Detail
Format	8-episode limited series (50-65 min per episode)
Shooting format	Digital (ARRI Alexa 65 or RED V-RAPTOR XL)
Aspect ratio	2.39:1 anamorphic
Resolution	4K HDR (Dolby Vision deliverable)
Color palette	Childhood: warm gold-green / College: stadium white-blue / Drift: varied (industrial rust, ocean blue) / Institutional: cold fluorescent gray / Mountains: Colorado gold at dawn and dusk
Estimated shoot days	80-100
Primary studio needs	2 large stages (Danner home interior, Fort Detrick/PROMETHEUS lab), 1 medium (DIA offices, military interiors)
Location shooting	Colorado (Estes Park, CU Boulder campus), Middle East location or backlot (Syria), tropical location (Tahiti), oil field (Permian Basin or substitute)
VFX vendor requirements	Mid-tier (wirework enhancement, strength demonstrations, thermobaric detonation) — no alien worlds or creature work
Estimated budget	\$8-12M per episode / \$64-96M total

THE PHYSICALITY OF HUGO DANNER

Hugo's superhuman capability is the show's primary production design challenge. Unlike alien worlds or space battles, the VFX in CALIBRATION serves a single purpose: making the audience believe that one man is operating at 10-16x normal human capability while constantly restraining himself.

Strength Demonstration Approach

Category	Technique	Episodes
Subtle strength (calibrated)	Practical: actor squeezing props rigged to deform on cue; practical crushed doorknobs, bent utensils, cracked glasses	All
Environmental destruction	Practical: pre-scored props + CG enhancement. Fort demolition, cell door, fence tearing	1, 7

Combat at reduced capacity	Wirework: opponents launched on wire rigs with CG enhancement for distance/impact	2, 4-5
Full-capacity moments	Full CG body double or wire-enhanced practical: Hugo running at 75 mph, the 180-mile run, absorbing gunfire	2-5, 7-8
Bulletproofing	Practical squibs on actor (rounds flatten) + CG bullet deformation	2, 4-5
The calibration close-ups	Macro photography: eggshell under pressure, glass flexing, skin compression. Practical, no VFX required.	1, 5

Key Design Rule

Hugo's capability is most powerful when implied. The audience should see the *consequences* of his strength more often than the strength itself. A crushed doorknob. A footprint pressed into concrete. The way other people instinctively step back. The VFX budget is spent on making restraint visible, not on making spectacle.

LOCATION DESIGN

Estes Park, Colorado — Danner Home (Eps 1-2, 4, 7-8)

Design philosophy: A modest mountain home that is also a prison. Wood, stone, pine trees, mountain views. Beautiful and isolating. The garage laboratory is cramped, obsessive, the workspace of a man who has spent years thinking about one thing.

Exterior:

- Two-story wood-frame house, wrap-around porch, mountain views
- Detached garage converted to laboratory
- Surrounding forest — Hugo's training ground
- The meadow at 9,200 feet — Hugo's childhood gymnasium and final resting place

Interior — House:

- Kitchen: the family's emotional center. Hugo's calibration lessons happen here.
- Hugo's bedroom: sparse, careful. Nothing breakable. No posters tacked to walls (he'd push through them).
- Parents' bedroom: where the injection happens. The room must feel both domestic and clinical.

Interior — Garage Lab:

- Workbench chemistry: centrifuge, PCR machine, gel electrophoresis setup, biohazard disposal
- Abednego's notebooks — handwritten, dense, the physical record of the modification
- Not a movie lab. A real garage with real equipment purchased on a researcher's salary.

Build approach: Location house in Colorado mountains (or substitute — British Columbia, New Zealand). Garage lab built on stage. Meadow scenes at practical mountain location.

CU Boulder Campus (Ep 2)

Design philosophy: The brief normalcy. The one period where Hugo almost belongs. Sunlit campus, dorm rooms, lecture halls, the football stadium. Everything Hugo experiences for eighteen months before the tackle.

Key locations:

- Folsom Field (53,750 capacity) — the USC game. Stadium footage needed for the crowd silence.
- Dorm room: Hugo and Marcus. Small, lived-in, the casual intimacy of roommates.
- Campus exteriors: walking to class, the quad, coffee shops. Hugo performing normalcy in public.

Build approach: Location shooting at CU Boulder or substitute university. Stadium sequence may require practical stadium + CG crowd extension. Dorm room on stage.

Exile Locations (Ep 3)

Design philosophy: Three landscapes of anonymity. Each is vast, industrial, and indifferent to Hugo's existence.

Location	Visual Character	Production Approach
Permian Basin (oil rig)	Flat, dust, industrial machinery, sodium-vapor light at night	Location: West Texas oil field or substitute (Alberta, North Dakota). 3-4 days.
Dubai (fighting ring)	Underground concrete, single overhead light, sweat, blood, sodium-vapor	Stage build. One set, 2-3 days.
Tahiti (pearl diving)	Tropical blue-green, underwater clarity, the freedom of the deep	Tropical location (Tahiti, Fiji, Hawaii). Underwater unit required. 5-7 days.

Fort Bragg / Military (Eps 3-5)

Design philosophy: The institutional world. Clean, organized, the architecture of control. Hugo fits here physically — his size makes sense in a military context — but the institution sees a capability, not a person.

Key locations:

- Training grounds: obstacle courses, ranges, combat exercises
- Briefing rooms: institutional fluorescent, projection screens, maps

- Cadena's office: lived-in, personal, the one institutional space that feels human

Build approach: Military base location (practical exterior) + stage interiors. Syria deployment: Middle East location or backlot (Morocco, Jordan, studio desert lot).

Fort Detrick — PROMETHEUS (Eps 5-7)

Design philosophy: Clinical horror. A \$183 million research facility that looks like every other government lab — except for the room with the artificial wombs. Building 568 is the show's most important set piece after the Danner kitchen.

Key spaces:

Space	Description	Episodes
Building 568 exterior	Unremarkable government building. Chain-link fence, security checkpoint. The banality of classified research.	5-7
Research floors (1-3)	Standard government lab: fluorescent lighting, workstations, whiteboards, equipment. Keyes's domain.	5-7
The embryo floor (4th)	Twelve artificial wombs. Translucent walls. Monitors showing vital signs. Four still functioning, declining. Clinical, quiet, horrifying in its normalcy.	5-7
Server room	Racks of servers, blinking LEDs. Three years of PROMETHEUS data. Hugo destroys it by hand.	7
Observation room	One-way glass overlooking the embryo floor. Lyle's vantage point.	5-6

The artificial wombs — design notes:

- NOT science fiction pods. Medical-grade equipment — incubators scaled up, translucent walls, standard medical monitors.
- The horror is in the normalcy: heart rate, O2 sat, gestational age displayed on screens. The same readouts as any NICU, applied to something that should never have been created.
- As Hugo shuts them down in Ep 7, each flatline is clinical — the same sound as any hospital monitor. No dramatic score. Just the beep becoming a tone.

Build approach: Full stage build for Building 568 interiors (modular, reconfigurable). Exterior: practical government building facade or stock footage with signage.

Virginia Confinement Facility (Eps 6-7)

- Reinforced cell: concrete, steel door, institutional lighting, a cot, a toilet. Designed for normal men. Hugo could leave at any time.
- The cell is a metaphor made literal: Hugo is contained because he chooses to be, not because the walls can hold him.
- When he leaves (Ep 7), the door tears off its hinges. The guards watch. Nobody tries to stop him.

Build approach: Stage build. One set, 3-4 days of shooting.

Colorado Mountains — Final Act (Ep 8)

- The meadow at 9,200 feet: Hugo's childhood training ground. Wide, open, surrounded by peaks. The most beautiful location in the series.
- Hugo's last day: sitting on the boulder from Episode 1. The same frame, twenty-three years later.
- The thermobaric strike turns the meadow to glass. Before and after: practical mountain location + CG detonation effect.

Build approach: Colorado mountain location (or substitute with similar elevation and terrain). 5-7 days of location shooting. Thermobaric effect entirely CG.

VFX BREAKDOWN BY EPISODE

Episode 1 — "Modification" (15 VFX shots)

- Hugo's grip crushing Anna's finger (practical + CG bruise formation) — 2 shots
- Tyler's arm break (practical stunt + CG bone stress) — 1 shot
- Fort demolition (practical pre-scored structure + CG debris enhancement) — 4 shots
- Hugo in the woods: uprooting trees, throwing boulders (wire rig + CG) — 5 shots
- Viral video YouTube interface (screen graphics) — 2 shots
- Mountain establishing shots (minimal CG enhancement) — 1 shot

Episode 2 — "Calibration" (30 VFX shots)

- Accidental gunshot: bullet flattens against Hugo's thigh (CG bullet deformation + practical squib) — 3 shots
- Football performance: calibrated athleticism (wire enhancement for key plays) — 6 shots
- The USC tackle: the hit, the pop, Kensington's body (practical stunt + CG spine impact) — 4 shots
- Stadium crowd (CG extension if needed) — 3 shots
- The 180-mile run: Hugo at 75 mph through mountains (CG body double + practical running plates) — 6 shots
- Night departure: running into darkness (practical + CG speed effect) — 2 shots
- Training montage: calibrated numbers (40-yard dash, bench press) — 4 shots
- Snow/mountain establishing — 2 shots

Episode 3 — "Drift" (20 VFX shots)

- Oil rig establishing (practical location + CG extension) — 3 shots
- Dubai fighting ring: 20% punches (wire rig on opponents, practical impacts) — 4 shots
- Pearl diving: underwater Hugo at full capability (underwater photography + CG enhancement) — 5 shots
- Bull shark kill: one punch (CG shark + practical water interaction) — 3 shots
- Tahiti establishing — 2 shots
- Military transport interior/exterior — 3 shots

Episode 4 — "Weapon" (35 VFX shots)

- Training exercises: Hugo at 30% (wire rig + CG) — 5 shots
- Syria compound breach: Hugo absorbing gunfire (practical squibs on actor + CG round deformation) — 8 shots
- Combat kills: brief, physical, consequential (practical stunts + CG enhancement) — 6 shots
- Hugo's physical resilience: rounds flattening, shrapnel bouncing (CG) — 4 shots
- Driving sequences (practical + CG environment) — 3 shots
- Estes Park establishing — 2 shots
- Phone/text message screen graphics — 3 shots
- Syria environment establishing — 4 shots

Episode 5 — "Prometheus" (25 VFX shots)

- Fort Detrick establishing — 2 shots
- Embryo laboratory: monitors, vital signs, artificial womb graphics (screen graphics) — 6 shots
- Hugo's medical examination data (screen graphics) — 3 shots
- Syria ambush: Hugo at full capacity (wire rig + CG + practical stunts) — 8 shots
- Cadena's injury (practical stunt) — 2 shots
- Data transfer graphics (PROMETHEUS pipeline visualization) — 4 shots

Episode 6 — "Protocols" (15 VFX shots)

- Embryo deterioration (screen graphics: declining vitals) — 4 shots
- Hugo discovers PROMETHEUS facility (minimal VFX) — 2 shots
- Hugo confined: cell door impact testing (practical) — 2 shots
- Surveillance camera footage (screen graphics) — 3 shots
- Communication intercept graphics — 2 shots
- Establishing shots — 2 shots

Episode 7 — "Escape" (30 VFX shots) — HIGH VFX EPISODE

- Cell door torn off hinges (practical pre-scored door + CG metal deformation) — 3 shots
- Hugo walks past armed guards (no VFX — the tension is in the acting) — 0 shots
- Fort Detrick fence breach: chain-link torn open (practical + CG) — 3 shots
- Server room destruction: Hugo crushing servers by hand (practical + CG debris) — 5 shots
- Embryo shutdown: four flatlines (screen graphics + practical monitor) — 4 shots
- Hugo's physical deterioration: bone growth visible (subtle CG prosthetic enhancement) — 3 shots
- Driving sequences — 3 shots
- Building 568 destruction details — 5 shots
- Mountain establishing — 2 shots
- Interior destruction details (crushed equipment, bent steel) — 2 shots

Episode 8 — "Threshold" (40 VFX shots) — MOST VFX-INTENSIVE

- Hugo's bone growth progression (CG prosthetic enhancement) — 4 shots
- Mountain establishing: golden hour, the meadow, Hugo alone — 4 shots
- Black Hawk helicopters arriving (CG or practical helicopter + CG environment) — 4 shots
- SOF team deployment (practical stunts + CG environment) — 3 shots
- Thermobaric bomb approach (CG) — 3 shots
- The detonation: meadow becomes glass (full CG environment destruction) — 6 shots
- Glass crater aftermath (CG environment) — 3 shots
- Marcus's article: *The Atlantic* layout (screen graphics) — 2 shots
- Federal storage facility: fireproof box (practical) — 0 shots
- Notebook pages: Abednego's handwriting, the cipher (practical prop) — 0 shots
- Flashback montage: Hugo's life (reused footage, no new VFX) — 4 shots
- Epilogue establishing shots — 3 shots
- Final mountain shot — 2 shots
- Lyle's Senate briefing (screen graphics) — 2 shots

VFX Totals

Category	Shot Count
Strength/physicality (wire + CG enhancement)	~55
Environment establishing (CG)	~30
Screen graphics (monitors, phones, articles)	~35
Combat/military sequences	~25
Thermobaric detonation sequence	~16
Bulletproofing (rounds flattening)	~12

Physical deterioration (bone growth)	~7
Underwater (pearl diving, shark)	~8
Destruction (fort, facility, servers)	~22
Total estimated VFX shots	~210

VFX complexity note: The shot count is moderate for a prestige SF series. The primary challenge is not volume but subtlety — Hugo's strength must feel physical and real, not digital. Wire work enhancement, practical prop deformation, and CG augmentation should be seamless. The audience should never think "that's a VFX shot." They should think "that man is terrifyingly strong."

PRACTICAL EFFECTS PLAN

Wirework (Strength Demonstrations — All Episodes)

- **Purpose:** Make Hugo's physical impacts on other actors and environments feel real
- **Approach:** Standard wirework for opponent reactions (bodies launched, stumbling impacts), enhanced with CG for distance and trajectory
- **Duration:** Wirework rigging required on approximately 25-30 shooting days across the series
- **Key sequences:** Fort demolition (Ep 1), USC tackle (Ep 2), Dubai fights (Ep 3), Syria combat (Eps 4-5), facility breach (Ep 7)

Prop Engineering (Calibration Effects)

Effect	Technique	Episodes
Crushed eggs, glasses, doorknobs	Pre-weakened practical props, triggered deformation	All
Bent utensils, crushed phones	Practical soft-metal props (lead/tin alloy) that deform on camera	Various
Anna's finger bruise	Practical makeup (time-lapse bruise application between takes)	1
Bullet flattening	Practical mushroomed-bullet props placed on actor + CG impact	2, 4
Cell door torn off hinges	Pre-scored steel door on breakaway hinges + CG metal stress	7
Chain-link fence torn	Pre-cut fence panels + CG metal deformation	7

Stunt Coordination

- **Key requirement:** Hugo's fighting style is NOT martial arts. It is calibrated brutality — a man consciously choosing how hard to hit. Every impact must feel deliberate, restrained, and terrifying in its restraint.
- **The USC tackle:** One hit. Real speed. The stunt must sell the idea that Hugo's calibration failed for three-tenths of a second — one moment of full-capacity contact in an otherwise controlled performance.
- **Syria combat:** Hugo at 30% is still the most effective operator in the theater. The stunt choreography should show efficiency, not aggression. Hugo doesn't fight — he solves problems that happen to involve combat.

SOUND DESIGN APPROACH

Core Principles

1. **Calibration is audible.** The audience should hear what Hugo feels: the constant negotiation with his own strength. Eggshell creak, glass flex, bone compression, the whisper of force held back.
2. **Violence is abrupt.** No build-up. No slow motion. The USC tackle is one sound — a sick, organic pop — then silence.
3. **The mountains breathe.** Hugo's mountain sequences are scored by wind and space. The Rockies are the only place where the ambient sound design relaxes.
4. **Institutions hum.** Fort Detrick, the DIA facility, the confinement cell — all share a low-frequency drone that the audience absorbs subconsciously. The hum of surveillance.
5. **The thermobaric strike is one tone.** Rising. Building. Then — nothing. Not an explosion. An absence. The meadow sound profile (wind, birds, grass) cuts to dead silence. Then a new tone: the sound of vitrified earth cooling.

Key Sound Moments

Moment	Sound Design
The injection (Ep 1)	Near-silence. The click of the syringe. Anna's breathing. No score.
Tyler's arm (Ep 1)	A wet crack. Hugo's gasp. No score.
The calibration exercises (Ep 1)	ASMR-intimate: eggshell stress, glass flex, Abednego's hand under pressure
The gunshot (Ep 2)	Full-volume gunshot. Then: the metallic ping of a flattened round hitting the ground.
The USC tackle (Ep 2)	Stadium roar → one sick pop → 53,750 people going silent in two seconds

The shark kill (Ep 3)	Underwater: muffled impact, water compression wave, the shark's body going limp
Syria compound breach (Ep 4)	Automatic weapons fire hitting Hugo — the sound of rounds flattening on skin. Not ricochets. Flat thuds.
Embryo monitors (Ep 5)	Standard hospital beeping. The most horrifying sound in the series because of its normalcy.
Four flatlines (Ep 7)	One at a time. Beep-beep-beep becomes a single held tone. Four times. No score.
Thermobaric detonation (Ep 8)	Rising tone → white noise → silence → a faint crystalline ring (glass cooling)

CASTING CONSIDERATIONS

Hugo Danner (3 Actors)

The role requires three performers:

Age	Actor Profile	Episodes
Child Hugo (5-8)	Large for age, expressive, capable of extended silent sequences	1
Teen Hugo (14-15)	Physical, intelligent, the beginning of isolation	2 (early scenes)
Adult Hugo (18-23)	6'2"+, genuinely large build (265 lbs believable), intelligence expressed through stillness	2-8

Adult Hugo casting priority: An actor with genuine physical mass who can make stillness more compelling than action. The performance is 80% restraint, 15% quiet conversation, 5% physical demonstration. The 5% must be convincing because of the other 95%.

Body Double / Stunt

- Hugo's running sequences (75 mph) require a CG body double
- Combat sequences require a stunt double of similar build (rare at 6'2", 265 lbs)
- Wire work for strength demonstrations may use the primary actor or stunt double depending on complexity

COLOR AND LIGHTING GUIDE

Color Arc Across the Series

Episodes	Dominant Palette	Emotional Register
1 (Modification)	Warm gold-green (Colorado forest), cold clinical (garage lab)	Love and violation coexisting
2 (Calibration)	Stadium white-blue, dorm warm amber, mountain cold blue	Brief belonging → catastrophic loss
3 (Drift)	Industrial rust (oil rigs), warm sodium (Dubai), tropical blue-green (Tahiti)	Anonymity across three landscapes
4 (Weapon)	Military khaki-green, desert ochre, Estes Park autumn gold	Purpose corrupted by exploitation
5 (Prometheus)	Clinical white-green (Fort Detrick), warm amber (Raya's quarters), Syria desert	Love and surveillance
6 (Protocols)	Cold fluorescent throughout — the warmth has been drained	Betrayal, confinement, institutional cold
7 (Escape)	Cold institutional → warm Estes Park → clinical Fort Detrick → Colorado dawn	Autonomy reclaimed
8 (Threshold)	Colorado golden hour → white (detonation) → institutional gray (aftermath)	Beauty → destruction → bureaucratic silence

BUDGET STRATEGY

Budget Range: \$8-12M per Episode / \$64-96M Total

Comparable Productions

Production	Network	Episodes	Total Budget	Per Episode	Relevance
Chernobyl (2019)	HBO	5	~\$75M	~\$15M	Institutional tragedy; contained VFX; comparable tone
The Boys S1 (2019)	Prime Video	8	~\$60M	~\$7.5M	Superhuman physicality on a budget; practical + CG hybrid

Watchmen (2019)	HBO	9	~\$90M	~\$10M	Superhuman d econstruction; prestige drama; limited action
Severance S1 (2022)	Apple TV+	9	~\$40M	~\$4.5M	Institutional thriller; minimal VFX; character-driv en
True Detective S1 (2014)	HBO	8	~\$50M	~\$6.25M	Prestige limited series; character-driv en; location-heavy

Budget Advantage

CALIBRATION is significantly cheaper than most prestige SF series because:

- 1. No alien worlds.** Every location is Earth — Colorado, Texas, Dubai, Tahiti, Syria, Virginia, Maryland. Real places. No CG environment construction.
- 2. No creature work.** Hugo is human. The VFX challenge is making a human actor look superhumanly strong — wire work and practical effects, not digital creatures.
- 3. No space sequences.** No spacecraft, no orbital shots, no zero-gravity simulation.
- 4. Limited cast.** Four series regulars, six recurring roles. No large ensemble.
- 5. One primary standing set.** The Danner home recurs across five episodes. Build once, redress for aging.
- 6. The VFX is enhancement, not creation.** Most shots require augmenting practical photography, not building environments from scratch.

Budget Allocation (Estimated at \$10M/ep Midpoint)

Category	% of Budget	Per Episode	Notes
Talent (above the line)	20%	\$2.0M	Cast, director, writers, showrunner
Crew & production	18%	\$1.8M	Below-the-line crew, equipment, stages
Location & travel	15%	\$1.5M	Colorado, campus, oil field, tropical, Middle East
Production design & build	14%	\$1.4M	Danner home, Fort Detrick/PROMETHEUS lab, DIA facilities

VFX & post	18%	\$1.8M	Wire enhancement, practical augmentation, thermobaric sequence
Stunts & wirework	5%	\$0.5M	Strength demonstrations, combat sequences
Music, sound, post-audio	5%	\$0.5M	Original score, Atmos mix, calibration sound design
Contingency	5%	\$0.5M	Standard

Production Schedule (Estimated)

Phase	Duration	Key Activities
Pre-production	14 weeks	Set design/build, casting (3 Hugos), stunt choreography, wirework tests, location scout
Principal photography	16-20 weeks	Stage work (Danner home, Fort Detrick), location work (Colorado, campus, oil field, tropical)
Second unit	3-4 weeks (concurrent)	Mountain plates, underwater (Tahiti diving), stunt pre-viz
Post-production	24-30 weeks	VFX, sound design, score, color grade, Atmos mix
Total	~14-18 months (pre-production through delivery)	

Critical path items:

1. Adult Hugo casting (the role requires a rare combination of physical size and acting subtlety)
2. Wirework/stunt pre-viz for key sequences (USC tackle, Syria combat, facility breach)
3. Fort Detrick embryo lab set build (the show's most complex set piece)
4. Colorado location windows (mountain shooting best May-October)

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