

THE GIDEON CORP. — INVENTORY INTELLIGENCE

APEX AERO SERVICES

Inventory & Parts-Flow Analysis

\$190,955,354 on hand • 79,000 SKUs • 199,475 part-stock rows • 6 warehouses

Generated 2026-06-12 • Mid-size MRO composite (commercial + defense-adjacent)

SYNTHETIC DEMONSTRATION DATA — NOT A REAL COMPANY — FOR ILLUSTRATION ONLY

Prepared as a capability demonstration: turning a mid-size MRO's raw parts reality — hundreds of thousands of stock records across six warehouses — into a clear picture of what's moving, what's dead, where cash is trapped, and where supply risk lives.

Contents

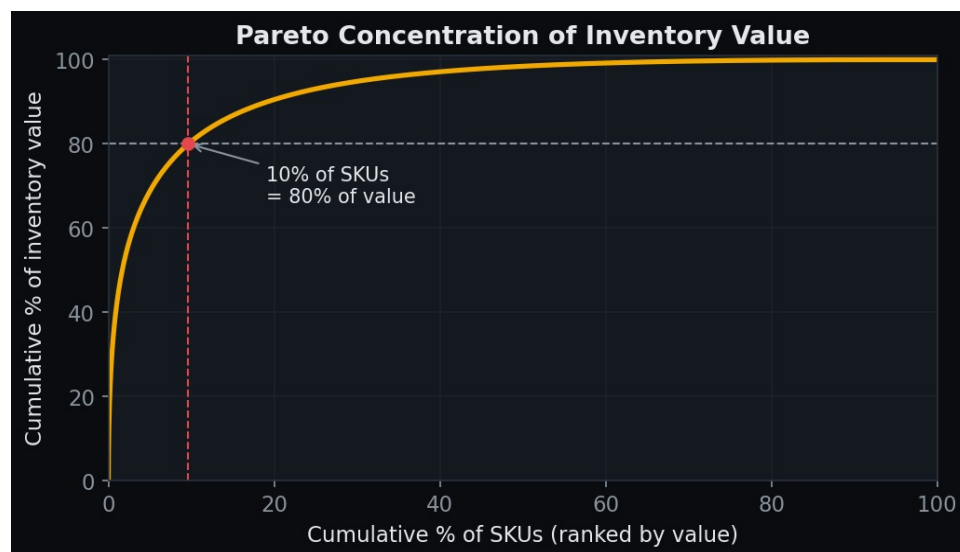
1. Executive Summary

TOTAL INVENTORY VALUE \$190,955,354 79,000 SKUs across 6 sites	CASH TRAPPED IN DEAD + EXCESS \$116,250,509 20.8% dead alone (33,688 SKUs)
SINGLE-SOURCE CRITICAL PARTS 25,408 \$56,766,040 of value at supply risk	PRICE-GAP SAVINGS (ANNUAL) \$19,292,648 vs ISO-Group market benchmark
WAREHOUSE REBALANCING VALUE \$3,329,349 13,693 SKU moves, no new spend	INVENTORY TURNS 1.02x against a 4.0x target



2. Inventory Composition

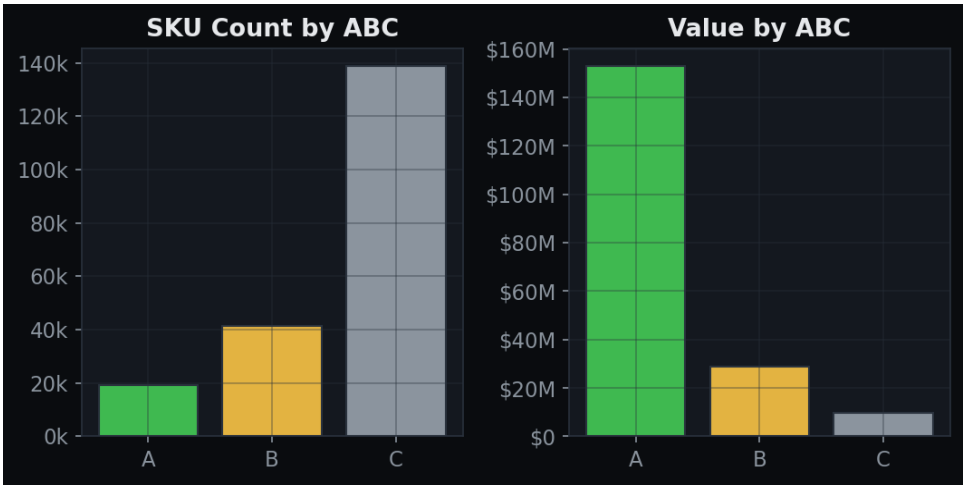
Inventory value follows a textbook Pareto distribution. A small set of high-value repairables and avionics accounts for the overwhelming majority of dollars on the shelf, while the long tail of fasteners, seals, and consumables represents most of the SKU count but a small share of value.



A-class SKUs (~10% of items) carry roughly 80% of inventory value.

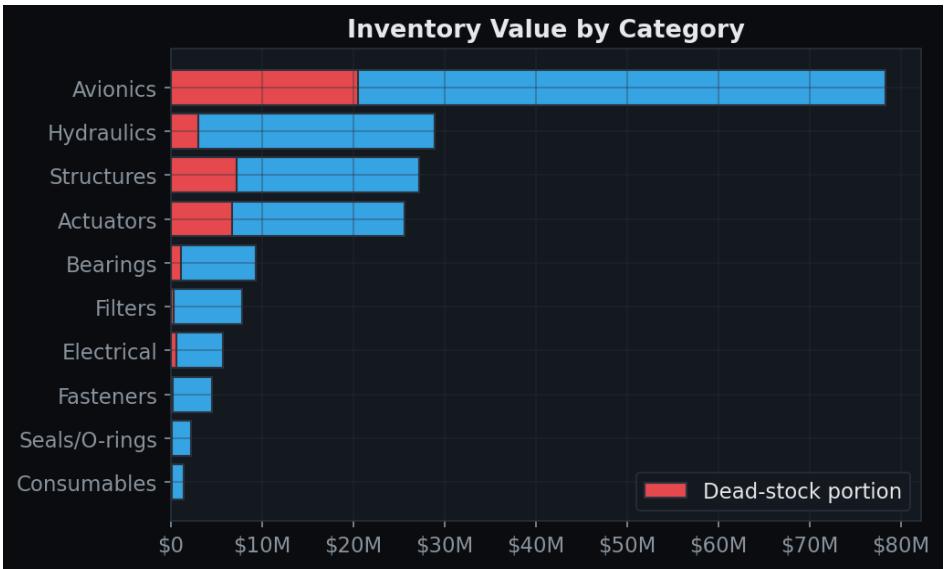
By ABC and demand variability (XYZ)

Classing every SKU by value (ABC) and by demand variability (XYZ) shows where management attention should concentrate. A-class items justify tight policy and cycle counts; the erratic Z column — inflated by the dead-stock tail — is where excess and obsolescence accumulate.



ABC	SKUs	Inventory \$	Share of value
A	19,258	\$152,764,273	80.0%
B	41,544	\$28,643,249	15.0%
C	138,673	\$9,547,832	5.0%

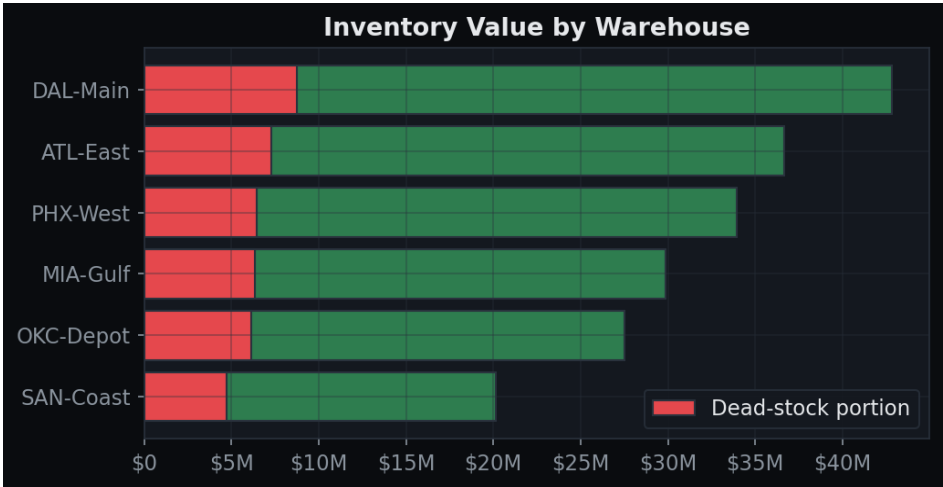
By category



Category	SKUs	Inventory \$	Dead \$	Turns
Avionics	14,020	\$78,324,792	\$20,521,240	0.53
Hydraulics	17,916	\$28,901,390	\$3,037,295	1.82
Structures	12,036	\$27,261,694	\$7,179,924	0.53
Actuators	9,689	\$25,654,884	\$6,695,435	0.52
Bearings	19,668	\$9,309,321	\$1,066,896	1.72
Filters	15,923	\$7,805,780	\$296,562	3.00

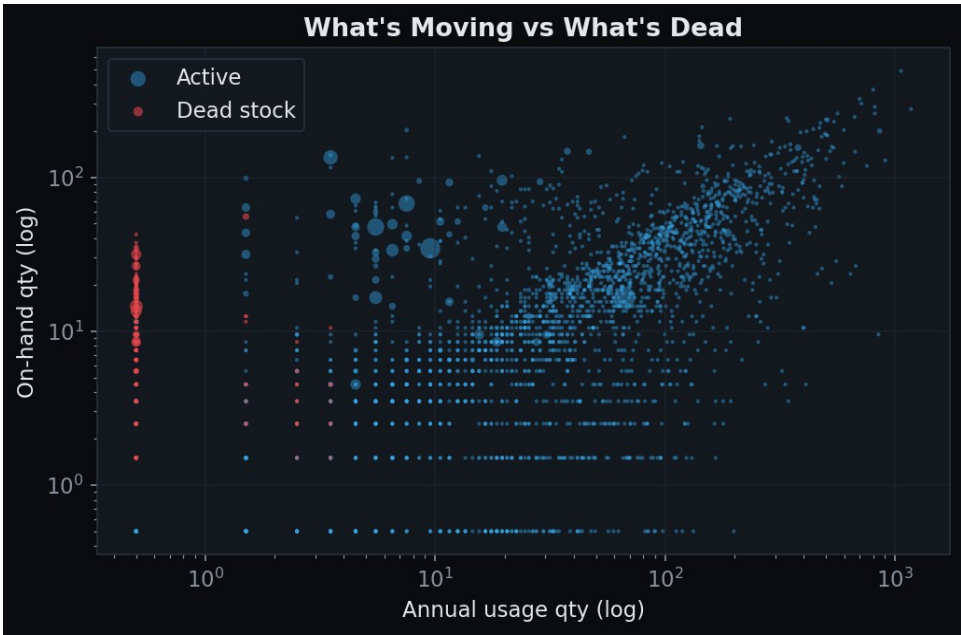
Category	SKUs	Inventory \$	Dead \$	Turns
Electrical	19,783	\$5,684,110	\$590,268	1.75
Fasteners	40,519	\$4,483,560	\$196,931	2.95
Seals/O-rings	27,946	\$2,161,206	\$91,187	3.03
Consumables	21,975	\$1,368,616	\$60,116	3.03

By warehouse



Warehouse	SKUs	Inventory \$	Dead \$	Turns
DAL-Main	43,958	\$42,834,642	\$8,735,415	1.05
ATL-East	37,975	\$36,669,020	\$7,289,333	1.04
PHX-West	35,548	\$33,946,577	\$6,441,591	1.03
MIA-Gulf	30,446	\$29,842,386	\$6,371,065	0.96
OKC-Depot	29,175	\$27,515,319	\$6,159,755	1.04
SAN-Coast	22,373	\$20,147,410	\$4,738,693	1.00

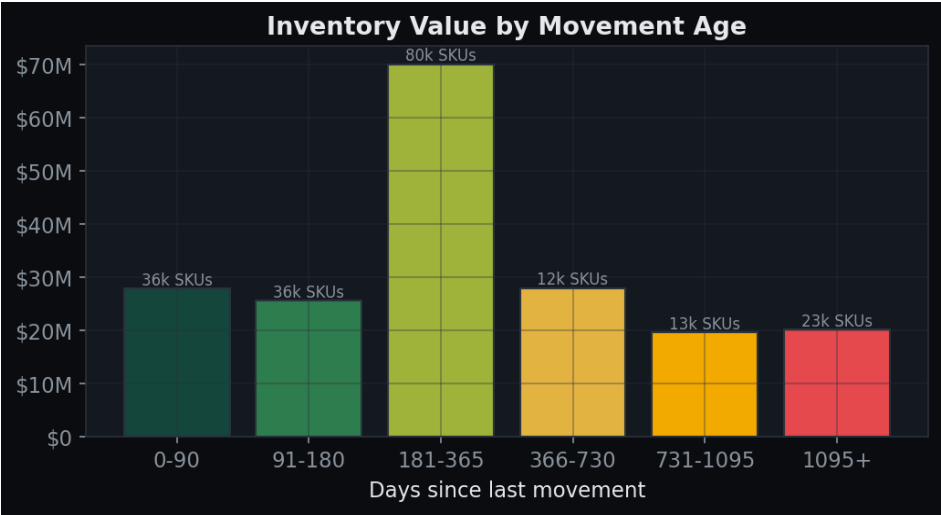
3. What’s Moving and What’s Not



Red points are dead stock: meaningful quantity on hand, little or no usage.

Aging of inventory

Bucketing every SKU by days since last movement shows the obsolescence runway. The oldest two buckets are effectively standing disposition candidates.



Top dead-stock offenders

The ten SKUs below carry the most trapped cash among non-moving parts. These are the first candidates for return-to-vendor, internal redeployment, or write-down.

Part	Category	Site	On-hand	Trapped \$	Days idle
Transponder, Titanium	Avionics	DAL-Main	46	\$476,981	738
Transponder, Std	Avionics	ATL-East	9	\$270,785	1,045
Display Unit, Class A	Avionics	OKC-Depot	128	\$250,601	774
Comm Radio, Type II	Avionics	MIA-Gulf	39	\$181,257	1,157
Flight Computer, Forged	Avionics	MIA-Gulf	64	\$153,184	879
Nav Receiver, Type II	Avionics	MIA-Gulf	157	\$152,281	833

Part	Category	Site	On-hand	Trapped \$	Days idle
Transponder, Std	Avionics	SAN-Coast	5	\$150,436	1,398
Nav Receiver, HD	Avionics	ATL-East	62	\$141,327	784
Sensor Module, Type II	Avionics	MIA-Gulf	66	\$133,911	838
Nav Receiver, Inconel	Avionics	SAN-Coast	96	\$128,821	772

4. Supply Risk

Top single-source, long-lead critical parts

Part	Category	Site	Lead (days)	Value at risk
Display Unit, Assy	Avionics	DAL-Main	94	\$956,443
Nav Receiver, Forged	Avionics	ATL-East	160	\$427,252
Transponder, Composite	Avionics	PHX-West	107	\$313,434
Transponder, Composite	Avionics	ATL-East	107	\$267,611
Display Unit, Class A	Avionics	OKC-Depot	114	\$250,601
Display Unit, Std	Avionics	SAN-Coast	115	\$236,033
Rotary Actuator, Self-Lock	Actuators	ATL-East	89	\$220,171
Panel, Assy	Structures	OKC-Depot	57	\$198,643
Flight Computer, Inconel	Avionics	DAL-Main	132	\$191,633
Comm Radio, Type II	Avionics	MIA-Gulf	112	\$181,257

Warehouse imbalances

Part	Short site (OH)	Over site (OH)	Move qty	Transfer \$
Comm Radio, Titanium	SAN-Coast (0)	PHX-West (27)	5	\$44,612
Sensor Module, Anodized	ATL-East (0)	PHX-West (80)	5	\$40,544
Flight Computer, Anodized	OKC-Depot (2)	PHX-West (137)	5	\$34,494
Comm Radio, Type II	MIA-Gulf (0)	PHX-West (9)	2	\$32,972
Display Unit, Self-Lock	MIA-Gulf (0)	OKC-Depot (6)	2	\$22,277
Display Unit, Composite	SAN-Coast (0)	OKC-Depot (35)	9	\$21,066
Doubler, Assy	DAL-Main (0)	OKC-Depot (69)	11	\$19,398
Nav Receiver, HD	DAL-Main (0)	OKC-Depot (81)	10	\$16,807
Nav Receiver, Composite	OKC-Depot (0)	MIA-Gulf (12)	8	\$15,507
Sensor Module, Forged	MIA-Gulf (0)	DAL-Main (54)	5	\$13,598

5. Price-Gap Analysis vs Benchmark

Biggest annual overpayments

Part	Category	Our unit \$	Gap %	Overpay \$/yr
Flight Computer, Hi-Lok	Avionics	\$20,955	23.0%	\$109,641
Display Unit, Std	Avionics	\$23,513	76.3%	\$71,227
Hydraulic Line, Std	Hydraulics	\$3,457	67.7%	\$61,426
Hydraulic Line, Aero	Hydraulics	\$4,110	77.1%	\$53,687
Hydraulic Line, Aero	Hydraulics	\$4,110	77.1%	\$46,529
Circuit Breaker, Class A	Electrical	\$769	55.1%	\$43,715
Reservoir, Assy	Hydraulics	\$718	56.2%	\$35,431
Transponder, Titanium	Avionics	\$4,359	41.8%	\$34,712
Hydraulic Line, Aero	Hydraulics	\$4,110	77.1%	\$34,002
Nav Receiver, Class A	Avionics	\$5,974	25.2%	\$33,656

6. Reorder-Point & Min/Max Hygiene

- Set safety stock from demand variability (XYZ) and current lead time, not legacy fixed quantities.
- Cap max levels on Z-class slow movers to stop excess from re-accumulating after clean-up.
- Flag any A-class item below reorder for same-day buyer action.

7. Prioritized Recommendations

Sequenced by speed-to-value and ease of execution. The first three are achievable within a quarter and largely self-funding.

1. **Rebalance before buying.** Action the 13,693 internal-transfer opportunities to recover \$3,329,349 and eliminate the corresponding stockout risk with zero new spend. Impact: **\$3,329,349 freed, weeks.**
2. **Close the price gaps.** Renegotiate or re-source the top overpaid SKUs against the market benchmark. Impact: **\$19,292,648 per year, recurring.**
3. **Dispose of dead stock.** Run return-to-vendor, redeployment, and write-down on the 33,688 non-moving SKUs. Impact: up to **\$39,735,852 of cash and warehouse space recovered.**
4. **De-risk single sources.** Qualify second sources or set strategic buffers on the 25,408 single-source, long-lead critical parts, starting with the highest-value lines. Impact: continuity protection on **\$56,766,040 of inventory.**
5. **Reset reorder policy.** Recalculate min/max and safety stock from live demand and lead times to clear the 23,514 current stockout-risk SKUs and stop excess re-accumulating. Impact: higher service at lower working capital, and a path toward the 4.0x turns target from today's 1.02x.

Methodology: figures derive from a seeded synthetic dataset of 199,475 part-stock records modeled on realistic MRO structure (Pareto value concentration, a multi-year dead-stock tail, category-correlated lead times, single-source critical parts, cross-warehouse imbalances, and price gaps versus an external benchmark). All totals reconcile across the accompanying Excel workbook and interactive dashboard. No real company data is used.