

Manufacturing Success

SpecsSys helps Client's SCOM product compete and grow.



www.specsys.com
www.specsys6.com
Rev 25.3.2

SCOM CP34/CS34

Upgrade project from prototype to production

- Three prototypes shipped fall, 2014
- First production unit in Q1, 2015
- 450+ units delivered

7-week throughout, volume adjusted based on S&OP

Precise builds with minimum defects

“Once we place on our client’s decal, we now take on their Brand Image, the customer expects more.”



Parts/Material Purchase

640 parts (CP34)

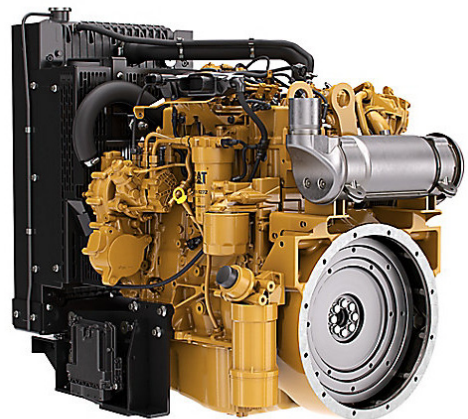
80 Vendors: six overseas, two local

6 months is longest lead time (engines and axels)

Independent: Moved from Client confirmation of purchases to open-buy agreement based on S&OP

- Three months firm forecast
- Long-lead-time items in extended forecast

All make-buy decisions managed by SpecSys



Machining/Fabrication

Milling, drilling/tapping, boring, turning

CNC programs developed in house

Parts-specific fixtures

Go/no-go gauges

Plasma, torch cutter

- Nesting (scrap & drop) analysis: based on S&OP

Press brake

- Setup books
- Fixtures

Must be precise; grinding at weld is not allowed



Welding

Aws-D1.1 certified welders are a SpecSys requirement

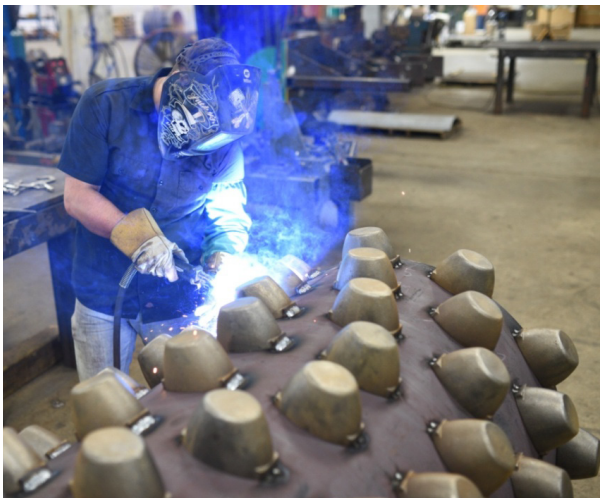
Buggo system for drums

Weld positioners when possible

A fixture for every part

- 7 engineering designed, remainder shop designed
- Goal is never to use a tape measure

Parts that require grinding return upstream



Painting

Phosphate pre-treatment (Sand/Shot Blast available)

Primer, top coat

- Adhesion, dry film thickness, gloss: measured with each booth load and logged
- MIL Std & Salt Spray Test available

Purpose built carts, part-specific paint racks, trinket racks

Operators completed Client training

“SpecSys was well-suited to meet Client’s paint requirements. Quality has been a non-issue.”



Electronic Work Instructions

On tablets & TV's

- Easy access
- Easy, real-time updates
- Easy revision control

Bring operators up to speed quickly

Improve quality and consistency in a precise build



Assembly

Every fastener and fitting torqued

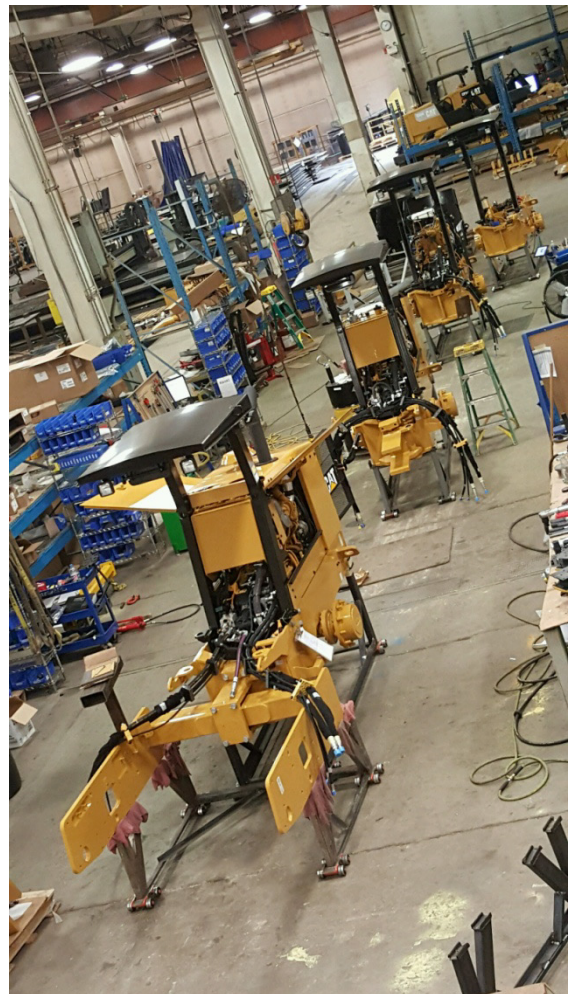
- Broken-line torque method
- Digital torque of engine emissions component

Documentation

- Traveler: Documents all findings/shortages
- Serial number traveler: Captures all part serial numbers and setting ~20 items

Training: Torque, O-ring and lip seals, hydraulics, tubing

Client responded to feedback for design for manufacturability



Assembly

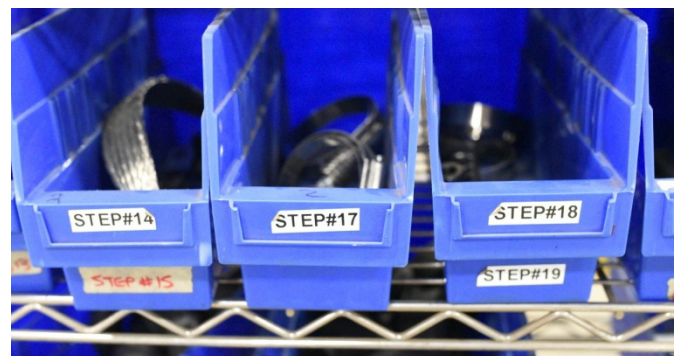
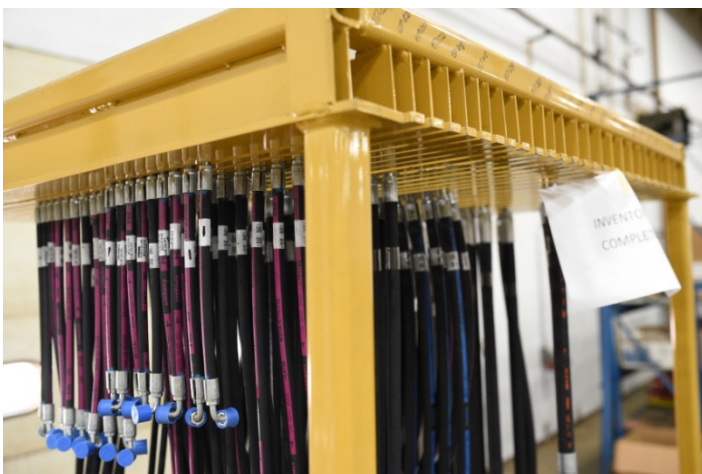
Material handling: Leverages point-of-use inventory system

- Parts based on work instruction requirements
- 2 days of inventory; 2-bin in/out
- Time process studies pinpoint wastes

Flex facility: Support from SpecSys facilities (Granite Falls MN, New Ulm MN, Watertown SD, Prentice WI)

Assembly stands and tool shadow boards at each station

Part-specific rigging: no forklifts allowed



Final Inspection/Test

Run test:

Initially 20 hours, later reduced to 1 hour

Client “RTD” software

- Guides through final tests and sends results to its database
- Electronics, hydraulic pressure, vibration, tire synchronization, drive speed, relief settings
- Takes human element out; process will stop if a test fails

Pre-delivery inspection – SpecSys

- Components/areas specific
- Torques
- General operation
- Fit & finish
- Past offenders
- Gear lube and hydraulic fluid cleanliness

Pre-delivery audit (PDA)

(100% first run and later reduced to 25%)

- Complete documents
- Fluid levels
- Hoses
- Torques
- General operation
- Fit & finish



Quality Systems

100% part verification on prototypes:

Mechanical & Laser Faro arm for large parts

Quality checks before going to the next station: done by someone other than the operator

Advise of ship notice in client system

ISO 9001-2015 Independent Audited & Certified



Summary Program Numbers

Shipped first unit Q2 2015

Shipped last unit Q1 2018

Shipped a total of 433 units

Managed \$15,652,950 in total supply chain through program

98.4% on time unit shipment to SpecSys client

- 1.6% comes from 6 units tied to engineering issues (love joy and CVG)
- Excludes initial months understanding rules of engagement

Warranty reports covering 10/1/2015 – 9/30/2017

- SpecSys Paid \$14,533 TOTAL Warranty
- 291 Units shipped 10/1/2015 – 9/30/2017
- SpecSys paid warranty \$\$/Unit: \$49.94/Unit over a three year period

Summary Quality Numbers

Client provided data:

CP34 (Pad Foot Compactor Model)

- 2 Months in Service
 - Client's Target: 0.65 DPU
 - Actual: 0.16 DPU
- **12 Months in Service**
 - Client's Target 1.71 DPU
 - Actual 0.69 DPU

CS34 (Smooth Drum Compactor Model)

- 2 Months in Service
 - Client's Target: 0.65 DPU
 - Actual: 0.10 DPU
- **12 Months in Service**
 - Client's Target: 1.71 DPU
 - Actual: 0.20 DPU



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.:
CERT-07148-2006-AQ-HOU-ANAB

Initial certification date:
19 September, 2007

Valid:
11 September, 2025 – 10 September, 2028

This is to certify that the management system of
RVI, Inc. / SpecSys/ Integral DX Inc.
 121 North First Street, Montevideo, MN, 56265, USA
 and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Quality Management System standard:
ISO 9001:2015

This certificate is valid for the following scope:

Provide Services to Clients that include: Contract Manufacturing, Design Engineering, Fabrication, Machining, Welding, Assembly, Painting, Repair and Renewal of Electronic Products, Test development and testing of Electronic Products, Battery Management, Wire Harness and Control Box manufacturing and Assembly as well as Intelligent Inventory Management.

Place and date:
Katy, TX, 28 August, 2025

For the issuing office:
DNV - Business Assurance
 1400 Ravello Drive, Katy, TX, 77449-5164, USA



Sherif Mekkawy
 Management Representative

Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.

ACCREDITED UNIT: DNV Business Assurance USA Inc., 1400 Ravello Drive, Katy, TX, 77449, USA - TEL: +1 281-396-1000. www.dnv.com

Final Thought

"There are many suppliers that will tell you that they COULD do a successful project of this complexity for you."



"The difference is that SpecSys IS DOING successful projects of this magnitude each and every day, carrying a 21 year track record of proven success."

SpecSys is a Partner, whom values the relationship, not just a supplier."

CEO, Kevin R. Wald



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