

# WE TURN ENGINEERING DATA INTO INNOVATIVE DOCUMENTATION

Introduction to RapidAuthor  
Authoring Technical Documentation

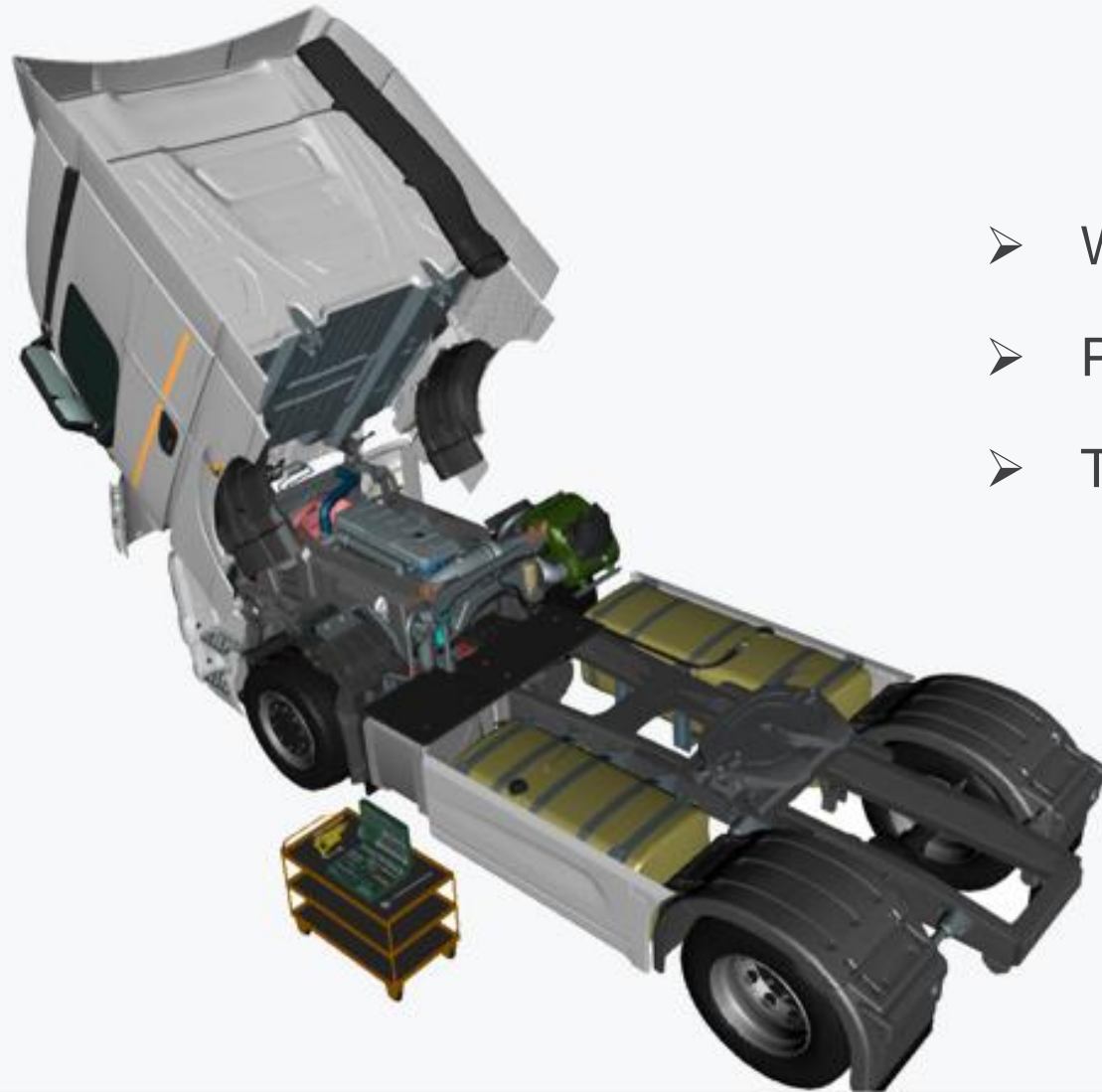
157-196 Nm





## Why RapidAuthor?

- A single solution for animated 3D, AR and PFD
- Use existing design data and documents
- Automate authoring process
- Publish to open standards for all platforms
- Publish superior future proof 3D documentation



## What we do

- Work Instructions
- Parts catalog
- Training courses

**Job code:** XXXX-XX

**Title:** INSTALLATION OF MACHINE ROOMLESS ELEVATOR (MRL ELEVATOR)

**Summary:** Assembly and installation of elevator equipment

**Work type:** Assembly, installation

**Expected time:** 3 business days

**Previous job:** XXXX-XX

**Revision:** 001

**Role:** Installer

**Work cell:** XXX

**Next job:** XXXX-XX

**Work order:**

Prerequisites BOM Task **Job**

Install [counterweight](#). See the counterweight assembly manual for a more detailed description of counterweight assembly and installation process.

### 5 Installation of tension device

Install [tension device](#) (Refer to Fig 5.1) on the second car guide rail through tension device bracket using clamps and bolting from the side of speed limiter.

[Figure 5.1](#)

Tension device is installed according to the installation drawing (Refer to Fig 5.2). A fragment of the installation drawing with dimensions is provided as a sample.

[Figure 5.2](#)

### 6 Installation of hydraulic buffers and counterweight chain guides

#### 6.1

Use anchor fasteners to install [stand for counterweight hydraulic buffer](#) (Refer to Fig 6.1 [2]).

[Figure 6.1](#)

Stands for car and counterweight hydraulic buffers are installed in the center of the car and counterweight according to the installation drawing (Refer to Fig 1.2). A fragment of the installation drawing with dimensions is provided as a sample.

#### 6.2

Place and fix [hydraulic shock absorber](#) (Refer to Fig 6.1 [1]) on the stand.

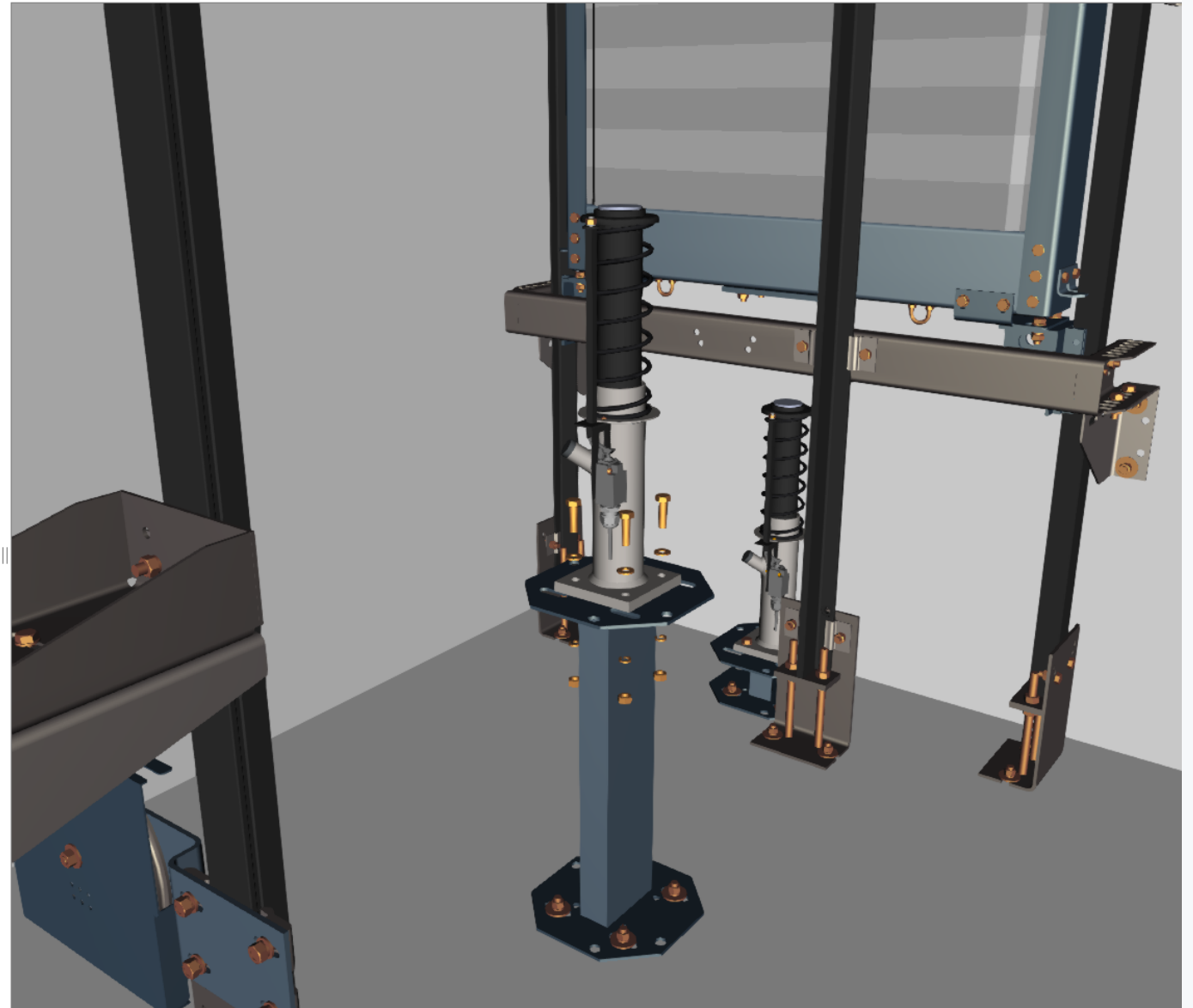
#### 6.3

Use anchor fasteners to install [stand for car hydraulic buffer](#) (Refer to Fig 6.1 [4]).

Stands for car and counterweight hydraulic buffers are installed in the center of the car and counterweight according to the installation drawing (Refer to Fig 1.2). A fragment of the installation drawing with dimensions is provided as a sample.

#### 6.4

Place and fix [hydraulic shock absorber](#) (Refer to Fig 6.1 [1]) on the stand.



Sign Off 4:24 / 5:26

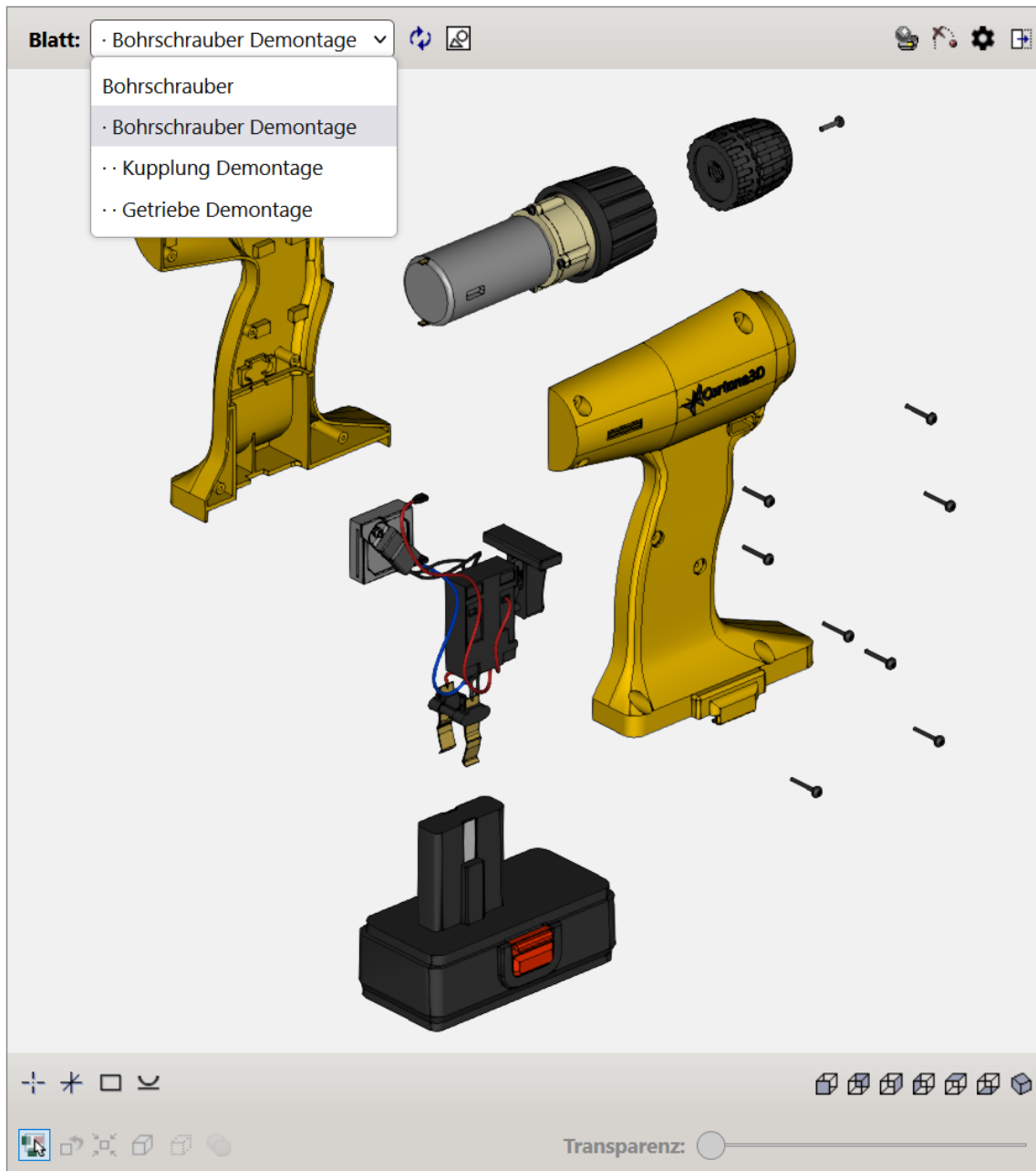
# Work Instructions

- STE-based 3D animation
- Automatic generation WI
- Reverse procedures
- Easily add audio
- Embedded XML editor
- Embedded 2D illustrations editor
- All XML/DTD schemas supported

The screenshot displays the Cortona3D software interface, which is used for generating work instructions. The interface is divided into several panels:

- Item Tree:** A hierarchical list of components for a motorcycle assembly, including "001335 (Motorcycle Assembly)", "C3D-00000-E01 (ELECTRIC MC)", "JACK (JACK)", and various hoses and callouts.
- 3D View:** A central 3D rendering of the motorcycle's handlebars and steering components.
- Procedure Editor:** A Gantt chart showing the sequence of tasks (TASK 4 through TASK 12) and their durations. It includes an "Action union" section with instructions like "Hide the Callout\_18-20 Nm" and a "CAUTION" note for "STEP\_12".
- Document Editor:** An XML editor showing the structure of the work instruction document. The title is "Install Steering". The summary states: "Summary: The purpose of this job is to install Steering." The document includes metadata such as "Role: C202214", "Expected time: 20", and "Work cell: 30". It also lists prerequisites and a parts list with details like "Part number: C3D-12110-E01" and "Description: Stem".

The status bar at the bottom indicates "Ready", "Weight (faces): 257486", "101.9 / 108.7 sec", "Rapid Work Instr", and "No new notifications".

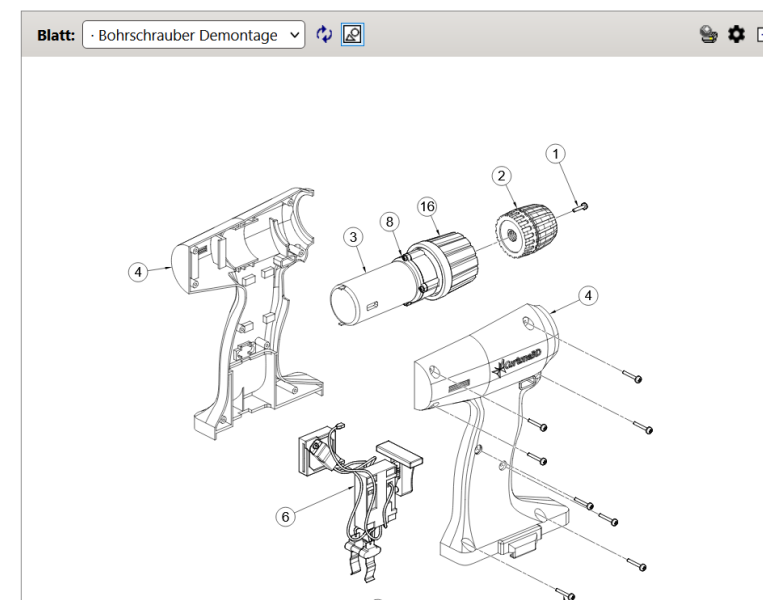


Blatt: Bohrerschrauber Demontage

Katalog der illustrierten Teile  
**Bohrerschrauber Ersatzteilkatalog**

Veröffentlichungsdatum: 2023-03-06

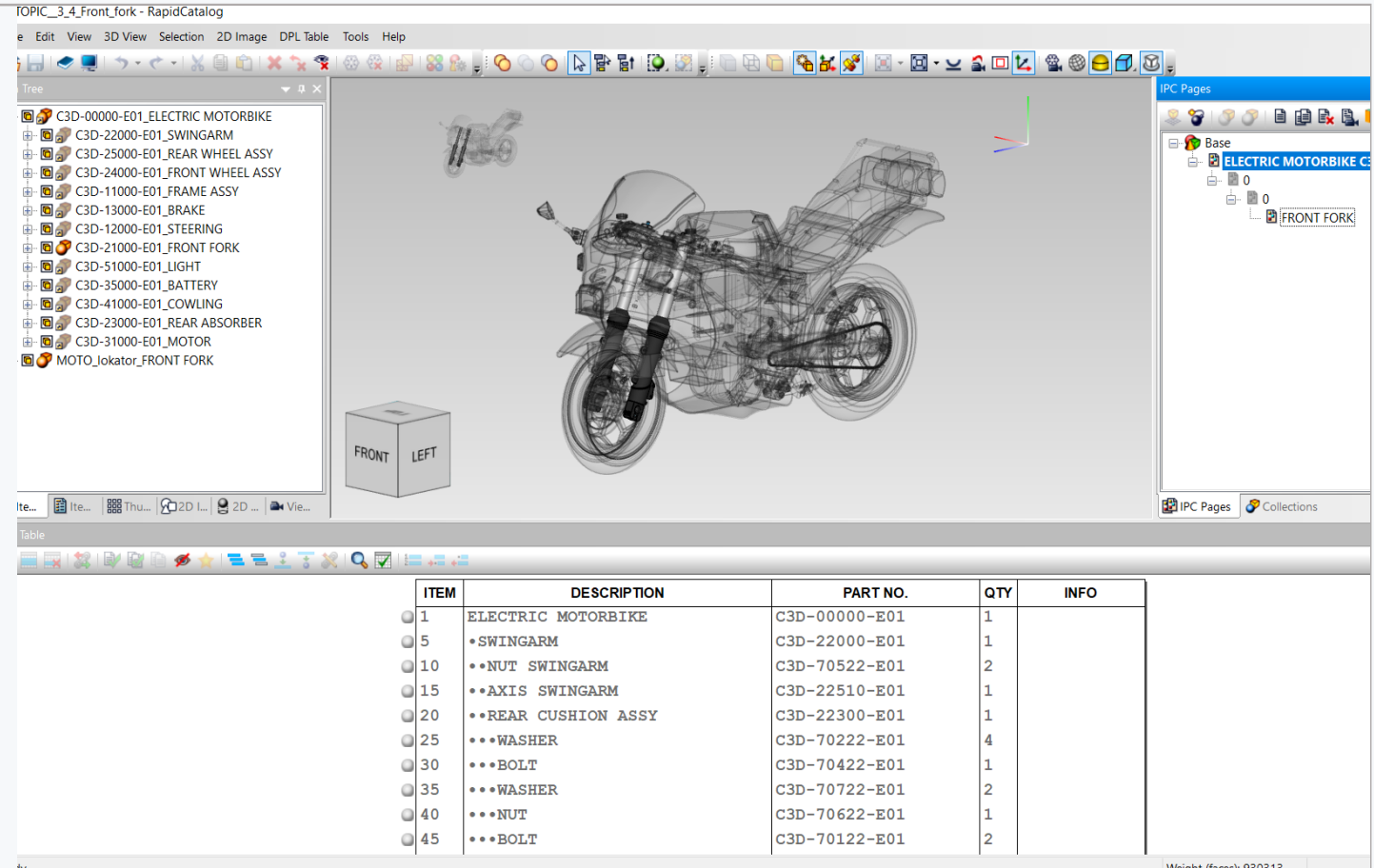
ELEM	BESCHREIBUNG	TEILENR.	ANZ	INFO
<input checked="" type="checkbox"/> 1	Linke Schraube	C3D-DRL-F-LHS	1	
<input checked="" type="checkbox"/> 2	Spannfutter	C3D-DRL-P-CHK	1	
<input checked="" type="checkbox"/> 3	Motor	C3D-DRL-P-MTR	1	
<input checked="" type="checkbox"/> 4	Gehäuse Set	C3D-DRL-A-HSST	1	
<input checked="" type="checkbox"/> 5	Schraube 1.9x15mm	C3D-DRL-F-S19X15	8	
<input checked="" type="checkbox"/> 6	Schalterblock	C3D-DRL-A-SWTC	1	
<input checked="" type="checkbox"/> 7	Batterie	C3D-DRL-P-BTR	1	
<input checked="" type="checkbox"/> 8	<a href="#">Kupplungseinheit</a>	<a href="#">C3D-DRL-A-CLTCH</a>	1	
<input checked="" type="checkbox"/> 16	<a href="#">Getriebemontage</a>	<a href="#">C3D-DRL-A-GT</a>	1	



## Parts Catalogs

- 3D Explode and Cross-sectioning
- Full 2D graphics creation, editing and update
- Generate hotspotted 2D from 3D graphics
- Automatic generation of Detailed Parts List
- Map metadata from CAD/BOM source
- Customization and integration of publications

TOPIC\_3\_4\_Front\_fork - RapidCatalog



The screenshot displays the RapidCatalog software interface. On the left, a tree view lists various motorcycle components. The main window shows a 3D wireframe model of a motorcycle. Below the model is a small 3D box with 'FRONT' and 'LEFT' labels. On the right, a panel shows the current assembly structure. At the bottom, a detailed parts list table is visible.

ITEM	DESCRIPTION	PART NO.	QTY	INFO
1	ELECTRIC MOTORBIKE	C3D-00000-E01	1	
5	•SWINGARM	C3D-22000-E01	1	
10	••NUT SWINGARM	C3D-70522-E01	2	
15	•••AXIS SWINGARM	C3D-22510-E01	1	
20	•••REAR CUSHION ASSY	C3D-22300-E01	1	
25	••••WASHER	C3D-70222-E01	4	
30	••••BOLT	C3D-70422-E01	1	
35	••••WASHER	C3D-70722-E01	2	
40	••••NUT	C3D-70622-E01	1	
45	••••BOLT	C3D-70122-E01	2	

Mainht (fsize): 930313

EXAM MODE

## Torque Links Removal

Document Instructions **Parts** Parameters

- |                          |                |      |
|--------------------------|----------------|------|
| <input type="checkbox"/> | BACP10AD02C09P | Meta |
| <input type="checkbox"/> | BACP10AD02C09P | Meta |
| <input type="checkbox"/> | BACP10AD02C09P | Meta |
| <input type="checkbox"/> | BACP10AD02C09P | Meta |
| <input type="checkbox"/> | BACP20BC01D07P | Meta |
| <input type="checkbox"/> | BACP20BC01D07P | Meta |
| <input type="checkbox"/> | bolt (10)      | Meta |
| <input type="checkbox"/> | bolts (20)     | Meta |
| <input type="checkbox"/> | bolts (20)     | Meta |
| <input type="checkbox"/> | bolts (8)      | Meta |

Remove the wheel assy

Choose the correct answer in the Choice list(s).

Click **Submit** to confirm when you are ready to continue.

### Perform the procedure

- MAIN LANDING GEAR SHOCK STRUT REMOVAL
- MAIN LANDING WHEEL ASSY REMOVAL
- DRAG BRACE ASSY REMOVAL
- MAIN LANDING GEAR BRAKE ROD REMOVAL

Submit

Test result: 

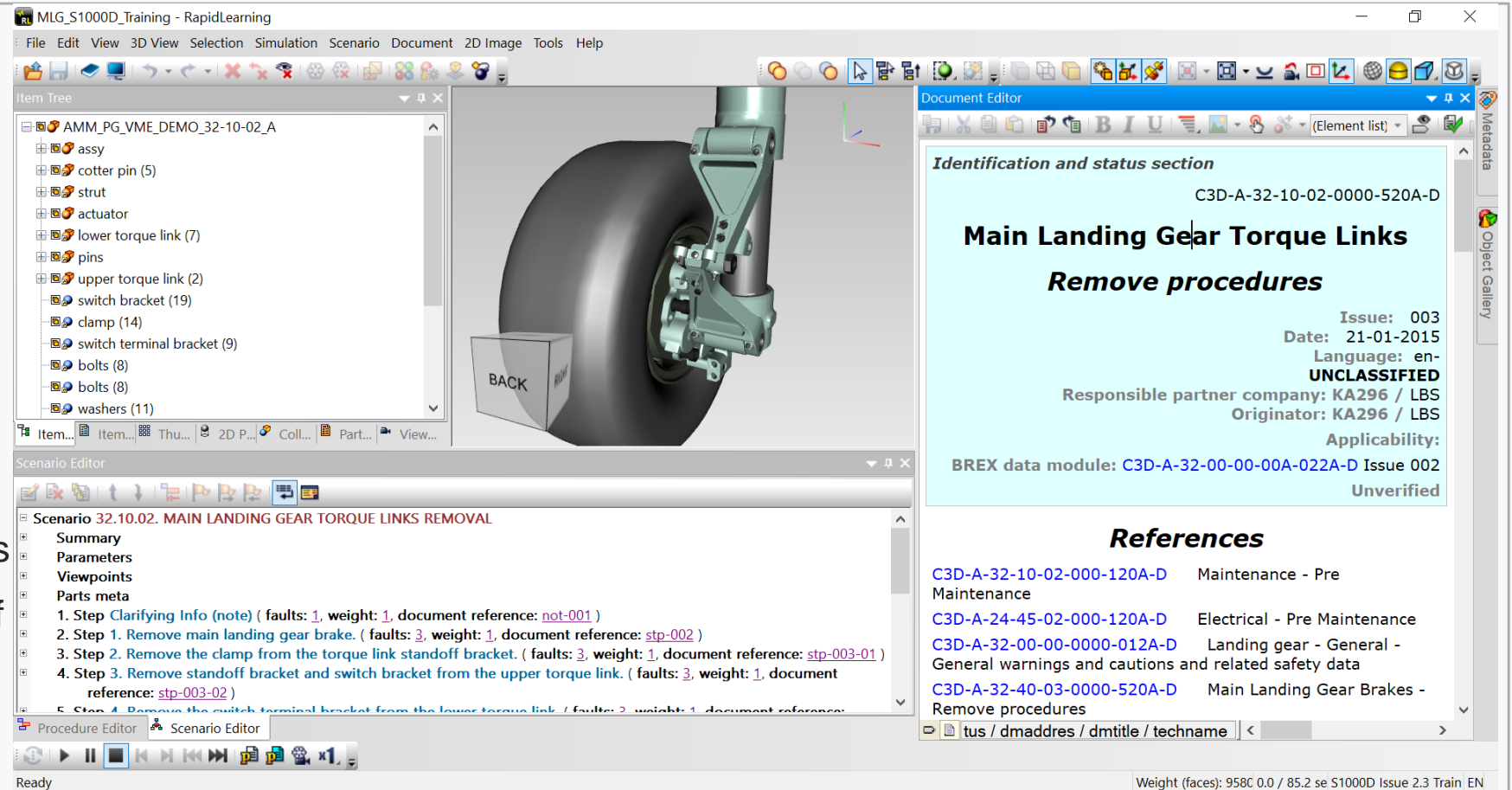
Switch off mode





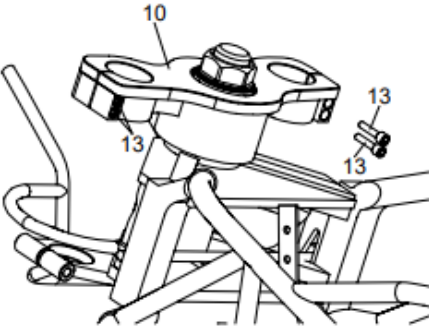
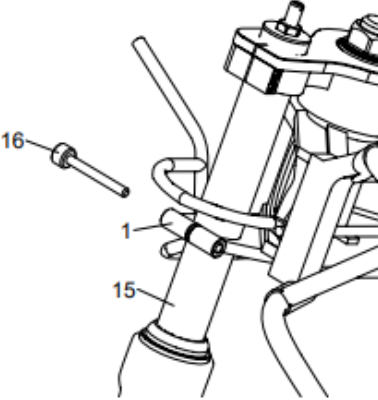
## Training Courses

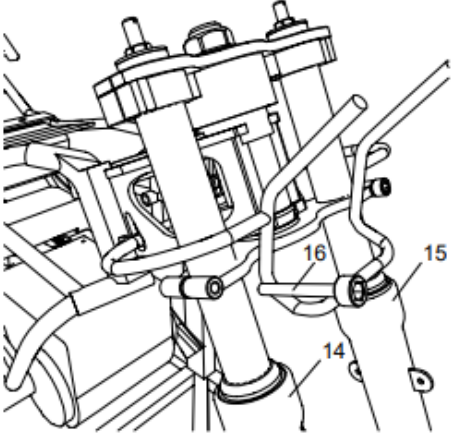
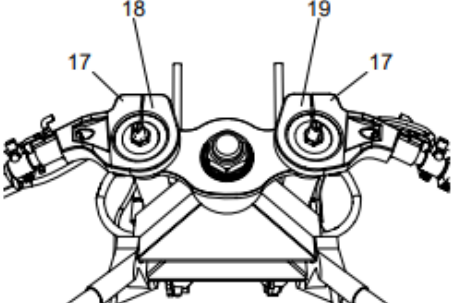
- STE based 3D animation
- Reuse existing procedures & animations
- Training scenarios
- Identify Parts
- Multiple choice questions
- Procedure branching
- SCORM package
- Demo, Study and Exam modes
- Exam will track performance of a trainee and can be reviewed or transferred to an LMS



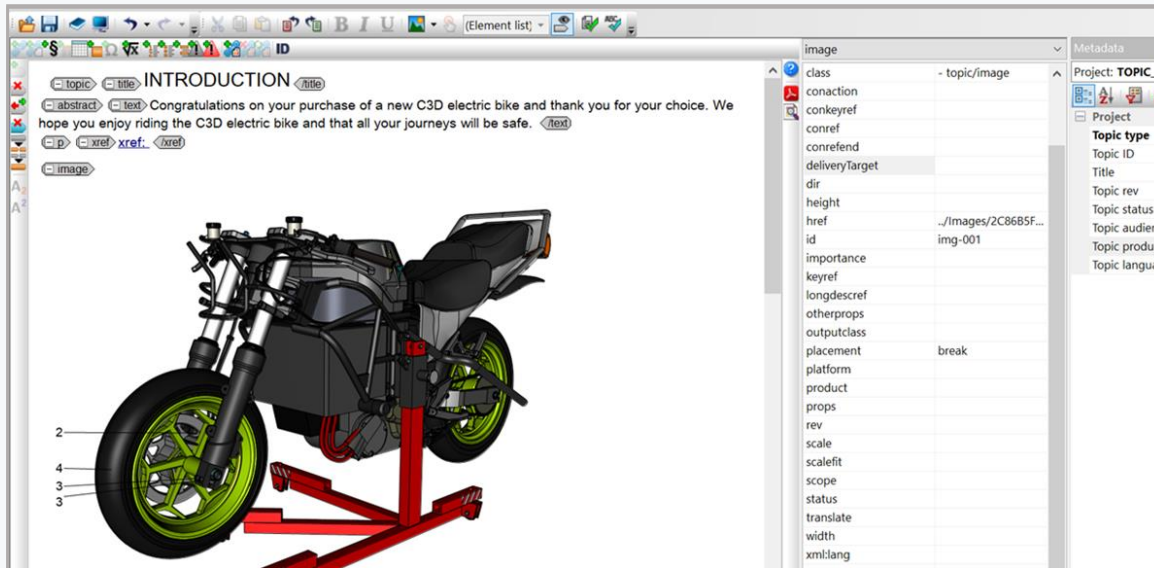
The screenshot displays the RapidLearning software interface for training on the removal of main landing gear torque links. The interface is divided into several panes:

- Item Tree:** Lists the components of the assembly, including cotter pins, struts, actuators, torque links, pins, brackets, clamps, terminal brackets, bolts, and washers.
- 3D View:** Shows a 3D model of the landing gear torque link assembly with a "BACK" button for navigation.
- Scenario Editor:** Contains the training scenario "32.10.02. MAIN LANDING GEAR TORQUE LINKS REMOVAL" with a list of steps:
  - Step 1. Clarifying Info (note) ( faults: 1, weight: 1, document reference: not-001 )
  - Step 1. Remove main landing gear brake. ( faults: 3, weight: 1, document reference: stp-002 )
  - Step 2. Remove the clamp from the torque link standoff bracket. ( faults: 3, weight: 1, document reference: stp-003-01 )
  - Step 3. Remove standoff bracket and switch bracket from the upper torque link. ( faults: 3, weight: 1, document reference: stp-003-02 )
  - Step 4. Remove the switch terminal bracket from the lower torque link. ( faults: 2, weight: 1, document reference: stp-003-03 )
- Document Editor:** Displays the "Identification and status section" for the document:
  - Document ID: C3D-A-32-10-02-0000-520A-D
  - Title: **Main Landing Gear Torque Links**
  - Section: **Remove procedures**
  - Issue: 003
  - Date: 21-01-2015
  - Language: en
  - Classification: **UNCLASSIFIED**
  - Responsible partner company: KA296 / LBS
  - Originator: KA296 / LBS
  - Applicability: BREX data module: C3D-A-32-00-00-00A-022A-D Issue 002
  - Status: Unverified
- References:** Lists related documents:
  - C3D-A-32-10-02-000-120A-D Maintenance - Pre Maintenance
  - C3D-A-24-45-02-000-120A-D Electrical - Pre Maintenance
  - C3D-A-32-00-00-0000-012A-D Landing gear - General - General warnings and cautions and related safety data
  - C3D-A-32-40-03-0000-520A-D Main Landing Gear Brakes - Remove procedures

Nº	Task	Illustration
5	Install the four <a href="#">Bolts</a> (13) in the <a href="#">Top Bridge</a> (10) without tightening.	 <p data-bbox="952 782 1029 803">Figure 5</p>
6	Install the <a href="#">Left Front Fork Assy</a> (15) into the <a href="#">Top Bridge</a> and screw in the <a href="#">Flange Bolt</a> (16) into the <a href="#">Stem</a> (1) .	 <p data-bbox="952 1292 1029 1313">Figure 6</p>

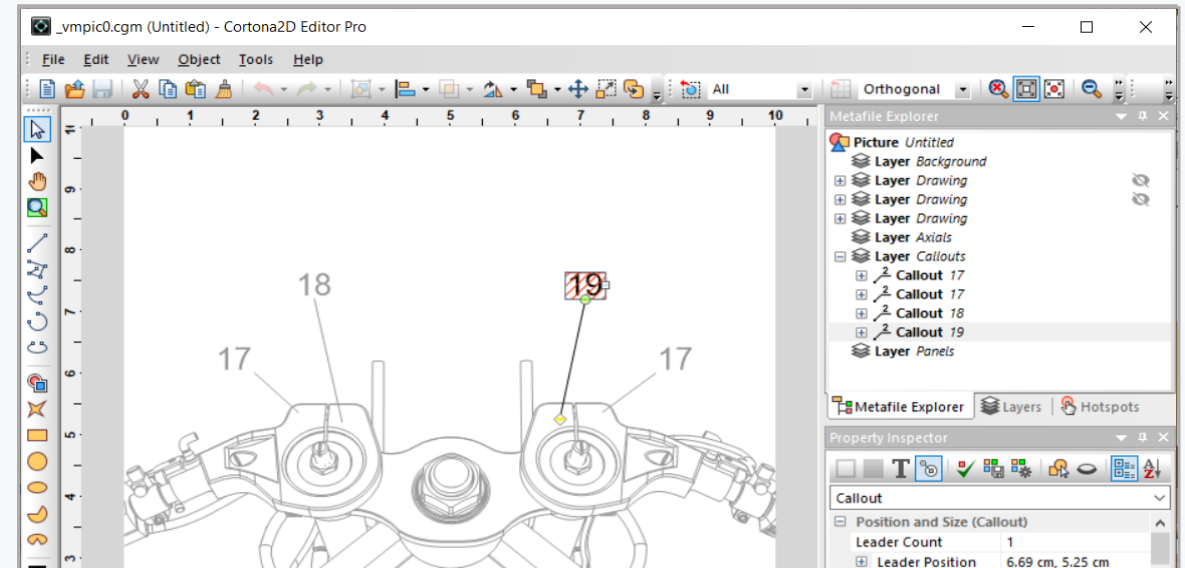
Nº	Task	Illustration
7	Install the <a href="#">Right Front Fork Assy</a> (14) into the <a href="#">Top Bridge</a> and screw in the <a href="#">Flange Bolt</a> (16) in the <a href="#">Stem</a> .	 <p data-bbox="2074 782 2150 803">Figure 7</p>
8	Tighten the <a href="#">Flange Bolt</a> (16) on the right side of the <a href="#">Stem</a> to 28 Nm and the <a href="#">Bolts</a> on the right side of the <a href="#">Top Bridge</a> to the recommended torque of 22 Nm.	
9	Tighten the <a href="#">Bolts</a> on the left side of the <a href="#">Top Bridge</a> to the recommended torque of 22 Nm and the <a href="#">Flange Bolt</a> (16) on the left side of the <a href="#">Stem</a> to 28 Nm.	
10	Install the <a href="#">Left Handlebars</a> (18) and <a href="#">Right Handlebars</a> (19) and screw in the <a href="#">Bolts</a> (17) by hand.	

## XML Text & 2D illustrations



### Advanced text editor

Powerful set of functions for the creation of traditional 2D documentation. Integrated with RapidManual and RapidLearning.

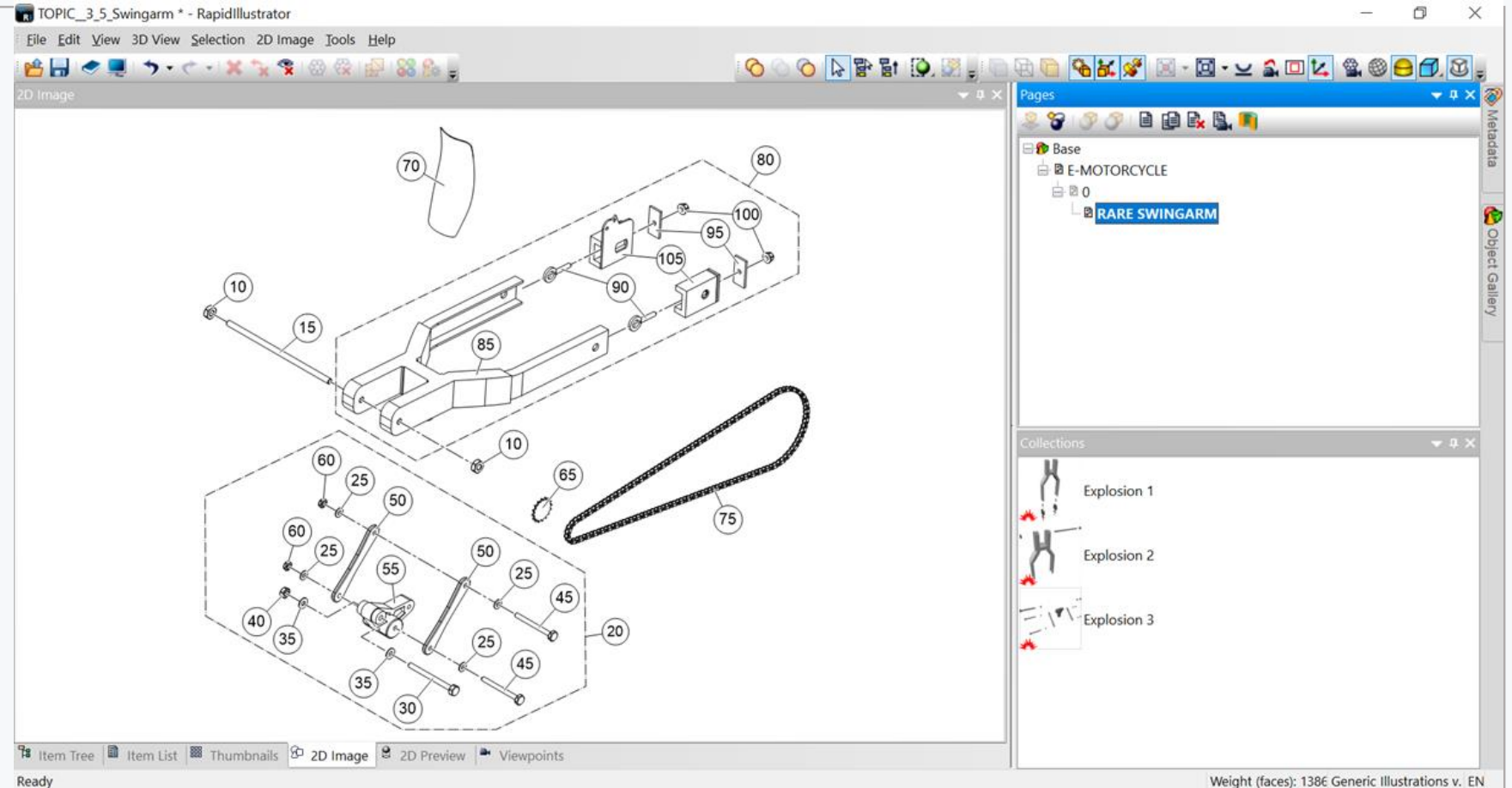


### Powerful editor for 2D illustrations

Wide range of functionality for editing of 2D vector and raster graphics. Integrated with RapidManual and RapidLearning. Supports Update.

## 2D Illustrations

- Integration with RapidManual and RapidLearning
- Powerful set of functions for the creation of 2D vector and raster graphics
- Update support



# XML texts

- Update support
- Support for PDF
- Creation of document structures

The screenshot displays the RapidText software interface for editing XML content. The main window shows a document titled "TOPIC\_0\_Introduction" with the following structure:

- `<topic>`
- `<title> INTRODUCTION </title>`
- `<abstract>`
  - `<text> Congratulations on your purchase of a new C3D electric bike and thank you for your choice. We hope you enjoy riding the C3D electric bike and that all your journeys will be safe. </text>`
  - `<p>`
    - `<xref xref: /xref>`
  - `<image>`

The 3D model of the motorcycle is shown on a red stand. The metadata panel on the right lists various attributes for the selected `image` element:

Attribute	Value
class	- topic/image
conaction	
conkeyref	
conref	
conrefend	
deliveryTarget	
dir	
height	
href	../Images/2C86B5F...
id	img-001
importance	
keyref	
longdescref	
otherprops	
outputclass	
placement	break
platform	
product	
props	
rev	
scale	
scalefit	
scope	
status	
translate	
width	
xml:lang	
xtrc	
xtrf	

The metadata panel also shows project information:

- Project: TOPIC\_0\_Introduction
- Topic type: General topic
- Topic ID: TOPIC\_0
- Title: INTRODUCTION
- Topic rev:
- Topic status:
- Topic audience:
- Topic product:
- Topic language: en

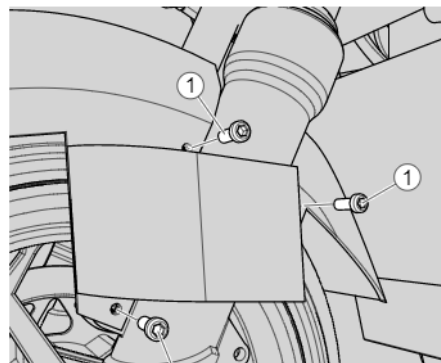
The status bar at the bottom indicates "Ready" and "DITA Topic v.1.11 EN".

- ✓ ELECTRIC MOTORBIKE C3D
  - INTRODUCTION
- ✓ GENERAL INFORMATION
  - GENERAL VIEW
  - TECHNICAL DATA
  - POWER JACK INSTALLATION
- ✓ REPAIR MANUAL
  - FRONT FENDER ASSY DISASSEMBLY**
  - FRONT WHEEL DISASSEMBLY
  - LEFT FRONT FORK TUBE DISASSEMBLY
  - RIGHT FRONT FORK TUBE DISASSEMBLY
- ✓ PARTS CATALOG
  - FRAME ASSY
  - STEERING
  - BRAKE
  - FRONT FORK
  - SWINGARM
  - REAR ABSORBER
  - FRONT WHEEL ASSY
  - REAR WHEEL ASSY

## FRONT FENDER ASSY DISASSEMBLY

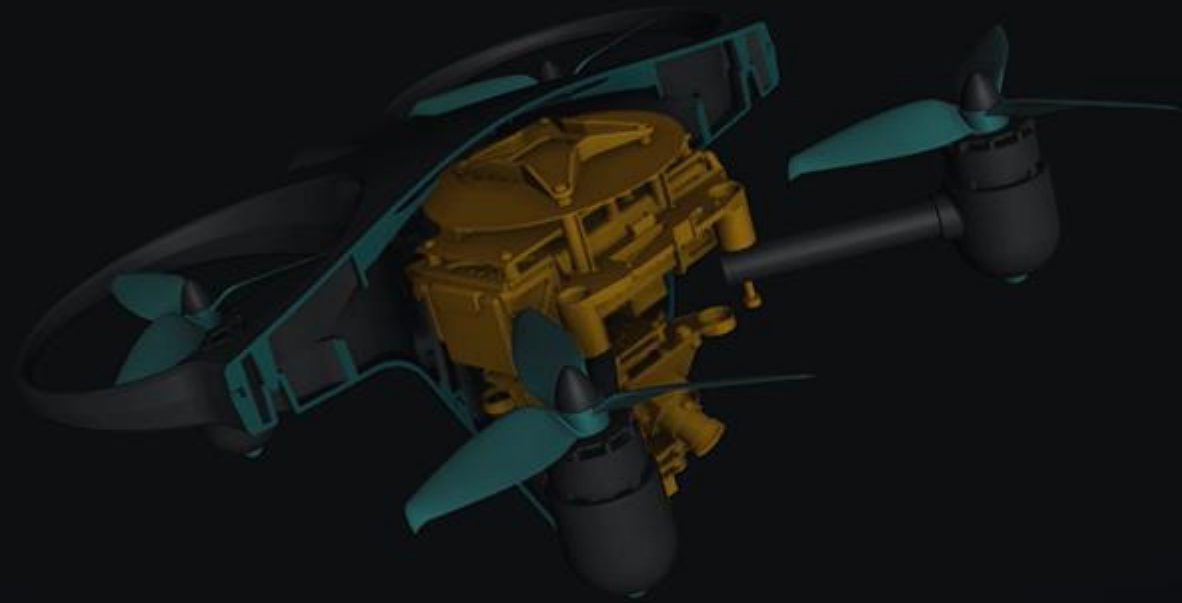
- CAUTION:** Make sure that the vehicle is securely fastened so that there is no danger of it falling.

**3D** Unscrew the bolts (1) on the left side of the front fender.





Publish to iOS and display your content in Augmented Reality.



We collaborate with partners to cover more involved mixed reality use-cases.

001335 - RapidManual

### Edit AR Parameters

Enable AR

Anchor origin  
 X: 0.00324079 Y: 0.722918 Z: -1.85416  
 Coordinate step: 0.01

Anchor marker  
 Enabled  
 Diameter: 1  
 Scene scale: 1

OK Cancel

Document 2D Image Tools Help

- Callout\_22 Nm
- Callout\_28 Nm
- Callout\_22 Nm
- Callout\_22 Nm
- Callout\_22 Nm
- Callout\_18-20 Nm

Procedure Editor

PROJECT 001335  
 JOB 001335  
**TASK 0**  
 Move the [C3D-00000-E01 \(ELECTRIC MOTORBIKE\)](#)  
 Move the [C3D-12110-E01 \(STEM\)](#)  
 Move the [C3D-12129-E01 \(SEAL\)](#)  
 Move the [C3D-12127-E01 \(BASHER\)](#)  
 Move the [C3D-12128-E01 \(LOWER SEAL\)](#)  
 Move the [C3D-12124-E01 \(BEARING\)](#)

**TASK 1**  
 CAUTION: **STEP 01** (point the camera to the [C3D-31100-E01 \(ELECTRIC ENGINE\)](#))  
 Install the [C3D-12110-E01 \(STEM\)](#)  
 Show the [Callout Apply grease 1\\_1](#)

Document Editor

(Element list)

**CAUTION**  
 falling.

Apply grease to the [Stem](#) (1). Install the [Seal](#) (2), [Bushing](#) (3), and the [Lower Seal](#) (4) on the [Stem](#) (1). Install the [Bearing](#) (5) on the [Stem](#) (1) and grease it. Install the [Stem](#) (1) in the frame.

Figure 1

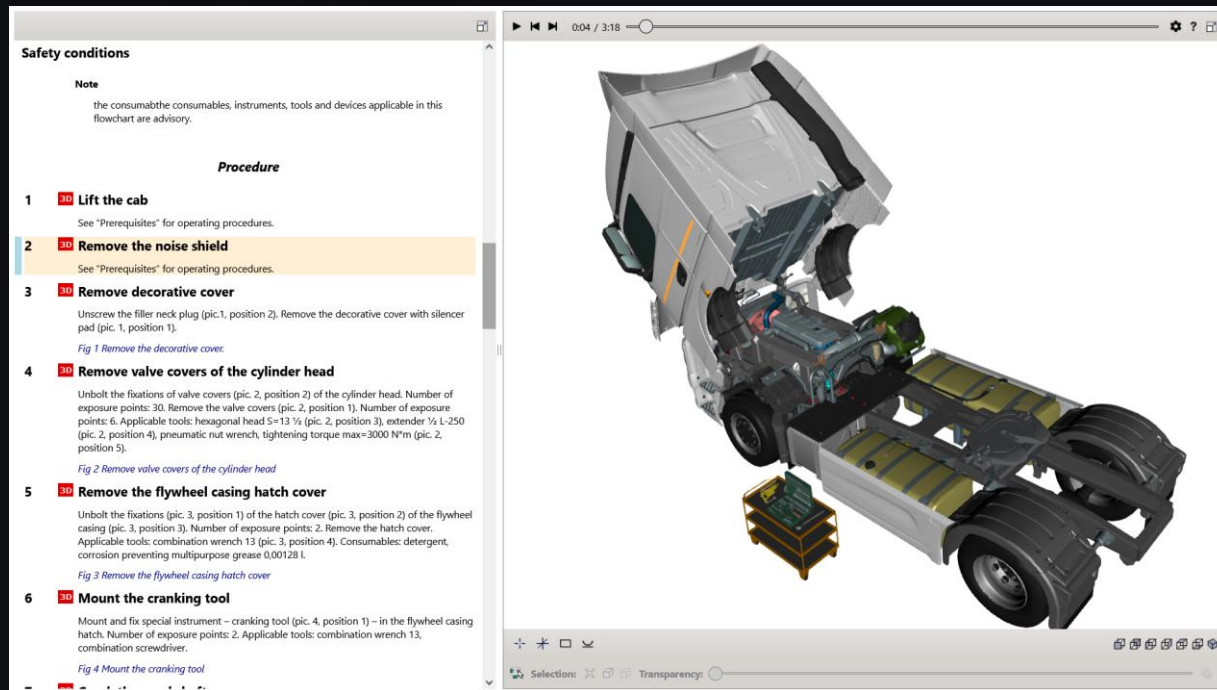
**TASK 2**  
 Grease the [Bearing](#) (6) and install it on the [Stem](#) (1). Install the [Upper Seal](#) (7). Install the [Dust Seal](#) (8) and [Fix Washer](#) (9).

rwi/job/task/para/xref

Ready Weight (faces): 257486 0.0 / 108.7 sec Rapid Work Instructions v.4.9 EN



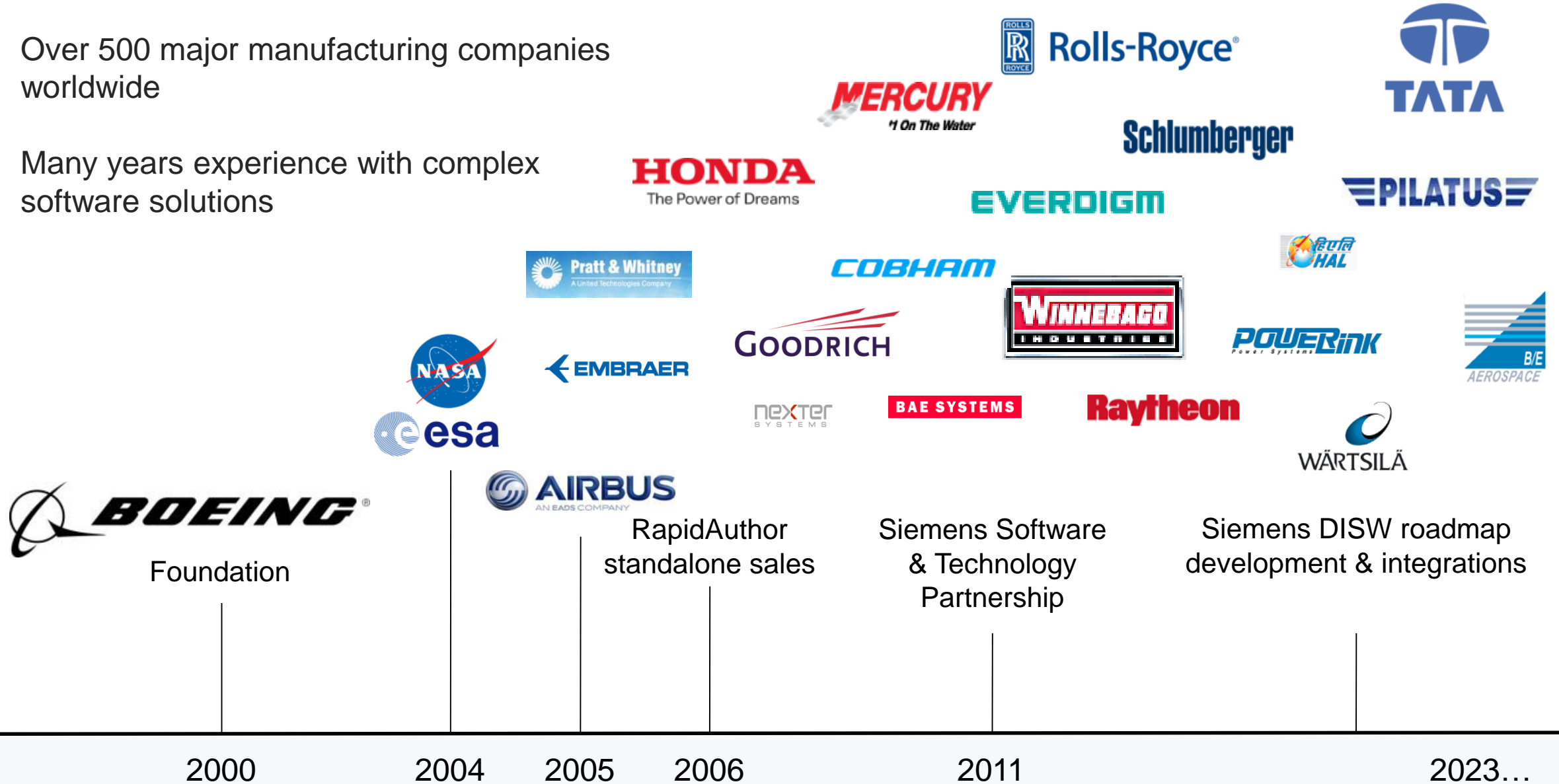
# EXAMPLES FOR INNOVATIVE TECHNICAL DOCUMENTATION



- [Track maintenance procedure module](#)
- [Elevator assembly WorkInstruction](#)
- [Drill Parts Catalog](#)
- [Track - structured set of Parts Catalogs](#)
- [Rear Drive Unit Work Instruction](#)
- [Compressor Reservoir Removal](#)
- [Lean Technic](#)

Over 500 major manufacturing companies worldwide

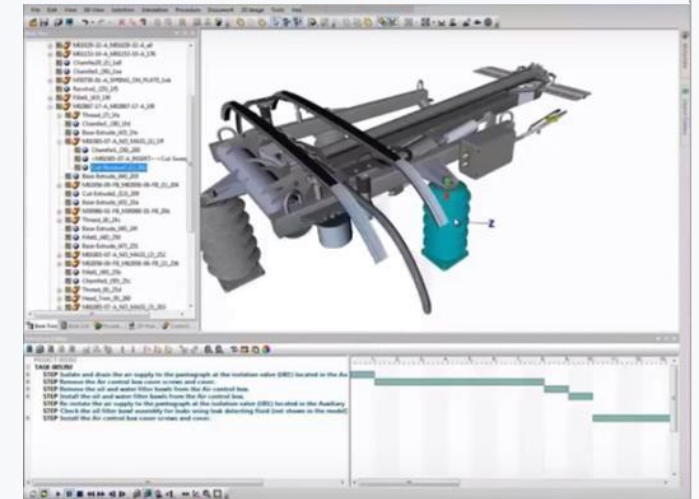
Many years experience with complex software solutions



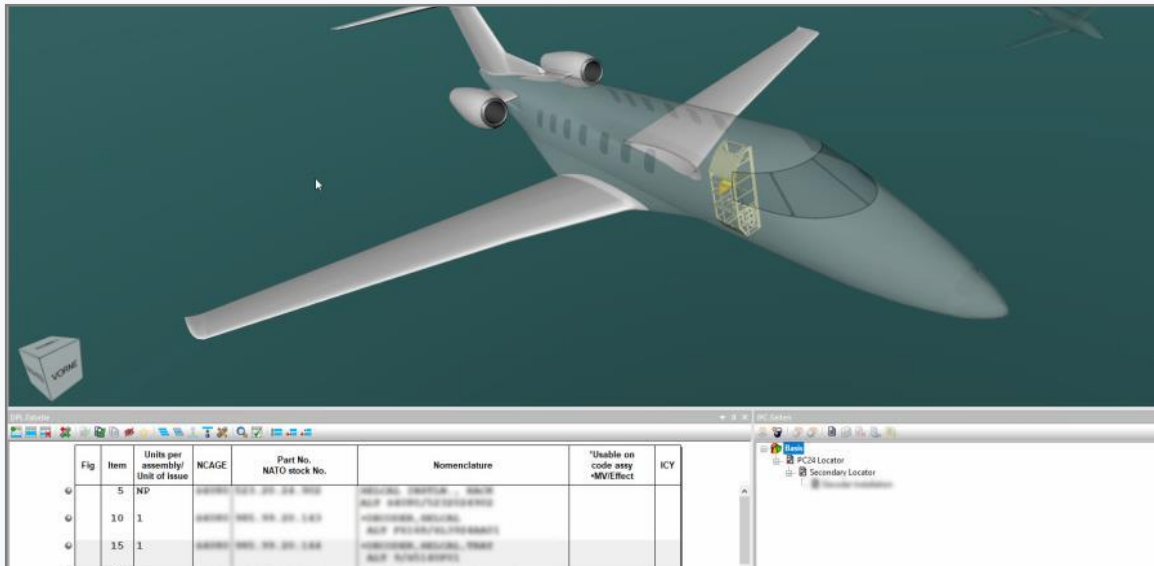
## Manuals



- 700 documents produced by a team of four in 14 months
- 50 percent less time to produce maintenance tasks
- 30 percent reduction in time spent on maintenance
- Significantly lower cost

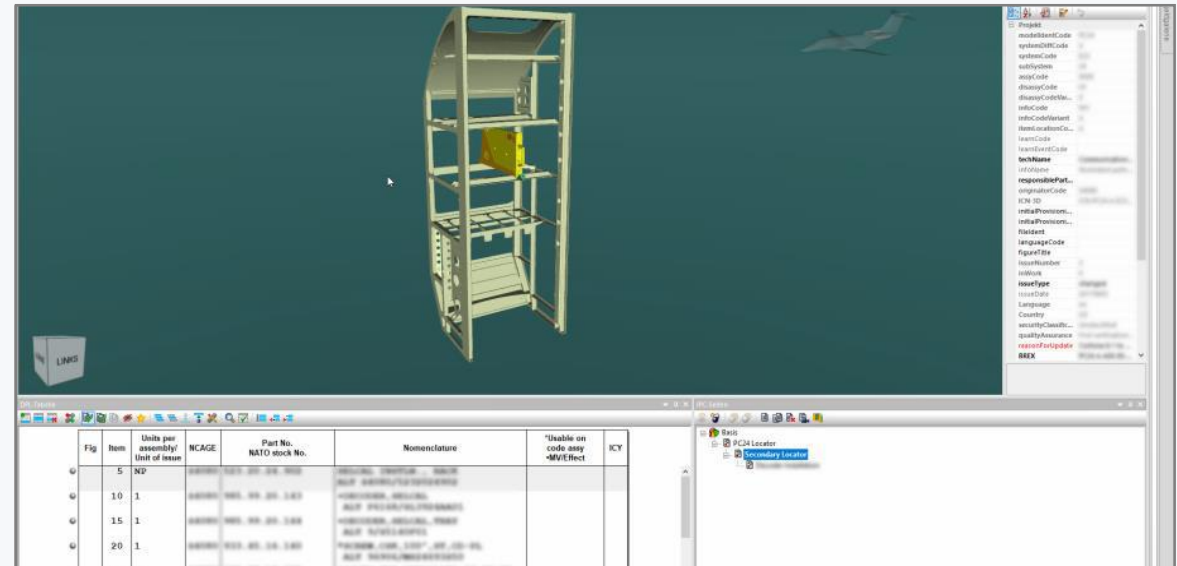


# 3D IPD & Structural Manual



## Development and Production time

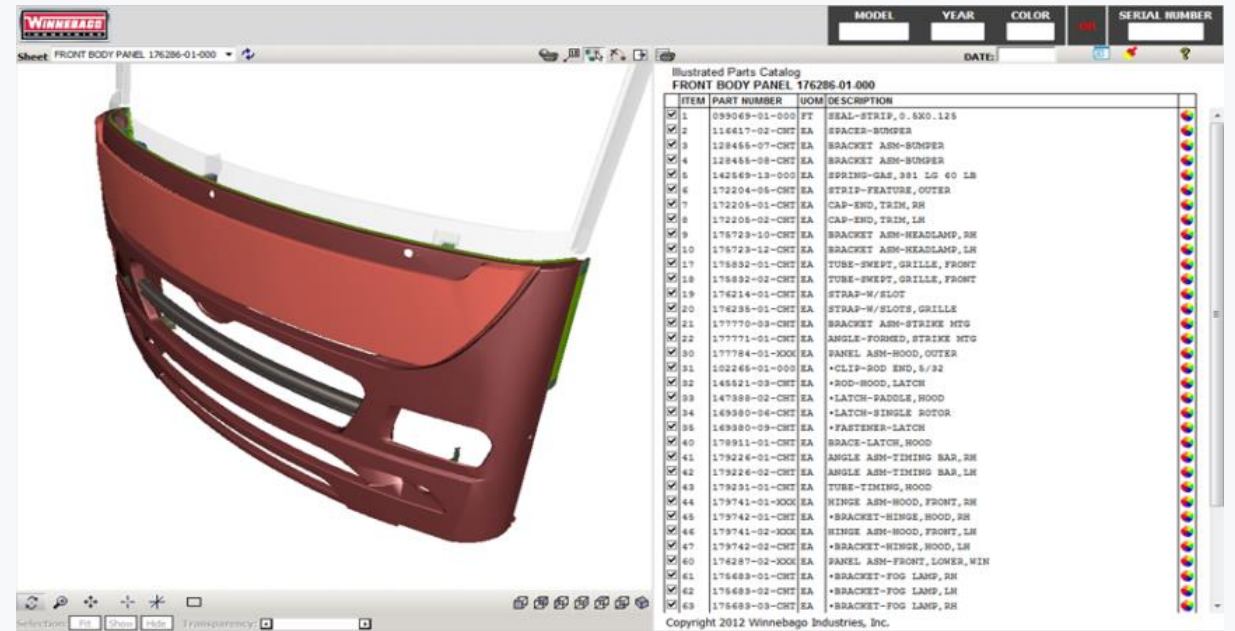
Development time of 3D IPD and SRM was cut by an estimated 40% due to the simultaneous capability of compiling and illustrating and enhanced functionality. Software customization has brought its results too: it has reduced production time and increased efficiency by approximately 30%



## 3D IPD & SRM

Pilatus Aircraft Ltd uses RapidAuthor for Teamcenter for the production of interactive Illustrated Parts Data and the item identification part of Structural Repair Manuals for its latest model, the PC-24 Super Versatile Jet

# 3D Parts Catalogs



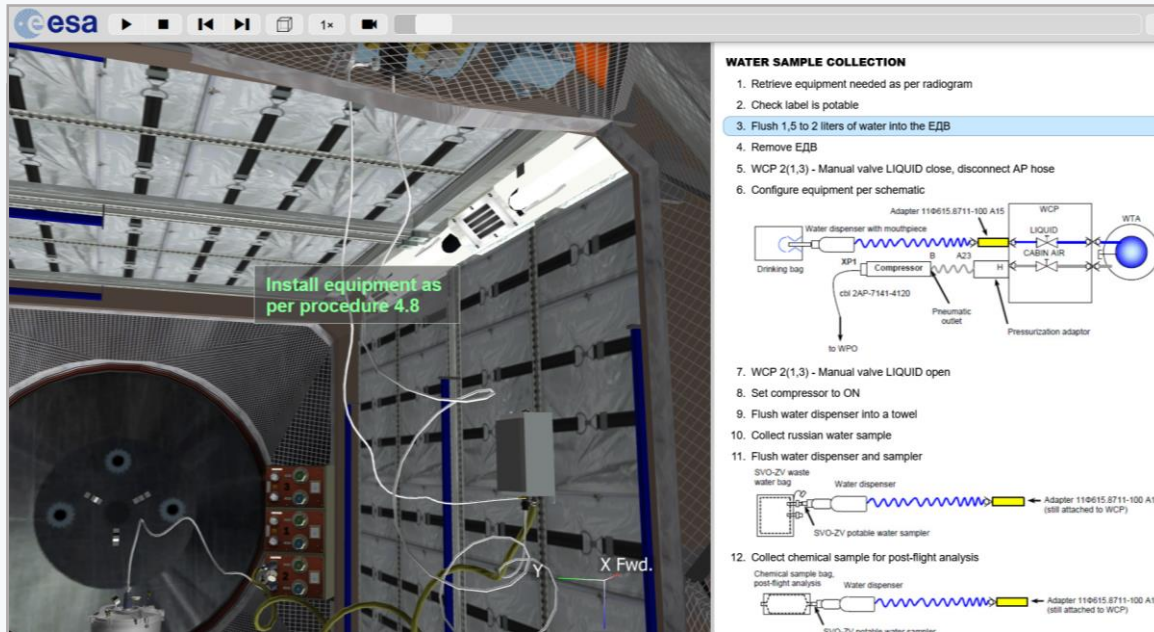
Cortona3D's RapidAuthor suite creates interactive part catalogs for Winnebago Industries. This approach allows:

- to process and complete the parts catalog 33% faster
- reduce manpower requirements by 40%

The most substantial costs savings have been derived by the re-use of the existing 3D geometry which has shortened the production process considerably.

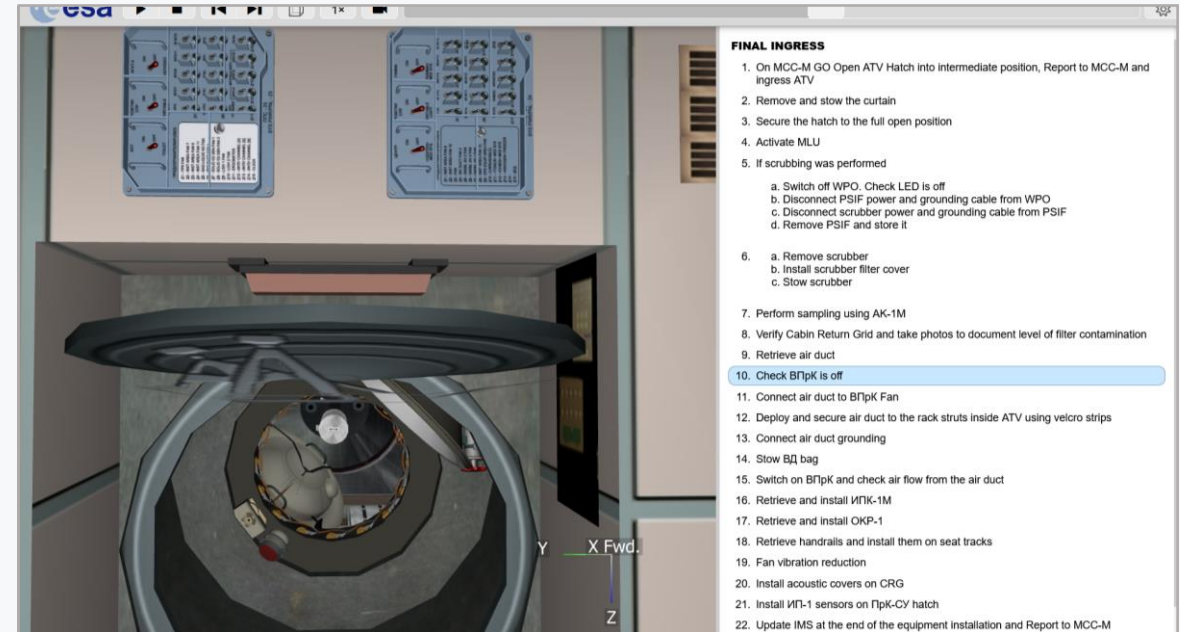


## e-Learning trainings for astronauts



### Visual training at European Astronaut Centre

ESA uses RapidLearning to train their crews in complex maneuvers for their ATVs, which bring critical supplies to the ISS. Mistakes can cause loss of life, ruin millions of dollars in equipment, or waste years of work.



### 3D Computer Based training courses

“This tool is very easy to use and that’s very important. Crews refresh a two-hour procedure in five minutes. It’s that intuitive.”

- Richard Moss, ATV Crew Instructor & Team Coordinator, ESA

## Parts Catalogs & e-Learning courses

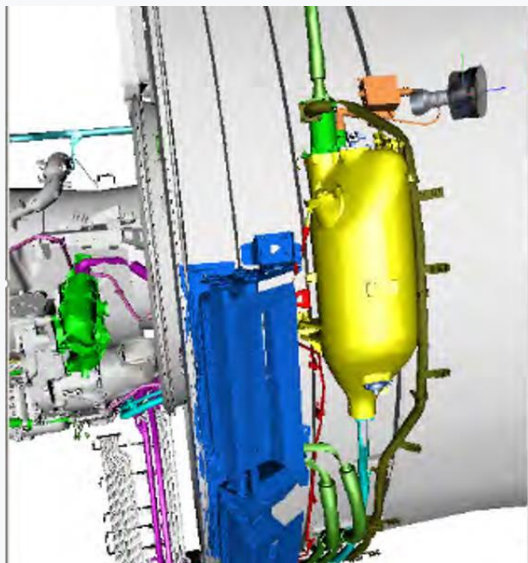
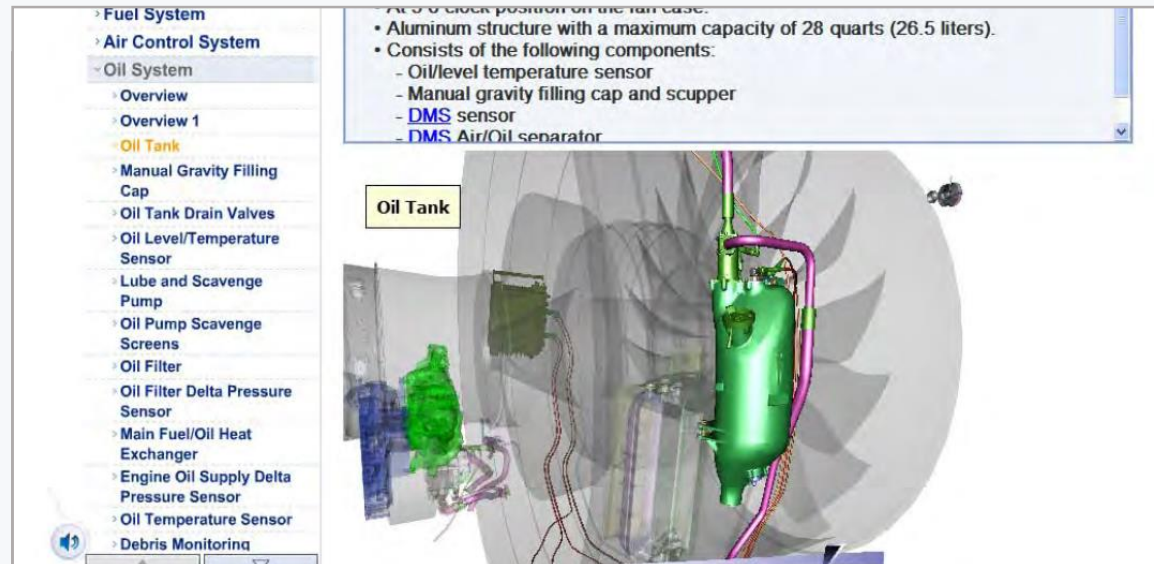


FIG-ITEM	PART NUMBER	NOMENCLATURE	USAGE CODE	UNITS PER ASSY
01	10	NO-NUMBER(2) .OIL TANK <a href="#">SEE 79-11-10-01 FOR DET</a>	NP	RF
20	NO-NUMBER(3)	.FUEL/OIL HEAT EXCHANGER <a href="#">SEE 79-21-00-01 FOR DET</a>	NP	RF
30	NO-NUMBER(4)	.AIR/OIL HEAT EXCHANGERS <a href="#">SEE 79-21-00-05 FOR DET</a>	NP	RF
40	NO-NUMBER(5)	.LUBRICATION UNIT <a href="#">SEE 79-21-10-01 FOR DET</a>	NP	RF
50	NO-NUMBER(6)	.OIL DEBRIS MONITORING SEPARATOR <a href="#">SEE 79-21-20-01 FOR DET</a>	NP	RF
60	NO-NUMBER(7)	.OIL TANK SUPPLY TUBE <a href="#">SEE 79-22-10-01 FOR DET</a>	NP	RF
70	NO-NUMBER(8)	.AIR/OIL COOLER TUBES <a href="#">SEE 79-22-10-05 FOR DET</a>	NP	RF
80	NO-NUMBER(9)	.OIL SUPPLY TUBES-SCAVENGE PUMP, GEARBOX TO FUEL HEATER <a href="#">SEE 79-22-10-10 FOR DET</a>	NP	RF
90	NO-NUMBER(10)	.OIL SUPPLY TUBES-AGB AND TGB <a href="#">SEE 79-22-10-15 FOR DET</a>	NP	RF
100	NO-NUMBER(11)	.OIL SUPPLY TO NO. 4 AND 5 BEARINGS <a href="#">SEE 79-22-10-20 FOR DET</a>	NP	RF
110	NO-NUMBER(12)	.VFSG OIL TUBES-AIR/OIL COOLERS TO LWR BIFURCATION <a href="#">SEE 79-22-10-25 FOR DET</a>	NP	RF

### 3D IPD

“What we once redrew and re-described, we now import and link.”  
Training and review is faster, more memorable and intuitive as maintenance staff can rotate, explode, zoom in on equipment parts.



The screenshot shows a 3D CAD model of an oil tank assembly with a navigation tree on the left and a descriptive text box on the right.

- Navigation Tree:**
  - Fuel System
  - Air Control System
  - Oil System
    - Overview
    - Overview 1
    - Oil Tank
      - Manual Gravity Filling Cap
      - Oil Tank Drain Valves
      - Oil Level/Temperature Sensor
      - Lube and Scavenge Pump
      - Oil Pump Scavenge Screens
      - Oil Filter
      - Oil Filter Delta Pressure Sensor
      - Main Fuel/Oil Heat Exchanger
      - Engine Oil Supply Delta Pressure Sensor
      - Oil Temperature Sensor
      - Debris Monitoring

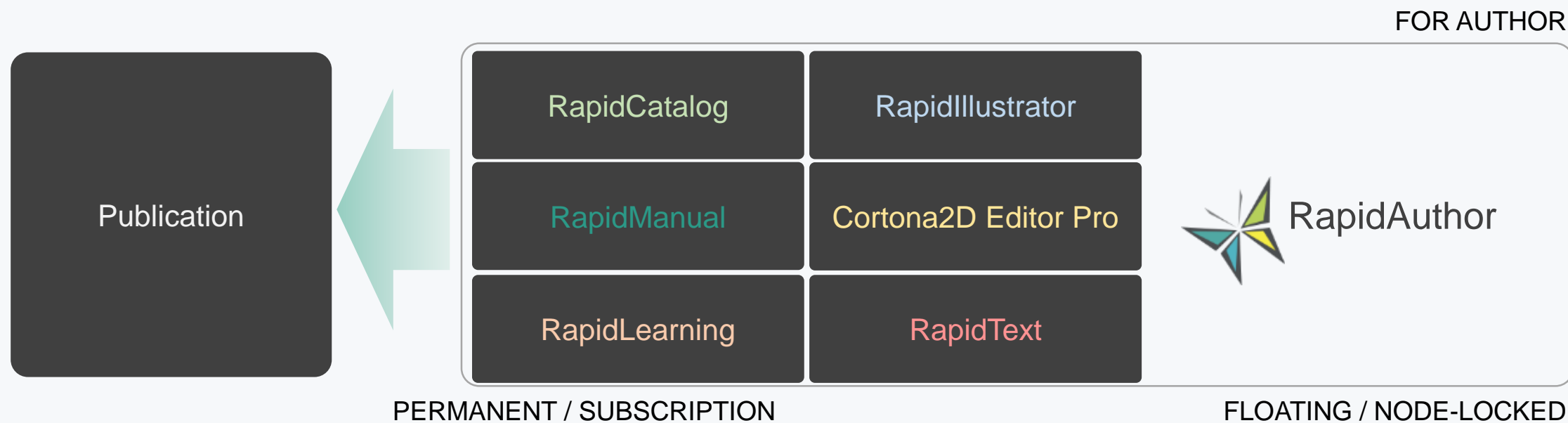
**Oil Tank Description:**

- At 9 o'clock position on the fan case.
- Aluminum structure with a maximum capacity of 28 quarts (26.5 liters).
- Consists of the following components:
  - Oil/level temperature sensor
  - Manual gravity filling cap and scupper
  - DMS sensor
  - DMS Air/Oil separator

### 3D Computer Based training courses

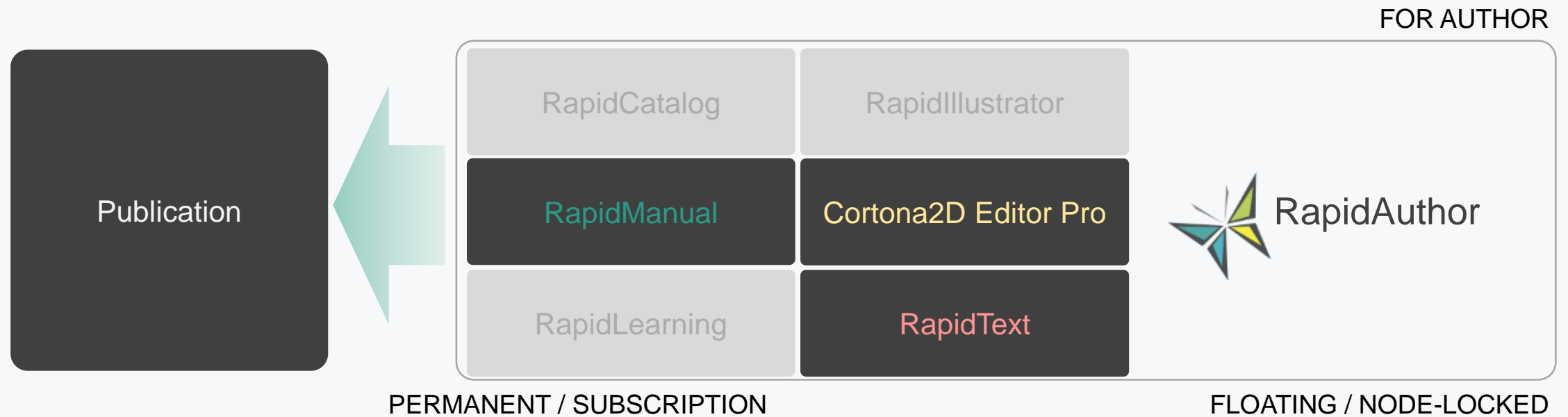
87% cost savings Authoring time drops from 8 hours per page to 1 hour. Changes can be instantly disseminated worldwide in a variety of formats. Users manipulate images on-screen for greater clarity and ease of learning.

# RapidAuthor

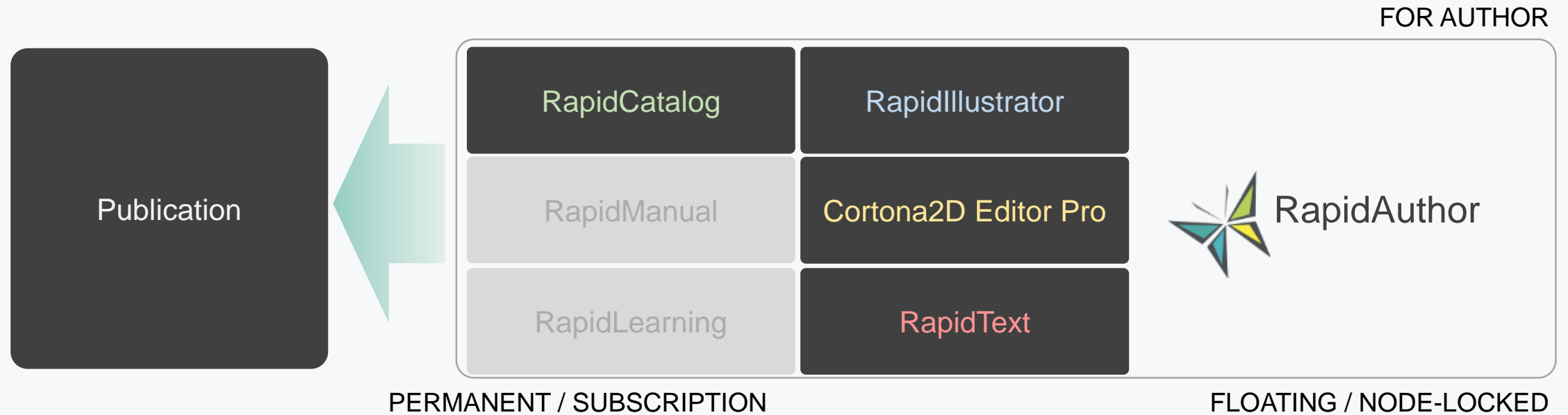




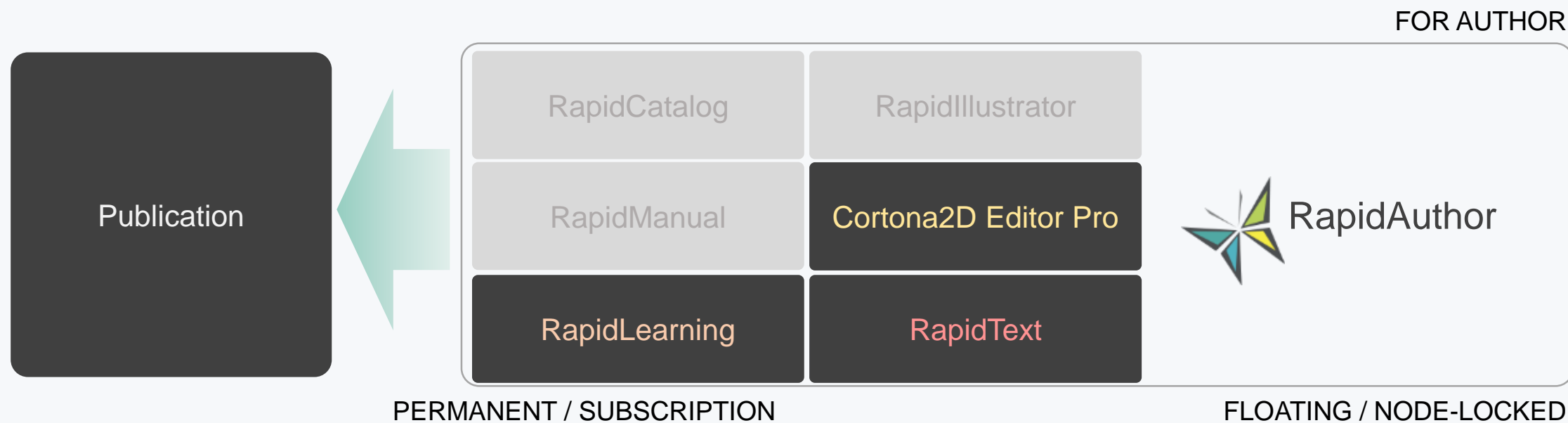
# RapidManual



# RapidCatalog

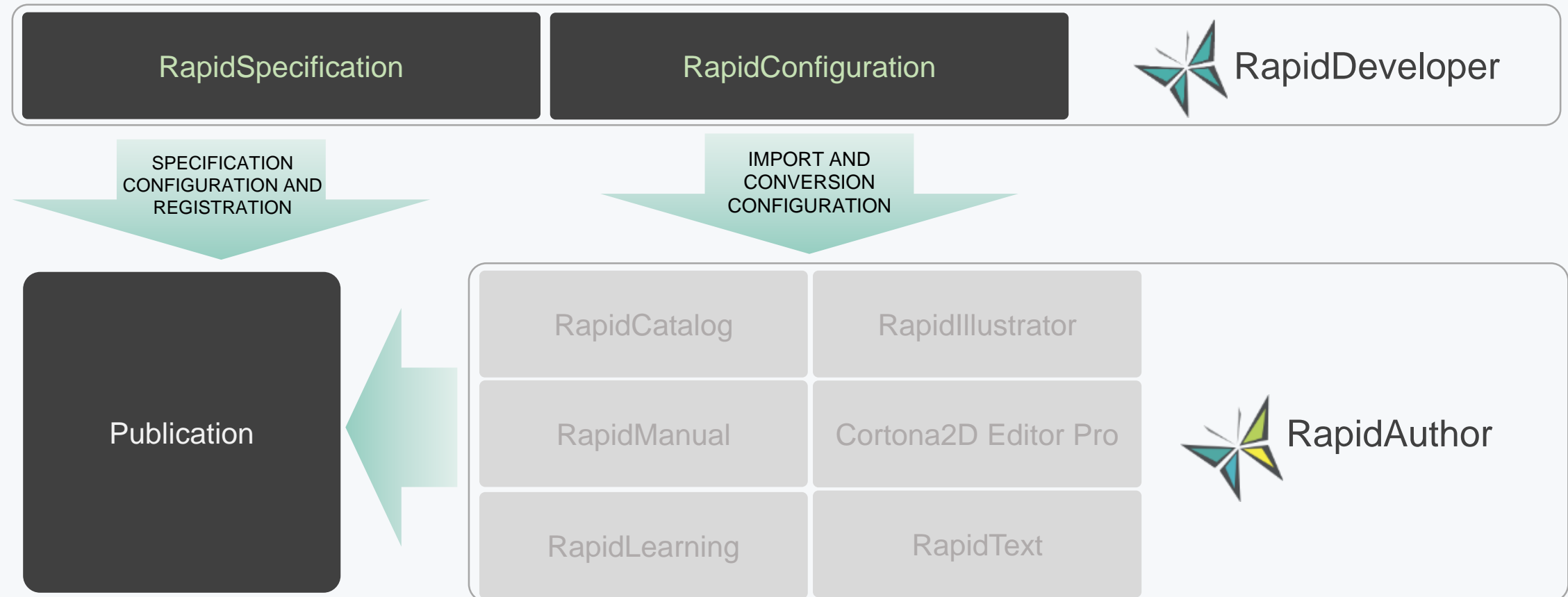


# RapidLearning



# RapidDeveloper

FOR DEVELOPER



# THANK YOU!

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