AVISTRATA
AVIATION BUSINESS PLATFORM

WORKSPACE GUIDE

Engineering Guide & Overview

How Avistrata turns a question from the hangar floor into a signed, documented engineering answer, and keeps the engineering records behind an airworthy aircraft in one place.

Web, iPhone & Android
Admin and Mechanic apps

FAA, EASA & national
KCAA, SACAA, GCAA

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In this guide

1. Overview
2. Request flow
3. Setup
4. Requests
5. Check, authorisations and customer approval
6. Repairs, alterations, engineering orders and damage map
7. Library, configuration, AD / SB, reliability, programme, interchangeability
8. Hours, workload and reports
9. Mobile
10. Regulatory basis and roles

Avistrata · Engineering

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1 Overview

Engineering is where technical questions from the floor get a documented, signed answer, and where the engineering records behind an airworthy aircraft live.

A mechanic or inspector raises a request from a task card, a work order, the web or a phone. It is routed to an engineering group and owner, answered with a disposition and the approved data it rests on, checked independently where the organisation requires it, approved by the customer where needed, and its conditions are sent back to the floor as Maintenance Due items, task card work or a grounding squawk.

Around that flow, Engineering also holds repairs and alterations (with Form 337 for FAA organisations), engineering orders and work instructions published as task card templates, a damage map per aircraft, the technical library with read-and-acknowledge, configuration status, inspection programme changes, parts interchangeability, the AD / SB review queue and reliability analysis.

Tab	What it is for
Engineering Home	Open requests (AOG first), late, waiting for an answer, alterations in work, ADs to review, repeat defects, My group's queue, Unassigned
Requests	Every engineering request (ER-0001 …), with queues, filters and the answer library
Repairs & alterations	Major / minor repairs and alterations (MA-0001 …): approved data, ICA, weight and balance, Form 337
Engineering orders	Engineering orders and work instructions (EO-0001 …), revisions, publish to task card templates
Damage map	Damage and repairs per aircraft, placed on the airframe diagram
Library	Manuals and service documents, revisions, read-and-understood
Configuration	Modifications, SBs and STCs embodied per aircraft
Inspection program	Interval escalations and other programme changes; MPD task mapping
Interchangeability	Approved alternates, one-way / two-way, supersessions, PMA (shared with Stores)
AD / SB	The AD review queue by aircraft (the review itself is in Records → AD / SB)
Reliability	Defects per 100 FH by aircraft and ATA chapter, alerts, repeat defects, removals
Workload	Open, unassigned, overdue and answer times per group and engineer
Engineering hours	Time on requests, alterations and orders, by engineer, customer, work order and month

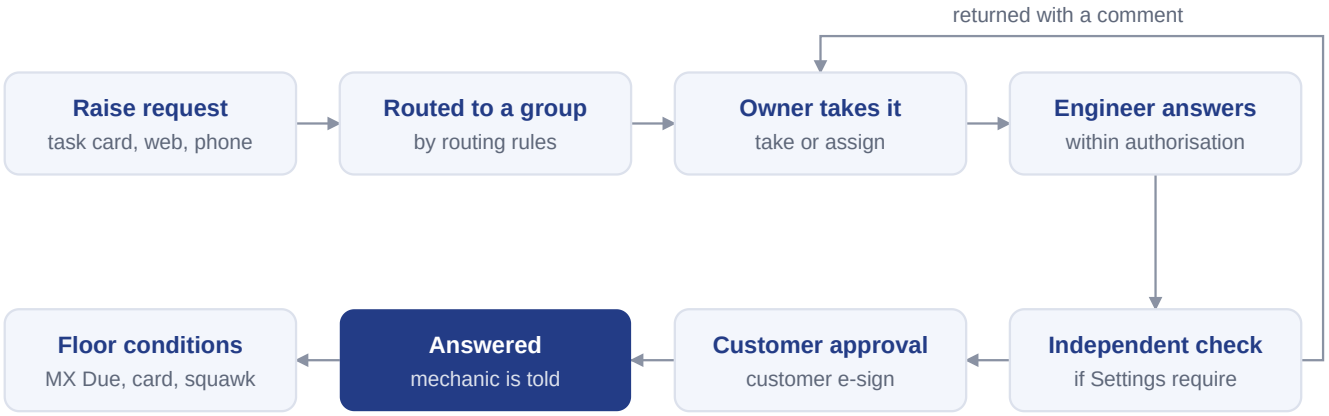
Settings	Engineers, managers, groups, routing, escalation, authorisations, independent check, customer approval

Organisation scope

"Viewing <organisation> only" applies to every engineering table. Super admins see the organisation chosen in Account / Settings.

2 Request flow

Every request ends as a signed answer with its conditions on the floor.



Check and customer approval apply only where Settings require them; otherwise the answer goes straight to Answered.

A request is raised, routed to a group and taken by an owner, who answers within their authorisation. Where required, a second engineer checks the answer (or returns it) and the customer signs. Once answered, the mechanic is told and the answer's conditions come into force on the floor.

3 Setup

Engineering → Settings is open to organisation admins and engineering managers. Set it up in this order.

1. **Engineers and managers**

   Add the people who answer requests and approve alterations. Organisation admins can always answer. Engineering managers can change routing, groups and assignments.

2. **Engineering groups**

   For example Structures, Avionics, Powerplant. Each has members, a lead, an optional on-call engineer and an optional weekly on-call rota (the rota beats the group's own on-call field).

3

Routing rules

Ordered rules match on request kind, ATA chapter range, aircraft (tail or model pattern), customer and program, and send the request to a group. The first match wins; unmatched requests go to the default group.

4

Escalation times

How long a request may sit unowned or late before it escalates, set per organisation.

5

Engineer authorisations

Each engineer's limits: request kinds, dispositions, major repairs / alterations, disciplines, aircraft types, basis (company, FAA DER, EASA DOA, national authority, other), reference, valid from / until and issued by. Pills show valid, expiring and expired.

6

Independent check

Which answers need a second engineer before they reach the mechanic.

7

Customer approval

Which dispositions need the customer's approval (customer aircraft only, or always), with per-customer and per-program overrides.

Grows with you

Routing, review and the extras stay hidden until their migrations are run; the core request and alteration screens work on their own.

Regulatory mode

The organisation's authority (**Settings → Regulatory**) changes the wording and the records kept.

Mode	Classification	Approval record
FAA	Major / minor repair or alteration (14 CFR Part 43 App. A)	Form 337, sent to the FSDO
EASA	Part-21 classification (21.A.91 changes, 21.A.435 repairs)	EASA or DOA approval reference; date recorded in the aircraft records (M.A.305 / ML.A.305); no Form 337
National KCAA, SACAA, GCAA	The EASA classes with neutral wording	Approval from the TC holder, State of Design, the authority or an STC, plus the approval reference; no Form 337
Dual	Both sets available	Either, per record

4 Requests

Anyone in the organisation can raise a request and see all requests; only engineers and admins can answer, change approved data or delete. Requests are numbered ER-0001, ER-0002 … per organisation.

Where requests come from

- **Engineering → Requests** → **New request**
- **Ask engineering** on a task card or work order, prefilled with aircraft, task, ATA chapter and part
- The Mechanic and Admin phone apps, including the **+** on My engineering requests

On every request

- A conversation between the floor and engineering
- Photos and files (private storage, signed links only)
- The full history of who owned it and when

Field	Values
Kind	Repair, damage, technical query, alternate part, deferral, other
Priority	AOG, urgent, routine (AOG is always listed first)
Status	Open → in review → (awaiting check) → answered → closed; or cancelled
Disposition	Approved repair, use as is, replace, refer to OEM, not approved, information
Approved data	The reference the answer rests on (SRM, AMM, OEM letter, DER / DOA data, AC 43.13 …)

Routing and ownership

When a request is created the routing rules set its owning group. An engineer can **Take it**, an engineer or manager can **Assign or move**, and the owner can **Hand back**. Every move is recorded with who and when, set by the server. Queues: My group's queue, Unassigned, Mine, Overdue, and by group.

Answer library

On a new or open request, **Similar answered requests** lists earlier answers for the same type or model, ATA chapter, part number or similar words. **Reuse this answer** copies one in; the engineer still reviews and sends it. **Requests → Library** filters the answered set and exports CSV.

Notices and escalation

Notices go by email or text (each person's choice) plus a push to the phone apps, and each is sent once.

Event	Who is told (with engineering groups)
New request	The person it was sent to, otherwise the group's members; AOG also the group's on-call (AOG and urgent say so in the subject)
Answered	Whoever raised it
New note	The other side: the raiser, or the owner / group members
Unowned too long	The group lead (escalation level 1)
Late (open past due)	The owner and the group lead (level 2)
Still late after a further interval	The engineering managers (level 3), never "all engineers"
Order sent for review	Engineers, except the one who prepared it

Without groups, a new request goes to all the organisation's engineers (or its admins when it has none), and late AOG / urgent requests also go to the admins.

5 Check, authorisations and customer approval

Four controls make sure an answer is within authority, independently checked, accepted by the customer and acted on.

Engineer authorisations

Every answer is checked against the answering engineer's authorisation (kind, disposition, major work, discipline, aircraft type, validity dates). Outside it, the database refuses the answer, or in "record" mode accepts it and records the exception.

Independent check

Where Settings require it, the first answer moves the request to *Awaiting check*. Another engineer agrees (answered, mechanic told) or returns it with a comment. Both signatures appear on the request and its printout. For major repairs and alterations the approved data is checked before work starts.

Customer approval

A status banner shows not needed, required, sent, approved or declined. **Send to customer to sign** emails a link; **Customer signs here** signs on the spot, both through the Program Management e-sign. Until approved, the task card and work order show a blocking banner.

Conditions to the floor

Repeat inspections, time-limited repairs, before next flight, before next check. Once answered they come into force as Maintenance Due items, a task card work item or a grounding squawk, with live status (pending, active, closed, terminated) and a link back to the request.

6 Repairs, alterations, engineering orders and damage map

Repairs and alterations (MA-0001 …)

- Classification: major / minor repair or alteration, or the EASA / national equivalent
- Approved data and its kind: STC, field approval, DER, AC 43.13, OEM, PMA, other (EASA adds the Part-21 kinds)
- Instructions for continued airworthiness, the weight and balance change, the equipment list and any flight manual supplement
- Photos, the signed major / minor classification decision and the signed Form 337 as attachments

Planning anyone can start one › **Data pending** approved data sought › **Ready** data in hand › **In work** on the floor › **Completed** work signed off › **Filed** 337 / records entry › **Closed** done

Only engineers and admins can move an alteration past planning or change its approved data. FAA organisations get a printable Form 337 worksheet and track the date it was sent to the FSDO. EASA and national organisations have no Form 337 and no "337 filed" stage; the approval reference and the date it was recorded in the aircraft records take its place.

Engineering orders and work instructions (EO-0001 …)

An engineering order says what to change on which aircraft, on approved data. A work instruction says how to do a job the same way every time. Both have numbered steps with notes, cautions, warnings and inspection / RII points.

Stage	Who	What happens
Draft	Preparer	Steps can only change in draft
In review	Preparer submits	Engineers are notified

Approved	An engineer or admin who did not prepare it, with a signature	A frozen revision is written and never edited afterwards
Published	—	Written out as a task card template, used on the floor like any other card
Revise	Engineer	Back to draft for the next revision; publishing it replaces the template

A rejected order goes back to draft with the reason.

Damage map

Per aircraft, each dent, scratch, corrosion, crack, repair or doubler is a spot on the airframe diagram (seven views) with its size, whether it is within limits, the SRM or repair reference, photos, and any repeat inspection (every N hours or by a date). Anyone can log damage; engineers and admins change it.

7 Library, configuration, AD / SB, reliability, programme, interchangeability

Area	What it does
Technical library	Manuals and service documents (maintenance manual, parts catalogue, SRM, wiring, component manuals, POH, SBs / SLs), the models each applies to and the current revision. Every revision is kept with what changed, and each person records "read and understood" per revision, so you can show who has read the current issue.
Configuration status	Per aircraft, which modifications, SBs and STCs are embodied or not, so a request or alteration is judged against the aircraft's actual build.
AD / SB	The AD review queue by aircraft, fed by the AD library (FAA, EASA, TCCA, ANAC and others). The review itself happens in **Records → AD / SB**.
Reliability	Defects per 100 flight hours by aircraft, by ATA chapter against the previous period with alerts, repeat defects, and component removals by part number.
Inspection programme	Interval escalations and other programme changes, each with its reasoning, data, approval and implementation. The manufacturer's maintenance tasks (MPD) are mapped to your task card templates.
Interchangeability	Approved alternates: one-way or two-way, supersessions and PMA parts. The lookup also returns the alternates kept in Stores with the catalogue part and quantity on hand, so Stores and Engineering always give the same answer.

8 Hours, workload and reports

Engineering hours

Log time (date, hours, note, billable) or run a timer on a request, an alteration or an engineering order. The Engineering hours tab reports it by engineer, customer, work order and month, with CSV and print / PDF. Billable hours on a request tied to a work order are written to the work order as Engineering hours, so they count in the work order hours, the invoice and Program Management earned-value actuals.

Workload

Per group and per engineer: open, unassigned, overdue and answer times. Engineering managers use it with the queues to balance assignments.

Reports

Reports → By Workspace → Engineering has these canned reports, all schedulable by email. The engineering tables are also data sources in the report builder.

Report	Shows
Engineering requests	Requests by status, priority, engineering group and owner, with open and overdue requests listed
Engineering conditions	Conditions from answers and whether they are pending, active or closed
Customer approval	Requests waiting for, approved or declined by the customer
Engineering hours	Logged hours by engineer, customer, work order and month

9 Mobile

Engineering is in the Admin and Mechanic flavours of the Avistrata v2.2 iPhone and Android apps.

- [ ] **Engineering Home** with the same tiles as the web (AOG, late, my group's queue, unassigned), and the organisation badge for super admins
- [ ] **My engineering requests**: what I raised and what is assigned to me; the **+** raises a new request (aircraft, kind, priority, ATA, description, photos)
- [ ] **Request detail**: conversation, photos, disposition and approved data, conditions, customer approval status; engineers can take it, answer and hand back
- [ ] **Ask engineering** from a task card, prefilled like on the web
- [ ] **Push notices** for new, answered, noted and late requests

Managed on the web

The phone apps follow the organisation chosen in Account / Settings. Settings, routing rules and engineering orders are managed on the web.

10 Regulatory basis and roles

Area	FAA	EASA	National KCAA, SACAA, GCAA
Classification	14 CFR Part 43 App. A (major / minor)	Part-21: 21.A.91 changes, 21.A.435 repairs	EASA classes, neutral wording
Approved data	STC, field approval, DER, AC 43.13, OEM, PMA	EASA / DOA approval, TC holder data	TC holder, State of Design, the authority, STC
Record of the change	Form 337 to the FSDO	Aircraft records entry (M.A.305 / ML.A.305) with the approval reference	Approval reference and records entry
Engineer basis	Company, FAA DER	Company, EASA DOA	Company, national authority
ADs	FAA AD feed	EASA AD feed	Authority of the State of Design (EASA, TCCA, ANAC …)

Built for the inspector

Who did what and when is always set by the server, never by the browser, and approved revisions and ownership moves are never edited afterwards. That audit trail is what makes the records hold up with an inspector.

Roles

Role	Can
Everyone in the organisation	See all engineering records, raise requests, add notes, photos and files, log damage, acknowledge library documents
Engineer	Answer within their authorisation, act as independent checker, approve orders they did not prepare, change approved data and alteration status, maintain library, configuration, programme and interchangeability data
Engineering manager	Everything an engineer can, plus groups, routing, escalation, assignments and Settings
Organisation admin	Everything, including engineers, authorisations, independent check and customer approval settings
Customer	Approve or decline a disposition by e-sign when the settings require it