Drawing health checklist

For repeat machined components, second-source supply and controlled first batches

A good machining drawing tells the machine shop what to make, tells inspection what to prove, and gives purchasing a controlled record for the next order.

Use this checklist before sending drawings for quote, supply review or first batch planning.

Item	Detail
Best for	OEMs, machinery builders, maintenance teams and procurement teams managing repeat machined parts.
Use before	RFQ, drawing review, second-source assessment, first batch planning or repeat supply review.
Main output	A cleaner drawing pack, fewer open questions and a stronger basis for repeat supply.
Limit	This checklist does not replace design approval, compliance sign-off or engineering certification.

Next steps

Start a component supply review | Inspection and documentation capability

How to use it

Mark each item ready, unclear or not applicable. Anything unclear should be fixed, explained or supplied with supporting notes before the part is released for quotation or manufacture.

Status	Meaning
Ready	The requirement is clear enough to quote, make and inspect.
Unclear	The supplier will need clarification before quoting or manufacturing.
N/A	The item does not apply to this part, process or buying situation.

Drawing risk rating

Rating	Level	Description
A	Low drawing risk	Current revision, clear material, clear tolerances, identified inspection points and known repeat demand.
B	Manageable drawing risk	Usable drawing, but some tolerances, notes, finish details, history or inspection requirements need confirmation.
C	High drawing risk	Old revision, missing material, unclear fits, unknown function, no inspection basis or no controlled file pack.

Ten checks

No.	Area	Ready condition
1	Revision control	Drawing number, part number, release status, revision and owner are clear.
2	Geometry and tolerances	Dimensions, tolerances, datums and units are clear enough to make and inspect. Datums are simple and practical. Tolerances are fit for purpose.
3	Fit and function	Bores, shafts, bearing lands, threads, sealing faces and assembly interfaces are identified.
4	Material and finish	Material grade, treatment, coating, hardness and surface finish are specified where required.
5	Inspection requirements	Critical features and evidence requirements are listed before manufacture starts.
6	Manufacturing notes	Blank type, special process, edge condition and handling notes are clear.
7	Supply history	Past orders, supplier issues, annual demand and timing are known.
8	File pack	PDF, CAD, STEP, photos, samples and certificates are supplied where useful.
9	First batch readiness	Trial quantity, inspection report and customer approval path are agreed.
10	Repeat supply readiness	Reorder pattern, batch size and register status are known.

Drawing control

Check	Status	Confirm	Action
1. Revision control	Ready [ ] Unclear [ ] N/A [ ]	Drawing number and part number match the buying records. Revision level is visible and current. Old files are removed from the RFQ pack. Release status is clear: prototype, first batch, production or service spare.	
2. Geometry and tolerances	Ready [ ] Unclear [ ] N/A [ ]	All features needed for manufacture are dimensioned. General tolerance block is present. Critical tolerances are applied to functional features. Datum scheme is clear where position, runout or concentricity matter.	
3. Fit and function	Ready [ ] Unclear [ ] N/A [ ]	Assembly interfaces are identified. Bearing fits, shaft fits, bores and shoulders are marked. Threads include size, pitch, depth and class where relevant. Sealing faces, grooves and sliding faces are defined.	
4. Material and finish	Ready [ ] Unclear [ ] N/A [ ]	Material grade is listed using a recognised standard or customer specification. Heat treatment, coating or plating requirements are stated. Hardness range is shown where it affects wear or life. Certificate or traceability requirements are stated before quotation.	

Common problem: the drawing is old but still used for repeat supply. Attach the latest order history, sample part photos and any known revision notes.

Inspection and manufacturing control

Check	Status	Confirm	Action
5. Inspection requirements	Ready [ ] Unclear [ ] N/A [ ]	Critical dimensions are marked or listed. Inspection method is known for key features. Sampling level is agreed for batch work. Material, coating or process certificates are required or not required.	
6. Manufacturing notes	Ready [ ] Unclear [ ] N/A [ ]	Blank type is known: bar, billet, plate, casting, forging, weldment or customer-supplied item. Pre-machining and post-machining operations are clear. Deep holes, thin walls, interrupted cuts or distortion risks are identified. Packaging and handling requirements are listed where surfaces can be damaged.	
7. Supply history	Ready [ ] Unclear [ ] N/A [ ]	Last order date, quantity and supplier are known where available. Annual demand or likely repeat demand is estimated. Current supplier issue is described: lead time, quality, capacity, closure or single-source risk. Downtime or production consequence is known if the part is late.	

Common problem: inspection requirements are added after the part is made. For critical features, agree the evidence before manufacture starts.

File pack, first batch and repeat supply

Check	Status	Confirm	Action
8. File pack	Ready [ ] Unclear [ ] N/A [ ]	PDF drawing is supplied. Native CAD and/or STEP file is supplied where useful. Photos of the part, assembly location or failure mode are included where useful. Previous inspection reports, material certificates or process records are supplied where available.	
9. First batch readiness	Ready [ ] Unclear [ ] N/A [ ]	First batch quantity is stated. Inspection report requirements are confirmed before manufacture. Customer fit trial or approval process is known. Revision is frozen unless change control is agreed.	
10. Repeat supply readiness	Ready [ ] Unclear [ ] N/A [ ]	Expected repeat interval is known. Preferred batch size and price break quantities are known. Reorder trigger, min/max level or forecast window is available. Part can be added to a customer critical parts register.	

Common problem: each repeat order is treated as a fresh one-off. Keep the drawing, revision, inspection record and reorder signal together.

What to send with the drawing

Pack level	Include
Minimum pack	Current PDF drawing, part number, revision, material, quantity, required date and contact name.
Better pack	PDF drawing, STEP or native CAD, material and finish details, inspection requirements, photos and annual demand.
Best pack for repeat parts	Drawing pack, order history, current stock, annual demand, inspection records, supplier risk notes and target first batch quantity.

When to move to a component supply review

Use the component supply review when the part is repeat, supply risk is increasing, a current supplier is overloaded, the drawing is old, or the part has a real consequence if it arrives late or fails in service.

Related page	Link
Start a component supply review	https://alfredlewis.com.au/component-supply-review/
RFQ readiness guide	Download
Controlled first batch guide	Download
Inspection and documentation capability	Download
Customer critical parts register	https://alfredlewis.com.au/customer-critical-parts-register/

Buyer note

If you do not have all the information, send what you have. Old drawings, sample parts, photos and order history can still be useful. The main risk is not a missing detail. The main risk is pretending the detail does not matter.