



Advanced Dimensional Solutions Pty Ltd

Industrial Measurement specialists providing precision measurement and analysis services to industry.

Sydney (02) 9144 5100

Melbourne (03) 9380 1666

New Zealand +64 3 479 7591

www.a-solution.com.au/ads

E-mail ads@a-solution.com.au

FAQ's on Extrusion Alignment Frequently Asked Questions on Extrusion Press Alignment using Modern Technology techniques by ADS

(This document is continually updated as various questions come in)

1) How long does it take for you to carry out an alignment check and provide results?

A full press alignment (measurement phase) takes 8 to 10 hours and the results will be available within 48hrs or overnight in special cases. Processing data and reporting takes about the same time as the measurement phase with an additional 3 to 4 hrs to produce the final report.

2) What is the Alignment process?

- a) Site visit (optional), induction, and system calibration.
- b) On-site press measurement and monitoring
- c) Processing data and reporting
- d) Assess solution options/recommendations (see Q3)
- e) Client plan shut and carry out press adjustment or remedial work
- f) Real-time adjustment assistance (optional) (see *Q4)
- g) Re-measure press after adjustment and bedding-in by production.
- h) Refinement of alignment with iterative steps of adjustments and re-measurements.
- i) Annual or biennial press alignment checks

Items a) to c) combined are the standard alignment check. The remainder, d) to i) are additional procedures to complete and maintain the press in optimum alignment condition.

3) Do you recommend the method to realign the press?

YES! The report we provide gives the relationships of the various components relative to correct alignment and the dynamic effects for various cycles monitored. This will indicate what needs to be adjusted, machined, or replaced. This is dependent on the type of press as to what is adjustable, how easily adjustments can be made, and other issues related to operation and production. We make recommendations in consultation with our clients who make the final decisions.

4) Do you stay for the adjustment and check the press is realigned?

Once the press state and relationships of the various components is known, many adjustments can be made with micrometers and dial gauges and it is often not cost effective to use our measurement system for this. However, *ADS can assist with any adjustment as necessary or for special adjustment requirements to be carried out **in real-time** with the adjustment figures displayed on screen as they are manipulated to zero. Usually the

micrometer type adjustments by trades-people will be adequate for immediate press operation and production to continue.

We recommend re-measurement after press adjustment and after the press has bedded-in with a short period of production depending on what maintenance has been done. This provides verification of correct adjustment and re-establishes the initial state for condition monitoring. Some clients prefer to have the realignment check done immediately after adjustment. The regular maintenance alignment checks of the centre line or the tie-rod strain checks are highly dependent on the assumption that the whole press is correctly aligned (initial state of condition monitoring).

5) Have you any examples of benefits and feedback?

There are many benefits and cost savings to be made using our modern methods of measurement, alignment and monitoring.

Some examples of recent **Feedback from Extruders:**

- a) *"ADS cost is inexpensive when compared to the cost savings. For example: After correct alignment using ADS:- dummy blocks replaced every 1-2 weeks before now need replacing every 8 weeks or more; container liners replaced every 3-4 months before now last to 10 months; and flaring has reduced from 1 in 10 shifts to zero. The annual savings in the costs of disposables, not to mention maintenance down time are dramatic. The expensive part is fixing the press once you know the problem!"*
- b) *"Traditional methods only give part of the picture, eg piano wire or laser in the CL will only work if the rest of press is correct. Also twist or parallel offset cannot be picked up. Some can be assessed but takes long, is very fiddly and has very poor reliability. ADS method is faster, is able to provide the full picture, with very good reliability. I was impressed with how easily the tracker was able to measure various components just by running over them with the ball; I was very happy with the results, was confident that they were correct and was confident to make the adjustments to the press from the values shown in the report."*
- c) *"Advantages of using the ADS method - fast, high accuracy, full press 3D picture and any dimension of every important component relative to any other, under operational conditions. Dynamic components can be measured, under various cycles and loading conditions (ADS is the only system that can do this!). After adjustment - get ADS back and run the press through its cycles/loadings to check effects. Once the press is correctly adjusted for optimum alignment, use this as the initial condition state, create own reference with micrometer readings and you are set for 1 or 2 years apart from normal wear."*

6) What is your cost charging system?

(POA) Free estimates or quotes are provided in strict confidence on request and after relevant details are provided.

Costing structure:

- Establishment costs which include return freight and travel, import/export, insurance, and on-site calibrations and inductions.
- Out-of-pocket expenses which include accommodation and meals, and daily living away costs.
- Measurement on site 1 day per press.
- Analysis and Reporting 1 day
- Standby rates may apply when the Client will not allow commencement or continuance of the measurement task after our arrival on site.
- National work in Australia will include GST (Goods and Services Tax, currently 10%).

- Prices will generally be quoted in Australian Dollars
- Payment of monies for International work will be nett of all taxes and charges applicable to that country to the bank account of Advanced Dimensional Solutions Pty. There may be a deposit required at acceptance and prior to commencement.

7) What types and makes of presses do you align?

ADS provides press alignment for all types (direct, indirect, compact, piercer, hollow mandrel) makes and age of extrusion presses including aluminium, copper, brass, steel and other non-ferrous metals. Special designs and features are readily accommodated.

8) What information does ADS require about each press?

The following information for each press is valuable for costing and logistics, on-site measurement, analysis and for providing adjustment solutions: (information remains in confidence between the client and ADS). A submit form is available on our website.

- a) Make, tonnage and age of press
- b) Press Type (direct, compact, piercing, billet lengths and diameters, 3 or 4 column – covered, laminated etc)
- c) Technical dimensions from the manufacturers specifications are not usually required as our analysis is based on geometric characterisation (flatness, levelness, parallelism, squareness, symmetry, and centre line linearity). Approximate press dimensions and relative positions of components are required to assess press complexity and access for measurement. Photos or blueprints are very helpful.
- d) Press history and known problems relevant to misalignment – dummy block and container-liner replacement frequency, tie rod condition, any flaring/mushrooming problems; ram, cylinder platens, container, rails/slides.
- e) Any anticipated special requirements for dynamic monitoring under operational conditions? If components need to be monitored say under full extrusion, it is not necessary to actually extrude through a die as long as full load can be applied.