

Servo Encoder Alignment Bench Check

A printable checklist for checking commutation alignment on the bench. Use it before blaming the drive or the winding. Read the full guide at starautomations.com/guides/check-servo-encoder-alignment/

Motor details

Item	Value
Motor make and model	
Serial number	
Pole count (poles, not pairs)	
Encoder or resolver type	
Maker alignment reference (e.g. U edge at lock, or electrical angle)	
Rated current (A)	

Steps

- Lock out and disconnect the drive. Uncouple the load. Release the brake (usually 24 V DC).
- Power the encoder only, at its rated voltage.
- Current-limited DC supply: + to U, - to V and W joined (or the maker's convention). Start at 10% of rated current; raise slowly, rarely above 30%.
- Read the commutation edge or electrical angle at the lock position.
- Turn to each next lock position; record the reading at every pole pair.
- Move - from V to W; note the direction of rotation and count.

Readings

Lock position	Reading (deg or UVW state)	OK?
1		
2		
3		
4		
5		
6		
7		
8		

Result

- All readings equal and match the maker reference: alignment OK; look elsewhere for the fault.
- Readings equal but off the reference: offset needs setting.
- Readings differ between positions: slipped disc, wrong pole count or encoder fault.

Safety

- Never exceed rated current; windings heat quickly at standstill.
- The shaft can jump at lock-up; keep hands clear.
- Turning a large magnet motor generates voltage on open terminals.

Need it tested, aligned or repaired? Send a photo of the motor nameplate and the encoder label on WhatsApp +91 97866 22233. Emergency same day where the fault and parts allow; urgent 3 working days; standard 7 working days. Printed test report with every motor.