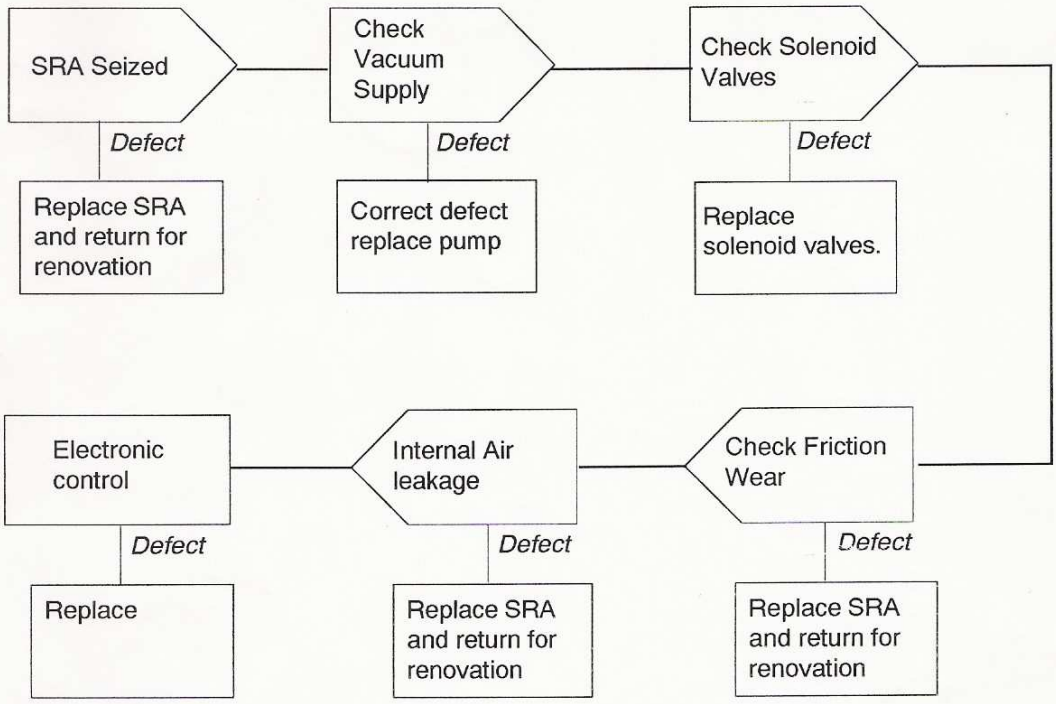
Guide to SRA Fault Finding



Check Installation

Fault finding should always be started by carefully checking all mechanical and especially electrical connections including DIP switch and jumper settings. Intermittent wrong stop/starts are often due to local electrical noise pulses. It is therefore important to insure secure shielding of the signal wire.

Mechanical Checks

i) Check the connection between the SRA output shaft and the load.
ii) Check the positioning disc is firmly attached
iii) Check start/stop sensors, they can be damaged by exposure to mechanical vibrations.
iv) Check Encoder, can be damaged by poor mechanical connection.

The above checks may seem obvious, but are never the less often the cause of any malfunction.

The SRA is seized.

The SRA should be disconnected from the load, The drive motor and vacuum pump should be stopped and the electrical connections should be turned off.

Clutch side. The input pulley must be able to rotate freely while the through going output shaft is kept in position. If this is not possible, then the input pulley and the clutch disc have been vulcanised together due to overloading.

Brake side. The through going output shaft must be able to rotate freely. If this is not possible, then the brake disc and brake flange have become vulcanised due to overloading.

Vacuum Supply

The vacuum pressure must be set at 0.3 bar absolute (4.4 psi absolute), -0.7 bar gauge (-10.2 psi gauge). If the vacuum cannot be achieved it may be due to either a defective SRA or vacuum supply.

Check the hose connections between the pump and SRA.

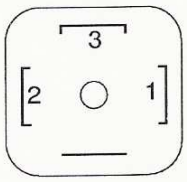
Pump. Disconnect the vacuum hose from the SRA unit. Set the vacuum pump to it's maximum vacuum setting. If the vacuum hose is then pinched, the vacuum must be 0.15 bar absolute or less. If not this indicates that the pump vanes are worn, and the pump should be repaired.

Solenoid valves

The function of the old type valves can be checked with a small screwdriver. The coil cap and filter is removed and the screw driver can be fed through the coil core down onto the valve plates. The movement of the valve plates can then be registered.

Coil resistance. Measure across the terminals 1 and 3 (clutch coils) or 2 and 3 (brake coils).

Resistance:	SRA 10	9 to 10.4 Ohms
	SRA 15-36	4.5 to 5.2 Ohms



Valve plates: These can be inspected once the solenoid valve assembly has been removed. They should be checked for wear and cleaned with spirit.

Friction Lining Wear

The drive motor should be stopped and the vacuum pump should be adjusted with the pressure at 0.3 bar, -0.7 bar gauge. As the friction linings wear, the air gap increases and the vacuum required to draw the disc towards the friction ring cannot be built up, leading to a poor function.

Brake: If the SRA unit is set in brake mode, the brake function is checked and the through going out put shaft should be locked in position.

Clutch: If the SRA unit is set in clutch mode the clutch function is checked and the output shaft should keep pace with the input pulley when it is turned.

By testing the minimum vacuum at which the brake /clutch functions occur this will give an rough indication of the remaining lifetime of the linings. If the SRA unit will function when the vacuum is turned down to -0.3 bar, then we would expect the friction linings to only slightly worn. If however the unit will only function at higher vacuum pressures -0.6 to -0.7 bar, the friction linings are nearing the end of their life and will need to be replaced shortly.

The SRA should be operated at a vacuum pressure of 0.3 bar absolute, -0.7 bar gauge for the optimum performance.

Internal Leakage

While the SRA unit is operating, the pressure must not vary by more than ± 0.1 bar. If this is observed then it will be due to an internal air leakage or to a fault in the vacuum supply.

Electronics

The function of the electronic controls should be checked. See relevant control documentation