8 TROUBLESHOOTING

8-1 Causes and remedies

Fault	Cause	Remedy	Reference
Power ON impossible	Main isolator not switched on	Turn main isolator switch to ON position.	**5-3-30 Power on**
	Power supply wires not connected	Connect the power supply wires.	**5-3-29 Power supply wire connection**
	Power not supplied	Check if power is supplied.	
Sequencer power ON impossible	Sequencer PLC protection fuse blown and no power supplied to the sequencer	Inspect F5 fuse in the fuse box and replace if it is blown The fuse used is a 250V 2A glass fuse.	
	No power supplied to the DC stabilizing power supply unit because of blown fuse	Inspect F1 and F2 fuse in the fuse box and replace if they are blown.	
Impossible to place a bolt onto the guide pin of the lower electrode	Spindle/jaws not correctly aligned with guide pin in lower electrode	Turn the air supply off and pull the spindle out to the stroke end, then make the alignment.	**5-3-11 Feed unit bolt supply position adjustment**
	Bolt feed unit mounting angle not appropriate	Correct the bolt feed unit mounting angle. Correct angle is 30º.	**5-3-11 Feed unit bolt supply position adjustment**
	Incorrectly sized bolts mixed in with correct bolts	Remove all incorrectly sized bolts from the vibratory bowl.	
	Large swing due to bolt feed unit resonance	Mount the universal bracket supporting the bolt feed unit as parallel as possible to the . weld machine.	**5-3-11 Feed unit bolt supply position adjustment**
	Air pressure outside the recommended range 0.4 MPa to 0.6 MPa	Check if air is supplied. Adjust the air pressure to within the recommended range of 0.4 MPa to 0.6 MPa.	**9-4-2 Air supply pressure check**
No vibrations of the bulk hopper	No power supplied	Check power is supplied.	
	Level switch failure	Replace level switch.	**7-6 Vibratory bowl level switch installation**
	No vibrations generated by the vibrator	Replace the vibrator.	**7-5 Bulk hopper vibrator installation**

Fault	Cause	Remedy	Reference
No bolt supply to the chuck assembly	Vinyl bolt feed tube broken	Replace or repair the vinyl bolt feed tube.	**8-2-3 Removal of the vinyl tube from the separator assembly**
	Bolts stick in the chute track A because of oil in the track	Remove the oil. Replace the chute track if no improvement is observed.	**8-2-1 Chute track A cleaning**
	Air blow time too short, bolts are staying in the vinyl bolt feed tube	Adjust the air blow timer.	**5-3-36 Timer setting procedure**
Separator not working as required	Air pressure outside the recommended range 0.4 MPa to 0.6 MPa	Check if air is supplied. Adjust the air pressure to within the recommended range of 0.4 MPa to 0.6 MPa.	**9-4-2 Air supply pressure check**
	Vinyl bolt feed tube in bad condition or damaged	Repair a deformed vinyl bolt feed tube or replace it if damaged.	
	Valve malfunction	Check solenoid motion in manual mode and if the solenoid cannot be activated, replace it.	**8-2-6 Solenoid valve operation in manual mode** **7-5 Solenoid valve assembly installation**
	Incorrect timer setting	Adjust the timer setting.	**5-3-36 Timer setting procedure**
	Broken or damaged cylinder	Turn the air supply off and check the air cylinder motion by hand. Replace the cylinder if these motions are not smooth.	Contact your local dealer
	Wear or deterioration of the inner surface of the separator causing bolts to stick	Replace the separator if wear or deterioration is noticed.	Contact your local dealer
	Sequencer program modified	Contact your local dealer to check and correct the program.	Contact your local dealer

Fault	Cause	Remedy	Reference
Bolts stop halfway in the vinyl bolt feed tube	Vinyl bolt feed tube bent or broken	Adjust the vinyl bolt feed tube or replace it.	**5-3-21 Vinyl bolt feed tube installation**
	Wear of vinyl bolt feed tube (scratched, dented)	Replace the vinyl bolt feed tube.	**8-2-3 Removal of the vinyl bolt feed tube from the tube clamp block** **5-3-21 Vinyl bolt feed tube installation into feed unit**
	Air pressure outside the recommended range 0.4 MPa to 0.6 MPa	Check if air is supplied. Adjust the air pressure to within the recommended range of 0.4 MPa to 0.6 MPa.	**9-4-2 Air supply pressure check**
	Sequencer program modified	Contact your local dealer to check and correct the program.	Contact your local dealer
No bolts being supplied to the Chute track A by the vibratory bowl	Bolts sticking together and are not being fed	Remove the oil and dust from the inside of the vibratory bowl and the bolts.	**9-4-9 Removal of oil, dust etc. in the vibratory bowl**
	Vibratory bowl outlet and chute track A inlet are not aligned	Visually check the alignment and adjust if needed.	**7-4 Chute track A assembly maintenance**
	Incorrectly sized bolts mixed in with correct bolts	Remove all incorrectly sized bolts from the vibratory bowl.	
	Bolts caught and stuck in the wiper located in the vibratory bowl	Adjust the wiper.	**8-2-4 Wiper adjustment**

Fault	Cause	Remedy	Reference
Bolts caught and stuck in the vibratory bowl	Bolts coated in oil which gathered in the vibratory bowl	Remove the oil and dust from the inside of the vibratory bowl and the bolts.	**9-4-9 Removal of oil, dust etc. in the vibratory bowl**
	Too many or not enough bolts in the vibratory bowl	Check the bolt quantity.	**9-4-7 Bolt quantity in the vibratory bowl check**
	Incorrectly sized bolts mixed in with correct bolts	Remove all incorrectly sized bolts from the vibratory bowl.	
	Tilt or play of the support frame	Check the support frame position for level and stability	**9-4-8 Support frame play and tilt check**
	Overlapping bolts	Separate the bolts.	Contact your local dealer
	Bolts caught and stuck in the vibratory bowl due to track wear	Visually check. If no bolt travels up the track, overhaul the bowl only.	Contact your local dealer
	Malfunction of the vibration adjusting variable resistor disabling the vibration adjustment	Replace the vibration adjustment variable resistor.	Contact your local dealer
	Malfunction of the printed circuit board	Replace the printed circuit board.	Contact your local dealer
Vibratory bowl vibrations too strong or too weak	Bolts coated in oil which gathered in the vibratory bowl	Remove the oil and dust from the inside of the vibratory bowl and the bolts.	**9-4-9 Removal of oil, dust etc. in the vibratory bowl**
	Weak vibrations due to too many bolts in the vibratory bowl	Reduce the bolt quantity in the vibratory bowl.	**9-4-7 Bolt quantity in the vibratory bowl check**
	Strong vibrations due to too few bolts in the vibratory bowl	Increase the bolt quantity in the vibratory bowl.	**9-4-7 Bolt quantity in the vibratory bowl check**
	Change in the setting of the variable resistor on the printed circuit board	Adjust the variable resistor on the printed circuit board in the control panel.	
	Wiring check	Check the vibrator wires are connected correctly.	**5-3-28 Vibratory bowl wire connection**
	Inadequate power supply voltage or frequency	Check power is supplied to the feeder correctly.	

Fault	Cause	Remedy	Reference
Vibrator not operating	Power not supplied	Check power is supplied.	
	Failure of wiring	Check the vibrator wires are connected correctly.	
	No power supplied to the vibratory bowl due to a blown fuse	Inspect F3 or F4 fuse in the fuse box and replace if blown. The fuse used is a 250V 5A glass fuse.	
	Malfunction of the variable resistor on the printed circuit board or the card	Replace the printed circuit board.	Contact your local dealer
	Malfunction of the vibrator relay	Check the input on the sequencer is activated when a nut comes right under the proximity switch and the out-put turns on after its preset time. Check operation of relay. Replace the relay if found to be faulty.	**8-2-9 Sequencer LED lamp layout** **7-8 Relay installation**
	Vibrator malfunction	Overhaul or replace the vibrator.	Contact your local dealer
Vibrator operating continuously	Proximity switch failure	Replace the proximity switch.	Contact your local dealer
Feeder does not start, the spindle does not extend, even when the feeder start switch is turned ON	AUTO switch on the feed unit not in correct position	Check and correct the AUTO switch position.	**8-2-7 AUTO switch position correction procedure**
	Start initiation wire broken	Check input 4 of the sequencer comes on and goes according to the state of the initiation. Repair the initiation circuit if its actuation has a failure.	Contact your local dealer **8-2-9 Sequencer LED lamp layout**
	Sequencer program modified	Ask your local dealer to check the sequencer program.	
	Malfunction of the feed unit soleneoid valve	Check solenoid valve motions in manual mode and replace the valve if found to be faulty.	**8-2-6 Solenoid valve operation in manual mode** **7-5 Solenoid valve assembly installation**
	Air pressure source not available	Check if air is supplied.	**5-3-19 Primary air supply**

Fault	Cause	Remedy	Reference
No bolt fed by the separator, even when the FEED TEST button is pressed	Malfunction of the solenoid valves for separator and air blow	Check the solenoid valves in manual mode and replace them if found to be faulty.	**8-2-6 Solenoid valve operation in manual mode** **7-5 Solenoid valve assembly installation**
	Air pressure source not available	Check if air is supplied.	**5-3-19 Primary air supply**
	Failure of contact or breakage of the FEED TEST button	Check the input of the sequencer turns on when the FEED TEST button is switched on and off. Replace if found to be faulty.	Contact your local dealer **8-2-9 Sequencer LED lamp layout**
	Sequencer program modified	Contact your local dealer to check the sequencer program	
The spindle fails to extend and retract, even when the SPINDLE TEST button is actuated	Malfunction of the solenoid valve for the feed unit	Check the solenoid valves in manual mode and replace them if found to be faulty.	**8-2-6 Solenoid valve operation in manual mode** **7-5 Solenoid valve assembly installation**
	Malfunction of the selector switch	Check the input of the sequencer comes on when the selector switch is turned on and off. Replace the switch if found to be faulty.	Contact your local dealer **8-2-9 Sequencer LED lamp layout**
	Sequencer program modified	Contact your local dealer to check the sequencer program	
	Air pressure outside recommended range of 0.4 MPa to 0.6 MPa	Adjust the air pressure to within the range of 0.4 MPa to 0.6 MPa.	**9-4-2 Air supply pressure check**
No switch over between FEED & WELD and WELD ONLY	Malfunction of the selector switch	Check the input of the sequencer comes on when the selector switch is pushed. Replace the switch if found to be faulty.	Contact your local dealer **8-2-9 Sequencer LED lamp layout**
	Sequencer program modified	Contact your local dealer to check the sequencer program	
No welding performed, other functions work normally	Malfunction of the spot welding start relay	Check and replace the relay if found to be faulty.	**8-2-9 Sequencer LED lamp layout** **7-8 Relay installation**