Mitsubishi Servo Troubleshooting				
Fault Code	**Alarm Name**	**Definition**	**Cause**	**Action**
A10	Undervoltage	Power supply dropped below 165V.	1. Power supply is low.	Review the power supply.
			2. Power switched on within 5s of being switched off. *	
			3. Instantaneous power failure of 15ms or longer.	
			4. Short on power supply causing voltage dip.	
			5. Faulty components in servo amplifier. (Note 1)	Change the servo amplifier.
A12	Memory Error 1	RAM/ROM error	Faulty components in servo amplifier. (Note 1)	Change the servo amplifier.
A14	Watchdog	CPU/component error		
A15	Memory Error 2	EEPROM error		
A16	Motor combination error	Combination of motor and amplifier	1. Mismatch.	Use correct combination.
			2. Encoder fault.	Change the servo amplifier.
A17	Board Error.	CPU/component error	Faulty components in servo amplifier. (Note 1)	Change the servo amplifier.
A20	Encoder Error.	A communication error occurred between the encoder and servo amplifier.	1. Encoder connector CN2 disconnected. *	Connect correctly.
			2. Encoder cable fault.	Repair or replace the cable.
			3. Encoder faulty.	Change the servo amplifier.
A30	Regeneration Error.	Excessive Regeneration.	1. Wrong setting of parameter No. 0	Set correctly.
			2. High duty of regenerative operation. (Use the status display to check regen. load factor)	1. Reduce frequency of moves.
				2. Use a larger brake option.
				3. Reduce the load.
		Regeneration transistor error.	Regenerative Transistor faulty. (Note 2)	Change the servo amplifier.
A31	Overspeed.	Speed has exceeded the instantaneous permissable speed.	1. Electronic gear ratio is too large Par No. 2 and 3	Set correctly.
			2. Small accel/decel time caused excessive overshoot	Increase the accel/decel time.
			3. Encoder faulty.	Change the servo motor.
A32	Overcurrent.	Excessive amplifier currents.	1. Short occurred in the output phases of the amplifier.	Correct the wiring.
			2. A ground fault occurred in the output phases of the amplifier.	Correct the wiring.
			3. Transistor power module of the servo amplifier faulty.	Change the servo amplifier. (Note 1)
A33	Overvoltage	Converter buss voltage exceeded 400V.	1. Power supply voltage exceeded 260V	Verify the power supply.
			2. Large spikes on the power supply caused the power supply to over charge.	1. Use the FR-BAL
				2. Prevent spikes from reaching the amplifier.
			3. Broken regenerative brake wires.	Change the regenerative brake option.
			4. The lead of the regenerative brake option is	1. Change the lead.
				2. Connect correctly.
A35	Command Pulse Alarm	Input command pulse exceeded 250kp/s.	1. Command pulse frequency exceeded 250kp/s.	Reduce the command pulse frequency.
			2. Noise affecting the command pulse.	Eliminate the noise.
			3. Commanding unit faulty.	Change the command unit.

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Fault Code	**Alarm Name**	**Definition**	**Cause**	**Action**
A37	Parameter Error	Parameter setting is wrong.	1. Servo amplifier fault caused the parameter setting to be rewritten.	Change the servo amplifier.
			2. The same signals have been made valid for different pins in parameters 20 or 21.	Set correctly.
A50	Overload	Overload protection has been exceeded. Load factor of 200 to 300% for 4 secs or more. Servo motor locked for 0.3 secs or more.	1. Wrong connection of the servo motor. The output terminals U, V, W of the servo amplifier do not match the input teminals of the servo motor.	Connect correctly.
			2. Continuous output current of the servo amplifier is exceeded.	1. Review operation pattern.
				2. Increase the servo motor capacity.
			3. Servo system is unstable and hunting	1. Repeat accel/decel and execute auto tuning.
				2. Using par. No. 1, change response setting.
			4. Machine struck something. *	1. Review operation pattern.
				2. Provide limit switches.
			5. Encoder Faulty. (Note 3)	Change the servo motor.
A52	Excessive Error.	The value of the deviation counter exceeded 50,000 pulses.	1. Accel/decel time too small.	Increase the accel/decel time.
			2. Torque limit value (Par. No 9) is too small.	Increase the torque limit value.
			3. Start not allowed by torque shortage due to power supply voltage drop.	1. Review the power supply capacity.
				2. Increase the servo motor capacity.
			4. Machine struck something. *	1. Review operation pattern.
				2. Provide limit switches.
			5. Wrong connection of the servo motor. The output terminals U, V, W of the servo amplifier do not match the input teminals of the servo motor.	Connect correctly.
			6. Encoder Faulty.	Change the servo motor.

Note 1: Disconnect all connectors, retry, if same fault still present the amplifier will have to be replaced.
Note 2: If the regenerative brake option has overheated abnormally or the alarm still occurs after the regenerative brake option has been removed, the amplifier will have to be replaced.
Note 3: To check the servo motor rotate the shaft slowly while disabled. The feedback pulse value should vary in proportion to the angular value. If the reading skips or returns at any point, the encoder is faulty!

To access the alarm history, press 'mode' until the displays shows "A--", then press 'up' once to see the last alarm. Press up again to view the 2nd last alarm. The unit stores the last 4 alarms then possibly an "E" code parameter error.

I (David Payne of Industronics) have a great deal of experience with these servos and have indicated the most common alarms and their most likely cause in RED. (Indicated with an asterisk as well for those without colour!) A jammed motor can also occassionally cause an A32 overcurrent fault along with A50 and A52.