Montakop Trouble Shooting Chart N.R. 9209 and Up

Problem	Possible cause or symptom	Test Procedure	Remedy
Montakop Does not Turn On			
Main Power Contactor does not energized	**No electrical power to equipment**	**Check power line fuses or circuit breakers.**	
	Power is present but the main power contactor will not energize	1. Check for 220 VAC at terminals 30X1 & 2X1 If not present Check F1 2. Check for 220 VAC at terminals 31X1 & 2 X1 If not there Check F9 3. Depress one of the power level selectors and Check for 220 VAC at terminals 26x1 & 2x1. IF there is no voltage present, a. check A11 PC Board If there is voltage b. check the K7	1. F1 P/N is 63342 2. F9 P/N is 72202 3. a. A11 P/N is 56900 b. K7 P/N is 63796
Main Power Contactor energized	Computer does not light up and main exposure lamp lights.	1. Check fuse f3 2. Check terminals 7x1 & 6X1, If present check terminals 11 X 1 and 6X1 for 110 Volts. If not present check T2 transformer. If present check A6 computer.	1. F3 P/N is 63312 2. T2 P/N is 44060 3. A6 P/N is 5509, 110 Volt
Main exposure lamp does not light but computer lights up.	Exposure Lamp is too hot to restart	Allow Exposure lamp to cool down for at least five minutes before attempting to restart.	
	Exposure Lamp, E1, is defective or has reached end of operating life.	Check Exposure Lamp for glass or electrode damage.	If Exposure Lamp is defective replace with A) 4KW Multi Spec. THS 3027; Diazo THS 3020 B) 6KW Multi Spec. THS 6027; Diazo THS 6020 C) 8KW Multi Spec. THS 8027
	Defective starter (6KW and 8 KW only)	Check igniter , GZ 501, on starter circuit board in Lamp House for proper firing. Replace igniter if it does not glow at all or glows steadily when the lamp is not lit. If problem still exists replace Starter circuit board A3	1. GZ 501 is P/N 33309 2. Starter Circuit Board is P/N 56884
	Main power transformer defective	On the main transformer (T1) 1. Check voltage between terminals 2 & 4 for 220 VAC (+/- 10 Volts) 2. Remove the wire on terminal # 6 Check voltage between terminals 4 & 6 for 800 VAC	If Main Transformer (T1) is defective replace with A) 4KW T1 is P/N 44071 B) 6KW T1 is P/N 44072 C) 8KW T1 is P/N 44073
	Reduced Power Choke defective	**Check DC resistance of Choke Coils (L1), They should be approximately 0.1 / 4 Ω**	Choke (L1) is P/N 44596

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	Poor connection in lamp circuit	Check the following wire connections 1. K13 Contactor 2. k14 Contactor 3. The Lamp House connector 4. The Lamp Holder connections	
Montakop Draws Very high line current	Defective lamp	Check lamp Current a) 6 & 8 KW Max current is 14.5 Amps. b) 4 KW max current is 10 Amps)	a) 4KW Multi Spec. THS 3027; Diazo THS 3020 b) 6KW Multi Spec. THS 6027; Diazo THS 6020 c) 8KW Multi Spec. THS 8027
	Defective power compensation circuit	Check power compensation Capacitors C4. a) 6 & 8 KW is 18 Amps, (180µf) b) 4 KW is 12 Amps, (120 µf)	Compensation Capacitors C4, are P/N 20972 a) 6 & 8 KW Quantity 6 Each b) 4 KW Quantity 4 Each
	Tap incorrectly set	Verify tap setting	
Lamp Does Not Switch To Proper Power Level	Power level push-button incorrectly set	Check Power Level pushbutton.	
	Defective Power Level Selector Circuit Board, A11	Check that 220 VAC is present during Expo a) High Power Read 15 X1 & 6 X 1 b) Low Power Read 14 X1 & 6 X 1	Power Level Selector Circuit Board, A11, is P/N 56900
	Defective Exposure control relay (Effects High Power only)	Check that 220 VAC is present during High power Exposure between 14A8 (A8 relay Board) & 6X1 (main terminal strip)	Exposure Relay K3 is on Relay board A8, A8 P/N is 56769
	Defective High or low power contactor	Check that 220 VAC is present at the contactor coil during Exposure. a) High Power K14 b) Low Power K13	a) High Power Contactor K14; is P/N 63796 b) Low Power Contactor K13; is P/N 63859
Light Problems			
Low Light Output	Lamp is near end of operating life	Check for blackening or distortion of Exposure Lamp. Does the lamp have more than 1000 hours? Replace lamp.	a) 4KW Multi Spec. THS 3027; Diazo THS 3020 b) 6KW Multi Spec. THS 6027; Diazo THS 6020 c) 8KW Multi Spec. THS 8027
	TAP improperly set	Check tap setting	
	Reflector or glass dirty.	Clean reflector and glass	Use a good Quality Graphic Arts Glass Cleaner such as Theimoclean. P/N 85164
Long Exposures do to Vacuum Frame Glass	Does your glass cleaner have a polymer wax or UV block in it?	Expose a step scale through a piece of 1/4" Plate glass on top of the Vacuum Frame Glass, Then expose the same scale through the Vacuum Frame Glass. The 2 exposures should be the same.	Clean glass with alcohol and than a Graphics Arts quality glass cleaner, such as Theimoclean. P/N 85164. If the the problem continues, replace the Vacuum Frame Glass with Select Quality 1/4" Polished Plate Glass.

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Problem	Possible cause or symptom	Test Procedure	Remedy
	Warning UV HAZARD When trouble shooting the shutter system or the cooling system the Exposure Lamp Should be disabled by removing the wire on terminal # 6 of the Main Transformer (T1)		
Shutter System			
Shutter does not open or close and curtains do not move.	Problem with DC supply	1. Check fuses F4 & F5 2. Check AC input to Bridge Rectifier (22 VAC) 3. Check DC output of Bridge Rectifier, A2 Should be (+) 16 VDC ter. 9X1 & (-)16 VDC ter. 10X1 in reference to terminal 23 X1	1. F4 or F 5 is P/N 63342 2. Bridge Rectifier, A2 , is P/N 31313
Shutter Does Not Open	Expose relay K3 not actuating or providing a output to open shutter	1. Check computer, A6, output, 220 VAC during exposure on terminals 13 X 1 & 16 X 1 on main terminal strip. 2. Check interrupt relay, K6, output, 220 VAC during exposure on terminals 1A8 & 3A8 relay PC Board, A8. 3. Check operation of K3 relay and steering diodes for (+) 16 DC at terminals 27X1 & 29X1 on main terminal strip.	1. KR computer, A6, is P/N 5509 110 VAC 2. Interrupt relay, K6, is on A8 Relay Board P/N is 56769 3. Exposure Relay and Steering Diodes are on A8 Relay Board , P/N is 56769
	Limit switch defective or Limit switch sticking	Check operation of "open" sensing limit switch S3.	Limit switch, S3, is P/N 72104
	Shutter motor defective	Check for 12 VDC at Shutter Motor, M3	Shutter Motor, M3, is P/N 43367
	Shutter or Shutter motor Gears worn	Visual examination of Gears	A) Shutter Motor Gear is P/N 160432 B) Shutter Assembly P/N 161729 (Shutter gears are available separately, but require a pinning operation to attach them to the shutters. Shutter Gear P/N 68714)
Shutter Does Not Close	Expose relay K3 not deactivating or providing a output to close shutter	1. Check computer, A6, output, 0 VAC when exposure ends, on terminals 13X1 & 16 X 1 on main terminal strip. 2. Check operation of K3 relay and steering diodes for (-) 16 DC at terminals 28X1 & 29X1 on main terminal strip.	1. KR computer, A6, is P/N 5509 110 VAC 3. Exposure Relay or Steering Diodes are on A8 Relay Board. The A8 P/N is 56769
	Limit switch defective or Limit switch sticking	Check operation of "close" sensing limit switch S2.	If Limit switch, S2, is defective, replace with P/N 72104
Shutter Opens Or Closes Noisily	Limit switches out of adjustment		Adjust limit switches
	Braking diodes defective	Check braking diodes. Located under heat shrink at terminal # 8 in Lamp House.	Breaking diodes are P/N 95516

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Problem	Possible cause or symptom	Test Procedure	Remedy
Lamp House Cooling System			
Lamp swells	Lamp not cooled properly	1. Check for obstruction at blower air intake. Remove obstruction, dust, dirt, paper ect. 2. Is air intake over 95 deg F at blower 3. Blower circuit defective	1. Remove Blower from Lamp House and clean thoroughly 2. Ventilate room properly
Exposure Lamp Blower not functioning	Defective blower control Board, A5	1. Check lamp voltage at Blower Board, A5 Terminals #2 & 4. If there is over 180 Volts the blower circuit should turn on. If the voltage is low check the Exposure Lamp for proper operation 2. Bypass blower control card by removing the wire from terminal #1 of the Blower control board and attaching it to terminal #2. If blower work normally, the A5 board is bad.	1. If the lamp voltage is low, check lamp circuit for proper operation and than replace the lamp. (See lamp section for Info) 2. The Blower Control board is P/N 56528
	Defective Low and Medium speed capacitors	Bypass the Blower Control Board, A5. Check the Blower Voltage at Terminals 33X1 & 32X1 1) High Power Exposure 211 To 230 VAC 2) Medium Power Exposure 110 to 150 VAC 3) Low Power Exposure 50 to 90 VAC	If the voltages are wrong check the following 1) Voltage high or low on High Power Exposure Verify that the Tap is set Correctly, and Verify that the control circuit (F3) is on the 220 VAC terminal of the T1 Transformer. 2) Voltage high or low on Medium Power Exposure. Medium speed Cap. is defective. Check Cap. and replace if defective, with A) 4KW P/N 23740 B) 6KW P/N 23738 C) 8KW P/N 23756
			3) Voltage high or low on Low Power Exposure. Low speed Cap. is defective. Check Cap. and replace if defective, with A) 4KW P/N 23737 B) 6KW P/N 23756 C) 8KW P/N 23756 & P/N 23739
	Defective Blower	With the Lamp disabled, the Blower Control card by passed, and the Montakop on High Power Exposure, check for 220 Volts at the Blower Motor. If present and blower does not run, the blower motor and or the starting cap are defective.	1. Exposure Lamp Blower Motor & Capacitor A) 4KW Motor P/N 43455, Cap. P/N 23736 B) 6KW Motor P/N 43401, Cap. P/N 23737 C) 8KW Motor P/N 43423, Cap. P/N 23756
Montakop turns off and power indicator in "off" Push Button Extinguishes. After about 2 minutes it illuminates.	Lamp house safety is sensing over temperature situation.	1. Check for over heating of Lamp House	1. Check Cooling system for defect 2. Replace Safety Thermostat in Lamp House (After failure has been corrected the thermostat may continue to trip, because it has become sensitive)

Montakop Trouble Shooting Chart N.R. 9209 and Up

Problem	Possible cause or symptom	Test Procedure	Remedy
Vacuum Frame			
No Vacuum indication on gauge but Vacuum pump is running.	1. Clogged air filter in vacuum lines 2. Vacuum Leak in Vacuum system 3. Leak in the oil recovery circuit	1. Check for dirt in filter. 2. There are 3 Vacuum circuits in the Omni Vac vacuum system. a. The main vacuum chamber b. The secondary chamber below the blanket c. The oil recovery. 3. To isolate the the oil recovery circuit, disconnect the vacuum line going to the air filter and attach a vacuum gauge. The gauge should read full pressure when the vacuum pump is activated	1. Replace filter P/N 85015 3. If there is no vacuum or reduced vacuum pressure check the vacuum line between a. the pump and the gauge b. the pump and the solenoid on the oil collector c. check the solenoid Y1 for leaks. d. Solenoid P/N is 40601
	4. Leak in the main vacuum chamber circuit	4. To isolate the main vacuum chamber . a. Reconnect the air filter b. Unscrew the control console and locate the 'T' fitting which connects the solenoids to the main vacuum line. c. remove the line that goes to the solenoids and connect the vacuum gauge. The vacuum gauge should read full pressure when the vacuum pump is activated	4. If there is no vacuum or reduced vacuum check the following a. seal between the glass and the vacuum mat, adjust the frame hinges and locking rollers if necessary. b. Check all fittings that go to the corner ports on the vacuum mat for leaks. c. Check the tubing going to the reduced vacuum solenoid for leaks d. check the Y2 solenoid for leaks, e. Y2 P/N is 40624
	5. Leak in the secondary chamber below the blanket	5. Check the following a. Vacuum tub connections on the Y3, Y4, & Y5 solenoids. b. Check the solenoids for leaks c. Check the tubing going to the center port under the vacuum mat d. Check the regulator valves under the vacuum mat	5. Correct leaks. Replacement valves are a. Y3 & Y5 are P/N 40601 b. Y4 is p/n 40624
Poor contact or uneven contact	1. Vacuum Leak 2. Defect in vacuum blanket 3. Improper stripping techniques	1. Leak test Vacuum Frame. Draw full vacuum and turn the Montakop off with disconnect Q1. The Vacuum gauge should remain in the green (above 70%) for at least 60 seconds. 2. Use tint screen to evaluate evenness of draw down. Make shore that the screen tint, your copy materials, vacuum mat and frame glass are clean. Dust or dirt will show ups as poor contact areas.	1. Isolate and repair vacuum leak 2. Replace Vacuum Mat if defective, a. MK 65 P/N is 95712 b. MK 95 P/N is 95711 c. Mk 110 P/N is 95844 d. MK 125 P/N is 95713 3. Review stripping techniques with the operator

Montakop Trouble Shooting Chart N.R. 9209 and Up

Problem	Possible cause or symptom	Test Procedure	Remedy
Vacuum Pump is not running	1. Defective Vacuum Pump	1. Start the vacuum draw down and check for 220 VAC at the terminal strip located on the vacuum pump.	1 Vacuum pump P/N is 75026
	2. Defective Vacuum Pump control circuit.	2. Start exposure cycle, check for 220 VAC at a. 16A8 on the A8 Relay board. 6X1 is AC Ref b. 15 A8 on the A8 Relay board. 6X1 is AC Ref c. 2A8 & 3A8 on the Relay board d. 12X1 & 6X1 on the main terminal strip e. 8A6 on the KR Computer & 6X1 on the main terminal strip.	2. If 220 VAC is a. not at 16A8 than check wiring back to F3, b. not at 15 A8 and the K4 relay is operating replace the A8 Relay board P/N 56769 c. at 2A8 & 3A8 and the K4 Relay does not operate, replace the A8 Relay board P/N 56769 d. not at 12X1 & 6X1 than check wiring back to KR Computer Pin 8 e. not at 8A6 on the KR Computer replace The KR Computer P/N 5509
Fuse F3 blows when the vacuum pump is turned on	1. Wrong size fuse 2. Vacuum pump is defective 3. Wiring short	1. Make shore that F3 is a 10 amp fuse 2. Disconnect the vacuum pump and see if fuse blows. If fuse does not blow replace pump. 3. Isolate short and repair	1. Fuse F3 is P/N 63312 2. Vacuum pump P/N is 75026
Vacuum Pump does not turn off	1. Defective Y1 or Y4 Solenoids 2. Defective KR computer 3. Defective Relay Board A8	1. Disconnect one side of the Y 1 and Y4 solenoids. If the pump now turns off replace the defective solenoid 2. Disconnect the wire on terminal 2A8. If the pump now turns off, check the KR Computer for constant output on pin 8 of the A6 KR Computer. 3. Disconnect the wire on terminal 15A8 of the A8 Relay board. If the pump now turns off the A8 relay board is defective	1. Solenoid Y1 is P/N 40601 & Y4 is P/N 40624 2 The KR Computer is P/N 5509 3. The A8 Relay board is P/N 56769
Curtain System			
Curtains do not open or close	1. Defective A2 Rectifier 2. Defeat Key switch defective	1. on the main Terminal Strip, Check a. 9x1 & 23X1 for (+) 16 Vdc b. 10 X1 & 23X1 for (-) 16Vdc 2. Make shore the defeat key switch is set to the operate position than check for continuity between 21X1 and 23X1 on the main terminal strip.	1. If either (+) or - (-) dc is missing check operation of A2 Rectifier and F4 & F5 fuses. A2 Rectifier is P/N 31313 2. Check Key Switch and associated wiring Key Switch is P/N 71355

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Problem	Possible cause or symptom	Test Procedure	Remedy
Curtain will not close	1. No command from KR Computer	1. When the KR computer starts Vac 2, check 19X1 and 6X1 on the main terminal strip for 220 VAC	1. If the power is not present check the wiring back to the KR Computer Pin #23. Replace the KR Computer if the wiring is proper and there is no output during vac 2 operation. KR Computer P/N is 5509
	2. Defective A12 Relay Board	2. Check that 220 VAC is at Terminals 3A12 & 4A12 when the computer is in Vac #2. Than check that 1A12 and 23X1 of the main terminal strip has (+) 16 Vdc. Than check for (+) 16 Vdc at 2A12 and 23X1	2. If the power is present at 3A12 and at 1A12 but no power is at 2A12 than the A12 board is defective. A12 Relay Board is P/N 56895
	3. Wiring problem in Power supply draw.	3. Check terminals 16X1 and 32X1 for 16Vdc during vac #2	3. If no power is at 16X1 than review previous steps and check chassis wiring. If power is present than the problem is in the curtain drive or the wiring for the curtain drive.
	4. Defect drive motor	4. check the drive motor for (+16) Vdc	4. If (+) 16Vdc is present than the drive motor is defective, replace with P/N 43367
	5. Defective Limit switch	5. Check Limit for continuity	5. Limit Switch P/N is 72119
Curtain will not open	1. Defective A12 Relay Board	1. Check that the K15 Relay on the A12 relay board is relaxed. Make shore that (-16) Vdc is present between 5A12 & 23X1. Than check if (-16) Vdc is between 6A12 and 23X1	1. If there is no power at 6A12 than replace the A12 Relay board P/N 56895
		2. Check terminals 17X1 and 32X1 for (-16) Vdc in standby	2. If no power is at 17X1 than review previous steps and check chassis wiring. If power is present than the problem is in the curtain drive or the wiring for the curtain drive.
		3. check the drive motor for (-16) Vdc	3. If (- 16) Vdc is present than the drive motor is defective, replace with P/N 43367
		4. Check Limit for continuity	4. Limit Switch P/N is 72119
KR Computer			
No Display	1. F3 Fuse blown	1. Check F3 Fuse for continuity	1. Replace F3 with 10 A Fuse, P/N 63312
	2. Defective T2 Transformer	2. Check for a. 220 VAC between 220V and '0' V on T2 b. 110 VAC between 110V and '0' V on T2	2. If there is no a. 220 VAC on the input of T2 check Fuse F3 and wiring b. if there is not 110 VAC on the output of T2 than replace T2 with P/N 44060
	3. Defective KR Computer	3. Check for 110 VAC at KR Computer Connector, Pin 12A6 and Pin 25 A6	3. If 110 VAC is present and the display does not light than replace the KR Computer P/N 5509

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Problem	Possible cause or symptom	Test Procedure	Remedy
Exposure sequence will not start when frame handle is locked	1. Defective Frame handle switch, S9	1. Check for continuity (0Ω), between Pin 1A6 and Pin 18A6, on the KR Computer connector, when the lock handle in in the locked position. When the handle is unlocked the the switch should open (∞Ω).	1. Handle lock up switch, S9, is P/N 72104
	2. Wrong Machine Code set into the KR Computer	2. Depress Keys 2,5 & 8 at the same time. In Expo # 1 window the code 616 or 617 will appear	2. If wrong code appears, reset code and depress Keys 4 & 6 to store the code and depress stop to return to normal operation.
	3. Defective KR Computer	3. If the handle switch checks good and the proper machine code is set in and the exposure sequence will not start, replace the KR Computer	3. KR Computer is P/N 5509
Exposure will not count down in Exp 1	1. Obstruction in front of Photo Cell	1. Examine Photo cell and make shore that it is seeing the Light.	
	2. Defective KR Computer	2. At the KR Computer connector, short out the photo Cell input. Pins # 14 and 2. The KR computer should count at about 100 units a second if the computer is good	2. If the computer does not count with the photo cell input shorted, replace the KR Computer P/N 5509
	3. Defective Photo cell or wiring	3. check continuity of coax cable and look for physical damage to the Photo Cell	3. If defective replace with P/N 95468
Exposures Erratic	1. Photo cell not securely mounted	1. Check security of Photo Cell	
	2. Sliding shutter in, Photo Cell, loose	2. Dismantle Photo cell and check for security of shutter assembly	2. If defective replace with P/N 95468