DC FAN MOTOR TESTING

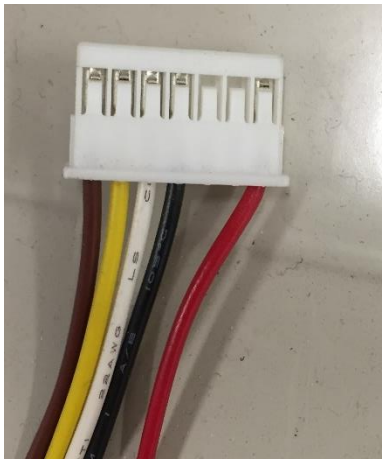
THERE ARE 4 WAYS THE DC FAN MOTOR CAN FAIL, FIRST WAY IS THE DC FAN MOTOR NOT BEING ABLE TO TALK TO THE CONTROL PCB, SECOND WAY IS A RESISTANCE FAILURE OF THE DC FAN MOTOR INTERNALLY, THIRD WAY IS CONTROL PCB NOT SUPPLYING THE CORRECT VOLTAGE OR NONE TO THE DC FAN MOTOR AND THE FOURTH WAY IS MECHANICALLY SEIZED DC FAN MOTOR.

ALL DC FAN MOTORS ON FUJITSU PRODUCT RANGE WILL USE THE SAME TESTING PROCEDURE DOESN'T MATTER IF ITS A INDOOR UNIT OR OUTDOOR UNIT FAN MOTOR OR IF ITS A 09 WALL SPLIT OR A 90 DUCTED SYSTEM.

*SINGLE SHAFT TYPE

*DUAL SHAFT TYPE

FAN MOTOR PIN/WIRE FUNCTION



PIN/WIRE COLOUR	PIN/WIRE FUNCTION
RED	DC VOLTAGE (Vm)
BLACK	EARTH TERMINAL (GND)
WHITE	CONTROL VOLTAGE (Vcc)
YELLOW	SPEED CONTROL (Vsp)
BLUE/BROWN	FEED BACK (FG)

FIRST TEST: THE FIRST TEST YOU DO ON THE DC FAN MOTOR WILL BE A DIODE TEST ACROSS THE MOTOR, WE DO THIS DIODE TEST TO CONFORM THAT THE DC FAN MOTOR CAN TALK BACK TO THE CONTROL PCB.

DIODE TEST FOR DC FAN MOTOR

RED LEAD	**BLACK LEAD**	RESULTS
RED WIRE	**BLACK** WIRE	OL
BLACK WIRE	RED WIRE	0.8v – 0.9v
WHITE WIRE	**BLACK** WIRE	0.5v – 1.8v (OL)
BLACK WIRE	WHITE WIRE	0.4 - 0.6

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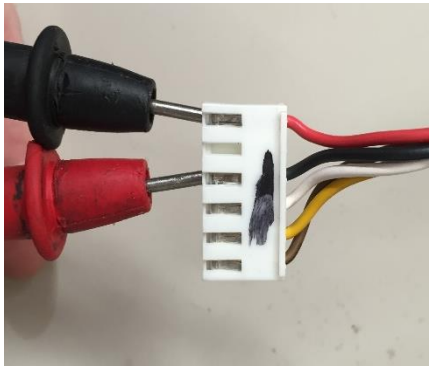
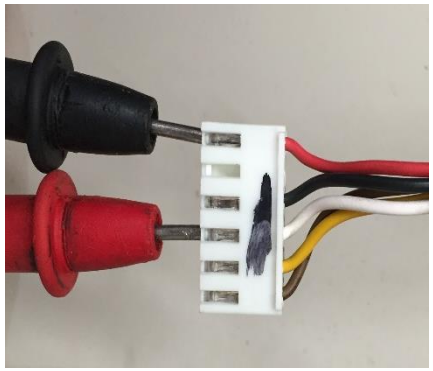
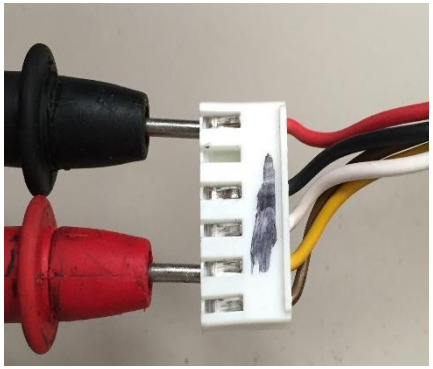
SECOND TEST: THE SECOND TEST YOU WILL DO IS A MOTOR RESISTANCE TEST TO SEE IF THE MOTOR WINDINGS HAVE SHORTED OUT.

TO TEST THE RESISTANCE YOU WILL SET YOUR METER TO KILO OHMS (kΩ) THEN PLACE THE **BLACK LEAD** ON THE RED WIRE AND THEN GO BETWEEN THE **BLACK** WIRE, WHITE WIRE AND YELLOW WIRE WITH THE RED LEAD YOU SHOULD BE READING 300KΩ + ON EACH WIRE.
IF THESE RESISTANCES ARE BELOW 300KΩ THE WINDINGS IN THE MOTOR ARE NO GOOD.







KΩ RESISTANCE TEST FOR DC FAN MOTOR

RED LEAD	**BLACK LEAD**	RESULT
BLACK WIRE	RED WIRE	300KΩ +
WHITE WIRE	RED WIRE	300KΩ +
YELLOW WIRE	RED WIRE	300KΩ +

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THIRD TEST: THE THIRD TEST YOU WILL DO IS A VOLTAGE TEST ACROSS THE PINS OFF THE CONTROL PCB, WITH OUT THE CORRECT VOLTAGES THE FAN MOTOR WILL NOT OPERATE AND PCB WILL NEED REPLACING.

DANGER LIVE TESTING

TO TEST THE VOLTAGE OFF THE CONTROL PCB YOU CAN UNPLUG THE FAN MOTOR AND TEST ACROSS THE PINS INSIDE THE CLIP.
WHEN TESTING THE VOLTAGE FROM EACH PIN YOU WILL USE THE PIN THAT CORRESPONDS TO THE **BLACK** WIRE FROM THE FAN MOTOR AS THE DC NEUTRAL AND TEST ACROSS THE PIN FOR THE RED WIRE, THE PIN FOR THE WHITE WIRE AND THE PIN FOR THE YELLOW WIRE.

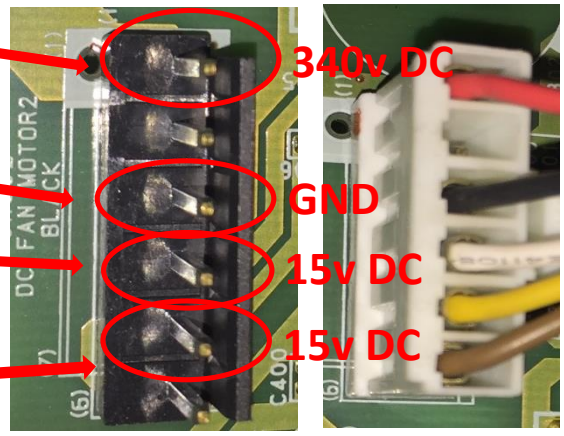
VOLTAGE TEST FOR DC FAN MOTOR

THE RED WIRE IS DC VOLTAGE (Vm) = 340 VOLTS DC

THE **BLACK** WIRE IS EARTH TERMINAL (GND)

THE WHITE WIRE IS CONTROL VOLTAGE (Vcc) = 15 VOLTS DC

THE YELLOW WIRE IS SPEED COMMAND (Vsp) = 15 VOLTS DC



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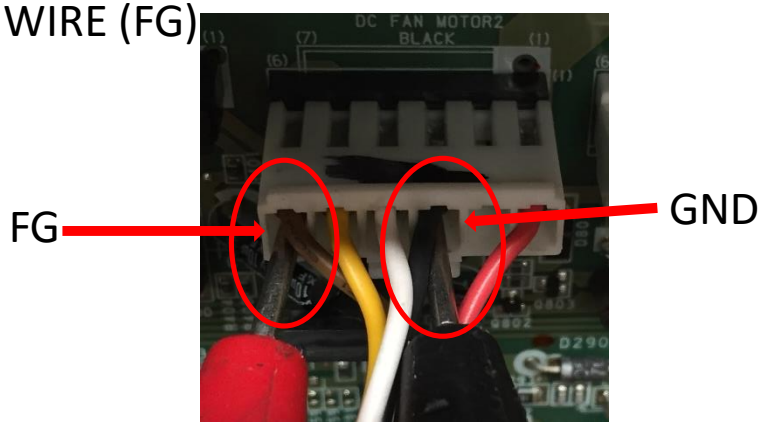
FOURTH TEST: THE FOURTH TEST YOU WILL DO IS A DC VOLTAGE FEED BACK FROM THE MOTOR TO THE CONTROL PCB TO SEE IF THE DC FAN MOTOR IS MECHANICALLY SEIZED.

DANGER LIVE TESTING

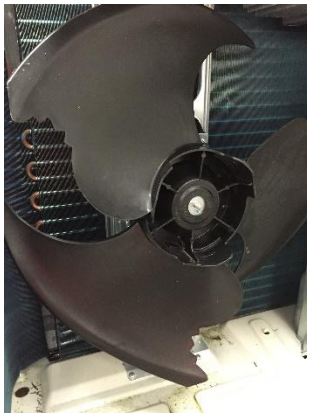
TO TEST IF THE MOTOR IS MECHANICALLY SEIZED YOU WILL NEED TO HAVE THE DC FAN MOTOR PLUGGED INTO THE CONTROL PCB WITH POWER TURNED ON, **DO NOT** HAVE THE UNIT RUNNING WHEN DOING THIS TEST JUST HAVE POWER ON.

YOU WILL NOW CHECK TO SEE IF THE DC FAN MOTOR IS FEEDING DC VOLTS BACK TO THE CONTORL PCB, TO DO THIS YOU WILL TAKE THE FRONT GRILL COVERING THE DC FAN MOTOR OFF THE FRONT OF THE UNIT SO YOU HAVE ACCESS TO THE FAN BLADES TO SPIN THEM WHEN NEEDED, THEN SET YOUR MULTI METER TO DC VOLTS PLACE YOUR **BLACK LEAD** IN THE SLOT FOR THE **BLACK** WIRE (GND) AND YOUR RED LEAD IN THE SLOT FOR THE BROWN WIRE (FG)



ONCE YOU HAVE PLACED THE LEADS FROM YOUR MULTI METER IN THE CORRECT SLOTS SPIN THE DC FAN MOTOR VIA THE FAN BLADES AT THE FRONT OF THE UNIT, WHEN YOU SPIN THE DC FAN MOTOR YOU SHOULD SEE THE DC VOLTS ON YOURMULTI METER RAISE (NORMALLY UP AROUND 6 VOLTS DC).
MAKE SURE FAN BLADE IS LEFT ON TO GIVE THE DC FAN MOTOR ENOUGH FORCE TO SPIN AROUND ENOUGH TIMES TO CREATE THE DC VOLTAGE FEED BACK.

*ACCESS TO DC FAN MOTOR BLADES



WITH OUT THIS VOLTAGE RAISE WHEN THE MOTOR IS SPINNING WE WOULD DEEM THIS DC FAN MOTOR AS MECHANICALLY SEIZED.

FOR FURTHER ASSISTANCE PLEASE CALL FUJITSU ASSIST TECH SUPPORT ON 1300 364 484

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