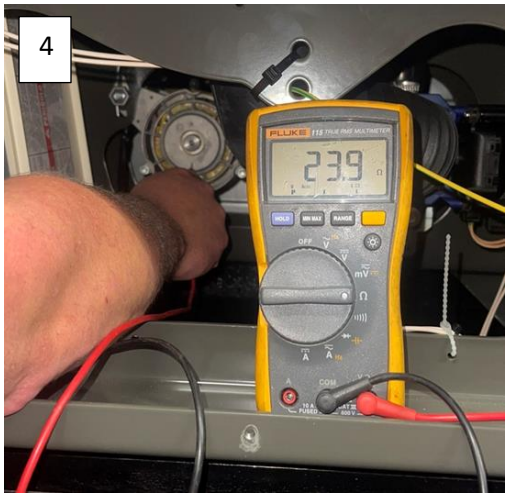
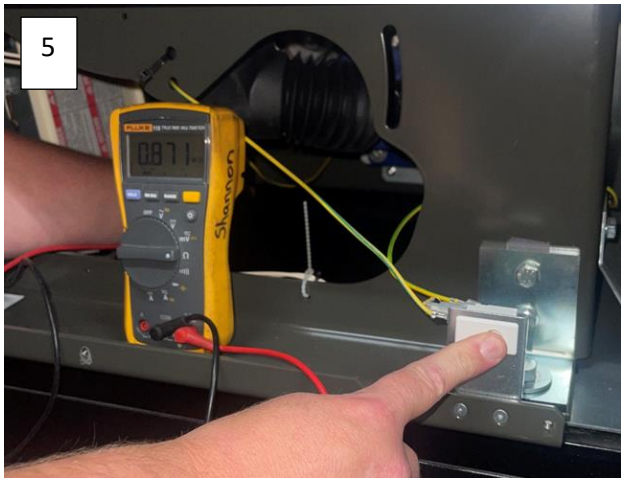
Service Tips

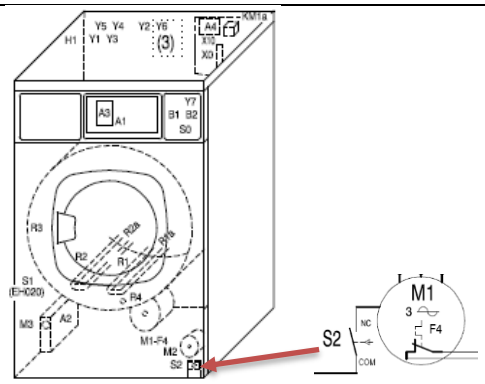
Reference	*Subject*	*Date*
ST-112.R3	Motor's Static Electric Discharge Resistor Circuit	8/12/21
Product	E- Series Washers	

Summary	The motors on specific washers has been electrically isolated to comply with UL safety regulations. The motor, during operation, can produce an electrical static charge. Girbau S.A. dissipates this static charge by the use of a motor ground switch and a resistor in the earth ground circuit. A static discharge is many orders of magnitude higher than the sensitive components on the inverter. These sensitive components will prematurely fail when exposed to a static discharge. Damage to the inverter can occur if there is an open in the Earth ground circuit, or if there is a direct short to ground from the motor. The static charge can discharge into the inverter when that static charge has not dissipated through the resistor in the earth ground circuit.
Testing Information	Whenever the technician is troubleshooting the inverter on these specific models, it should be standard procedure to inspect and verify that this resistor is properly connected, and its values are consistent with the stated values listed above To properly test the inverter discharge resistor you need to: 1. Safely disconnect power from the machine. 2. Open the lower front kick panel of the machine. 3. Set your meter to Ohms. Place one lead of your meter on the chassis of the machine and place the other lead of your meter on the case of the motor. 4. With the panel switch not pushed in you should read close to zero Ohms (below I am reading 23.9Ω). 5. Press the panel switch in. You should now be reading the value listed in the table below (below I am reading 0.871k Ω). 6. If the readings do not match the stated values verify: • The wire connections from the motor to the panel switch • The functionality of the panel switch • The value of the resistor • The wire connections from the switch to the chassis of the machine 4  5 

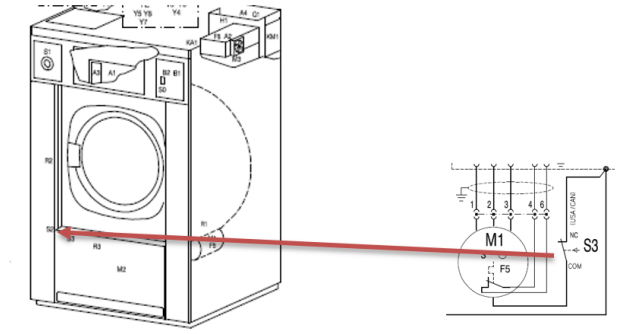
Model Information

Model	*Serial number Range*	*Resistance Value*	*Part Number*	*Reference Diagram*
EH020	All models and serial numbers to present	1M Ω	433219	A
EH030	All models and serial numbers to present	1M Ω	433219	A
EH040	All models and serial numbers to present	1M Ω	433219	A
EM/REM025	All models and serial numbers to present	1M Ω	433219	A
EM030	Starting serials 1380000 thru 1380056	1M Ω	433219	A
EM/MG030	Starting serials 1380057 To present	330K Ω	524777	B
RMG033	Starting serials 2360000 to present	330K Ω	595769	C
EM040	Starting serials 1390000 to 1390497	1M Ω	433219	A
EM/MG040	Starting serials 1390497 to present	330K Ω	524777	B
RMG040	Starting serials 2370000 to present	330K Ω	595769	C
EM055	Starting serials 1400000 to 1400720	1M Ω	433219	A
EM/MG055	Starting serials 1400722 to present	330K Ω	524777	B
RMG055	Starting serials 2380000 to present	330K Ω	595769	C

Reference Diagram A

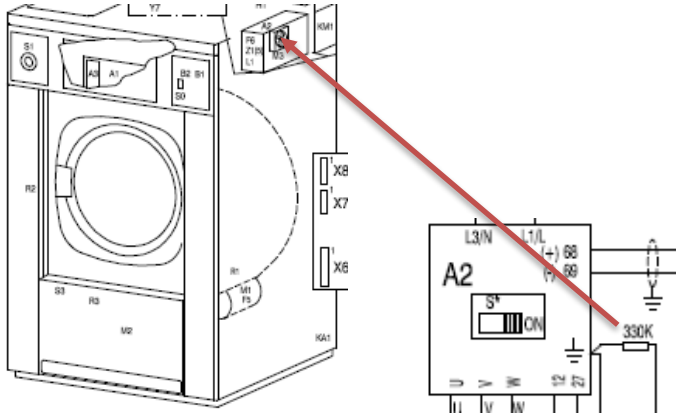


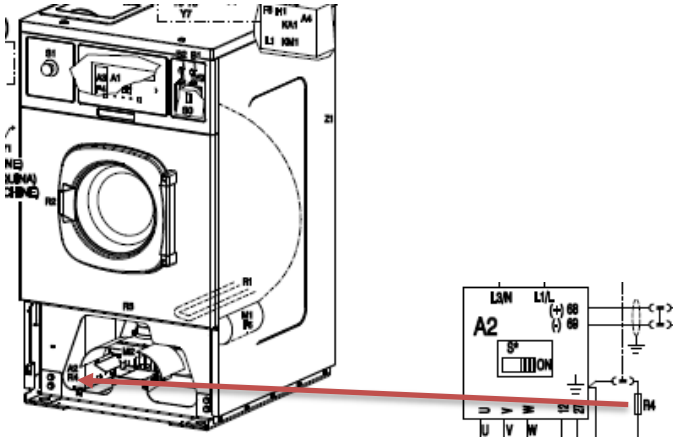
EH020 & EM/REM025



EH030, EH040, EM030, EM040, EM055

Reference Diagram B



Reference Diagram C	

	Always follow the warnings and procedures in the corresponding equipment instruction manual.