

## Incident Summary #II-877906-2019 (#14224) (FINAL)

SUPPORTING INFORMATION	Incident Date	July 8, 2019	
	Location	Prince George	
	Regulated industry sector	Electrical - Low voltage electrical system (30V to 750V)	
	Impact	Qty injuries	1
		Injury description	Minor burn on left wrist
	Damage	Injury rating	Insignificant
		Damage description	Minor arc damage to cover and panel case with minor damage to bus on the load side of the main breaker.
		Damage rating	Insignificant
	Incident rating	Insignificant	
Incident overview	A contractor was removing the panel cover when the cover contacted the main bus on the load side of the main breaker.		
INVESTIGATION CONCLUSIONS	Site, system and components	The main service is located in a small utility room in the basement. The building is older and has been renovated a number of times. The economy of space has made changes and additions difficult to execute in this room. The result is a very full utility room with very little working room.	
	Failure scenario(s)	The building is older and has a large footprint. The building service is 200 amps single phase fed underground to the backside of the building. There has been a number of renovations to the building over the years. The main service panel is located too high. To remove the top panel cover a ladder is required to access the screws. The compact space in the utility room makes the positioning of the ladder in such a way that an individual is standing in an awkward position to remove the cover. This top panel cover has very little clearance from the bus due to the cover design. Tilting the cover more than ¼ inch would cause the cover to contact the bus.	
	Facts and evidence	When the power was disconnected at the meter base the cover was removed and the damaged checked. There was just minor arc damage. The cover was then placed in position and tilted forward. The contact point could be felt as the cover touched the bus. Contact was just under ¼ inch measured at the top of the panel case to the edge of the cover as it tilted forward.	
	Causes and contributing factors	This Square D panel is a legacy product that is no longer supported. The covers are not easy to remove and care must be taken to remove the top cover, even under ideal conditions. Two people should be involved if the panel is energized. The clearance between the cover and bus does not allow for much movement of the cover, it would have to be firmly held in place as the screws are removed. In this case, it is highly probable that main contributing factor for this incident was the working environment created by the original electrical installation and the subsequent renovations that filled the utility room.	



Photo 1: Panel location in basement. Utility room



Photo 2: Panel mounted too high

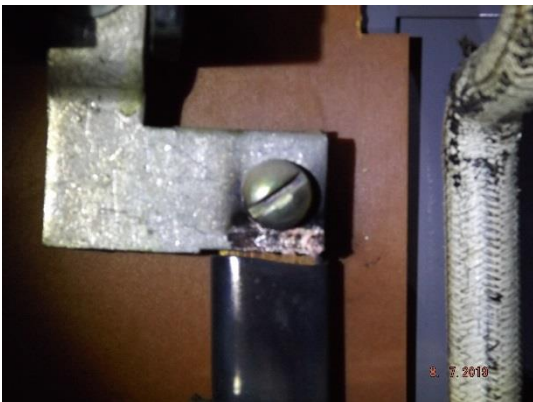


Photo 3: Panel cover contacted on this bus when the cover was tilted forward.



Photo 4: The main breaker did not trip during the fault. The location is difficult to work around.

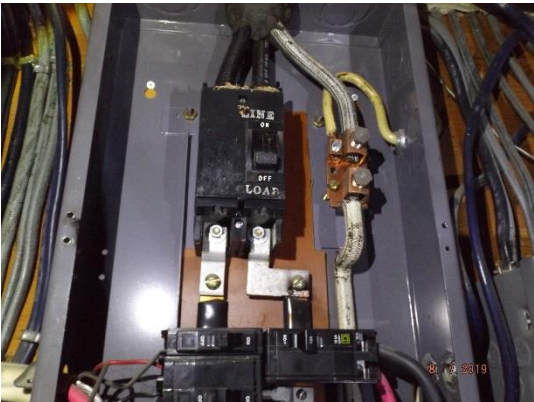


Photo 5: The panel height could have been fixed with a longer nipple from the meterbase. There is no evidence of a bond bushing on the service conduit.