



Meter Calibration, Aerial Mapping, Skimmers  
& Fuel Theft

AccuMeasure™

Zero in on fuel shrink.



# AccuMeasure Updates

- Nationwide Tested~ 185,993 Fueling Points in 2015.
  - Calibrated 92,004 meters in 2015.
  - Average variance before calibration .984 in<sup>3</sup>
  - Average variance after calibration .212 in<sup>3</sup>
  - Average improvement .772 in<sup>3</sup>
- In **Arizona** Tested ~ 7,632 Fueling Points in 2015.
  - Calibrated 3390 meters in 2016
  - Average Variance before calibration 1.333 in<sup>3</sup>
  - Average Variance After Calibration .167 in<sup>3</sup>
  - Average Improvement 1.166 in<sup>3</sup>

Site Volume			METER VARIANCE -- PRODUCT "GIVE AWAY" or "HOLD BACK" -- CUBIC INCHES											
Gallons per Year	Gallons per Month	Gallons per Day	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5	6
50,000	4,167	137	22	43	65	87	108	130	152	173	195	216	238	260
100,000	8,333	274	43	87	130	173	216	260	303	346	390	433	476	519
200,000	16,667	548	87	173	260	346	433	519	606	693	779	866	952	1,039
300,000	25,000	822	130	260	390	519	649	779	909	1,039	1,169	1,299	1,429	1,558
400,000	33,333	1,096	173	346	519	693	866	1,039	1,212	1,385	1,558	1,732	1,905	2,078
500,000	41,667	1,370	216	433	649	866	1,082	1,299	1,515	1,732	1,948	2,165	2,381	2,597
600,000	50,000	1,644	260	519	779	1,039	1,299	1,558	1,818	2,078	2,338	2,597	2,857	3,117
700,000	58,333	1,918	303	606	909	1,212	1,515	1,818	2,121	2,424	2,727	3,030	3,333	3,636
800,000	66,667	2,192	346	693	1,039	1,385	1,732	2,078	2,424	2,771	3,117	3,463	3,810	4,156
900,000	75,000	2,466	390	779	1,169	1,558	1,948	2,338	2,727	3,117	3,506	3,896	4,286	4,675
1,000,000	83,333	2,740	433	866	1,299	1,732	2,165	2,597	3,030	3,463	3,896	4,329	4,762	5,195
1,100,000	91,667	3,014	476	952	1,429	1,905	2,381	2,857	3,333	3,810	4,286	4,762	5,238	5,714
1,200,000	100,000	3,288	519	1,039	1,558	2,078	2,597	3,117	3,636	4,156	4,675	5,195	5,714	6,234
1,300,000	108,333	3,562	563	1,126	1,688	2,251	2,814	3,377	3,939	4,502	5,065	5,628	6,190	6,753
1,400,000	116,667	3,836	606	1,212	1,818	2,424	3,030	3,636	4,242	4,848	5,455	6,061	6,667	7,273
1,500,000	125,000	4,110	649	1,299	1,948	2,597	3,247	3,896	4,545	5,195	5,844	6,494	7,143	7,792
1,600,000	133,333	4,384	693	1,385	2,078	2,771	3,463	4,156	4,848	5,541	6,234	6,926	7,619	8,312
1,700,000	141,667	4,658	736	1,472	2,208	2,944	3,680	4,416	5,152	5,887	6,623	7,359	8,095	8,831
1,800,000	150,000	4,932	779	1,558	2,338	3,117	3,896	4,675	5,455	6,234	7,013	7,792	8,571	9,351
1,900,000	158,333	5,205	823	1,645	2,468	3,290	4,113	4,935	5,758	6,580	7,403	8,225	9,048	9,870
2,000,000	166,667	5,479	866	1,732	2,597	3,463	4,329	5,195	6,061	6,926	7,792	8,658	9,524	10,390
2,250,000	187,500	6,164	974	1,948	2,922	3,896	4,870	5,844	6,818	7,792	8,766	9,740	10,714	11,688
2,500,000	208,333	6,849	1,082	2,165	3,247	4,329	5,411	6,494	7,576	8,658	9,740	10,823	11,905	12,987
2,750,000	229,167	7,534	1,190	2,381	3,571	4,762	5,952	7,143	8,333	9,524	10,714	11,905	13,095	14,286
3,000,000	250,000	8,219	1,299	2,597	3,896	5,195	6,494	7,792	9,091	10,390	11,688	12,987	14,286	15,584
3,500,000	291,667	9,589	1,515	3,030	4,545	6,061	7,576	9,091	10,606	12,121	13,636	15,152	16,667	18,182
4,000,000	333,333	10,959	1,732	3,463	5,195	6,926	8,658	10,390	12,121	13,853	15,584	17,316	19,048	20,779
4,500,000	375,000	12,329	1,948	3,896	5,844	7,792	9,740	11,688	13,636	15,584	17,532	19,481	21,429	23,377
5,000,000	416,667	13,699	2,165	4,329	6,494	8,658	10,823	12,987	15,152	17,316	19,481	21,645	23,810	25,974

# Skimming device procedures

The following are some basic procedures to follow if a skimming device is detected on a gasoline dispenser:

- If a skimming device is located, work should immediately stop on the pump and the pump placed out of service.
- The sales associate / technician should contact law enforcement to file a report and ensure the device is properly removed and taken by the officer as evidence. **This is imperative in order to support further investigation and prosecution.**
- The store team should report the incident not only with law enforcement but also internally within their own organization.
- Once law enforcement removes the device, work may continue on the pump.
- **It is imperative that these devices are reported to law enforcement and that the devices are NOT kept by the technician. Data contained on these devices is often not encrypted and does not comply with the Payment Card Industry Data Security Standard (PCI).**

# Card reader overlay skimmer

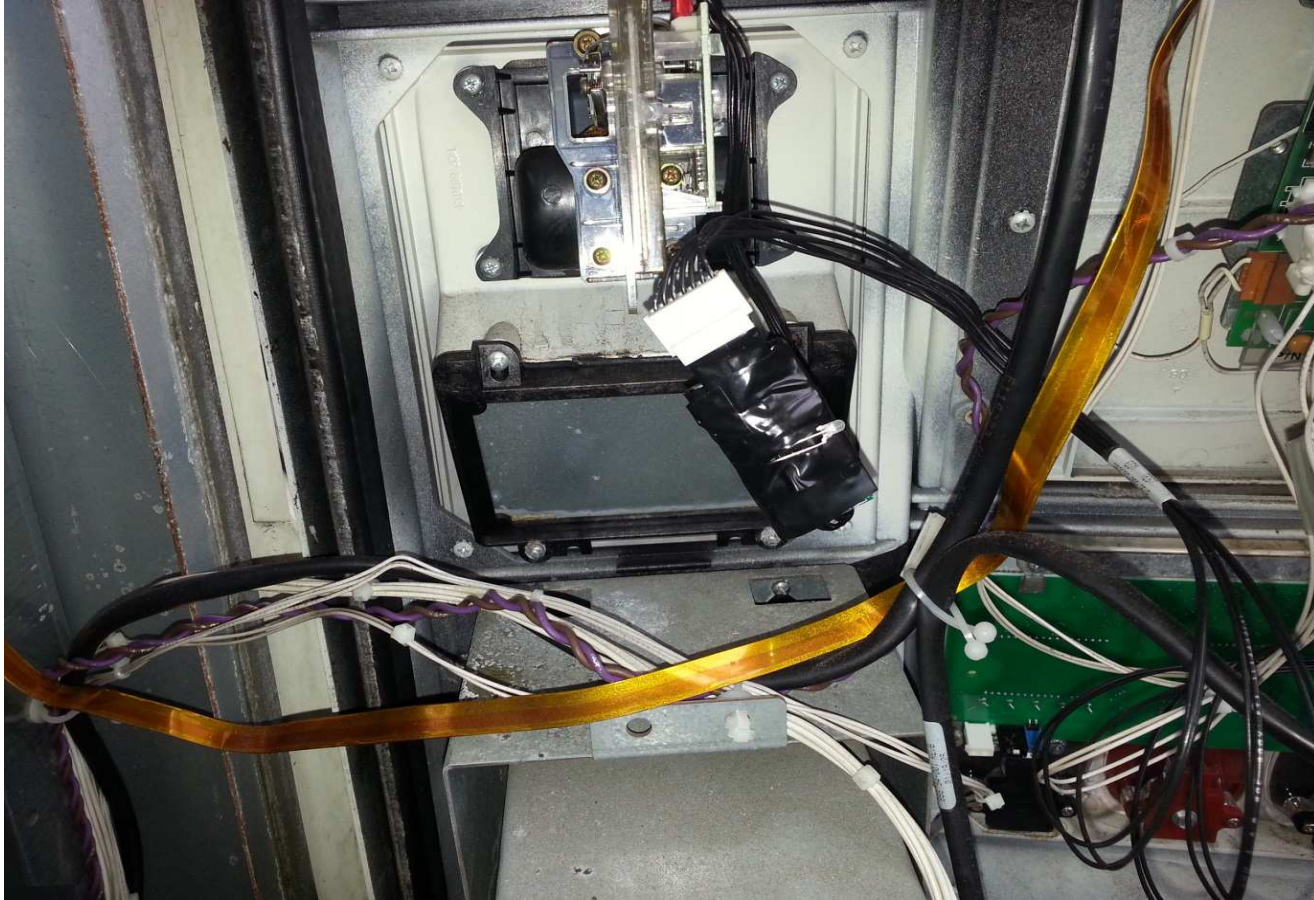


Card reader with the overlay attached



Card reader without the overlay attached

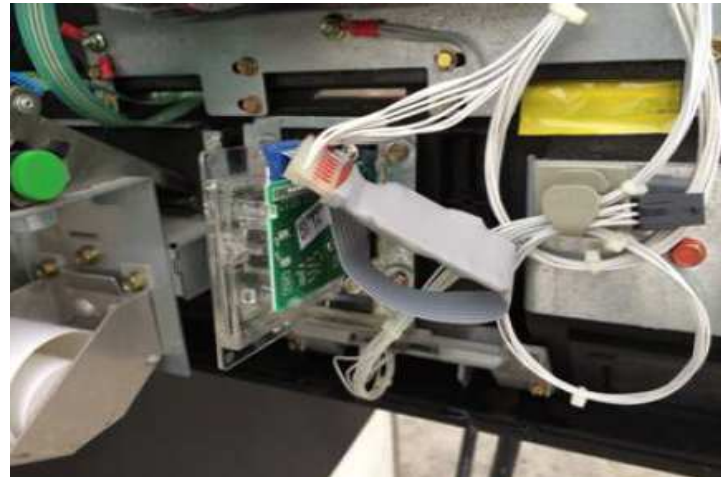
Skimmer is wrapped in black tape



The grey cable with shrink wrap is the  
skimmer

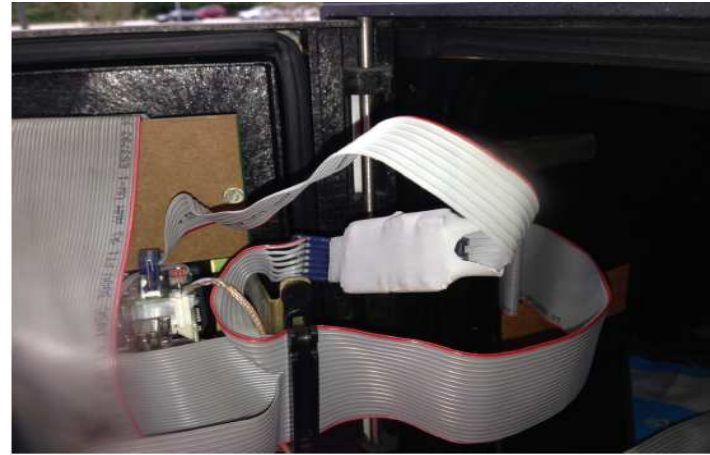


# Various skimmer examples

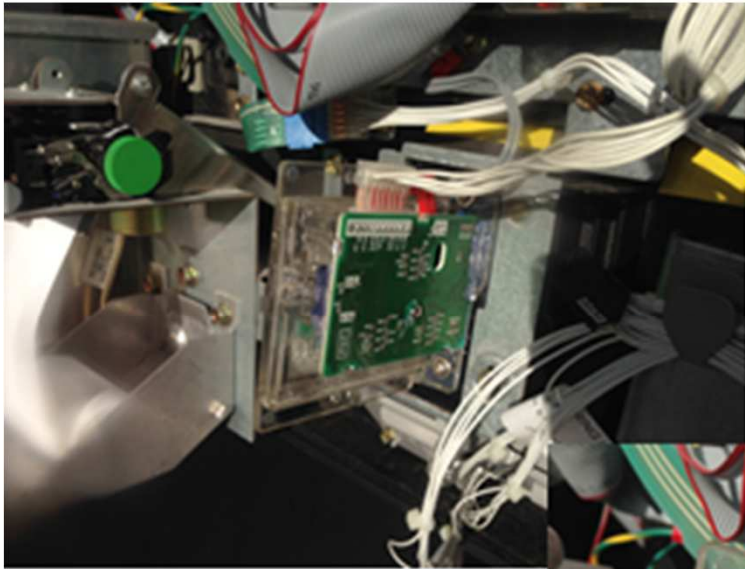




# Various skimmer examples



# Skimming Board



This hard to see skimmer was found in the end dispenser in S. Orlando on 5/14/15, in an Encore 300 dispenser. It appeared to be made off site.

Skimming board was placed behind the typical CRIND board. The electrical cable connector was soldered on to the side of the skimmer board.



# Fuel Theft Methods

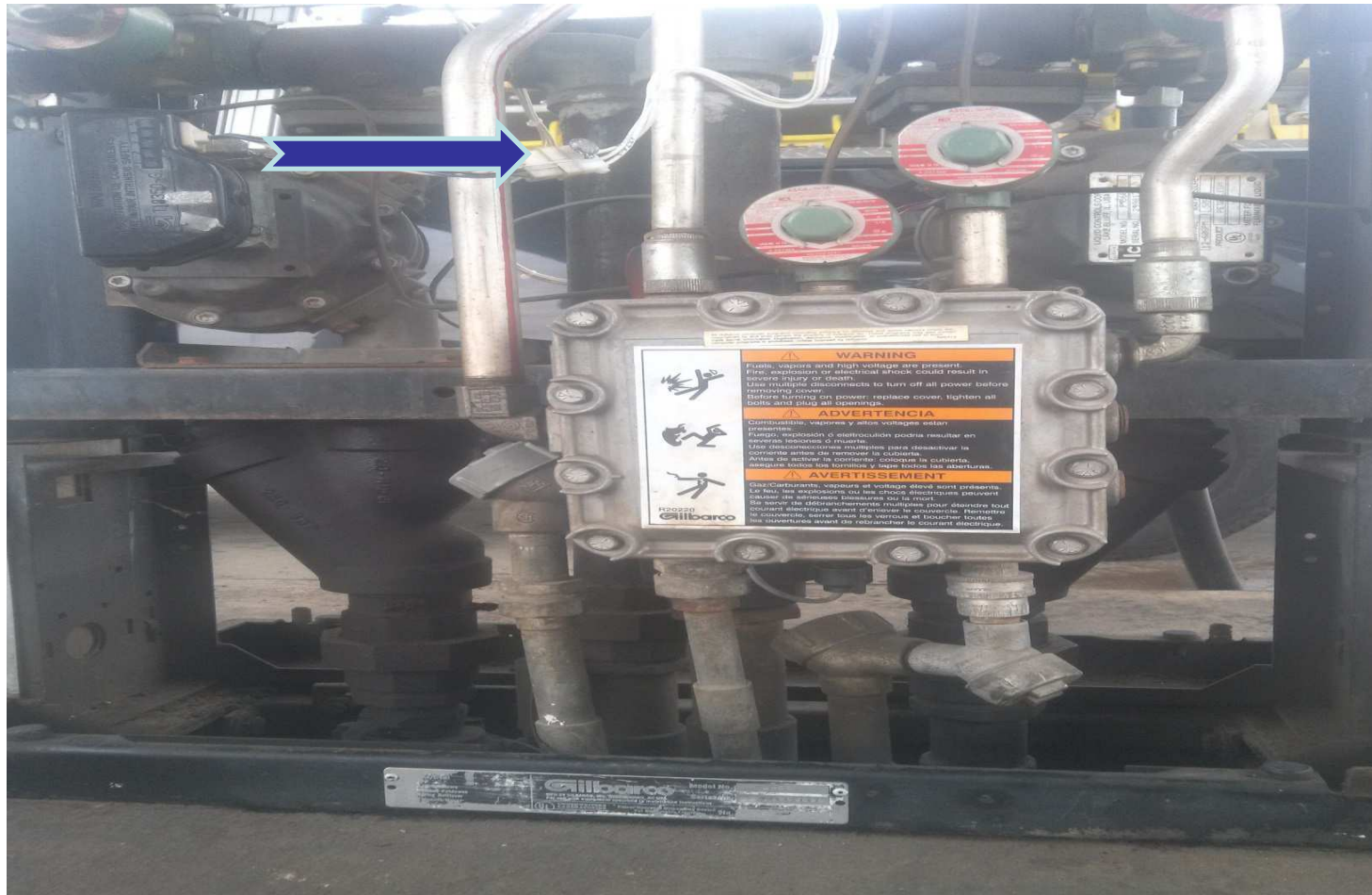
- Fuel Tank Siphoning
- Pulsar Manipulation
- Pulsar Replacement During Theft Event
- Stand Alone Pump Mode
- Fuel Delivery Theft
- Dispenser Profiles

Note: Virtually all of the devices needed to employ these methods are readily available on the internet as well as guides on how to use them.

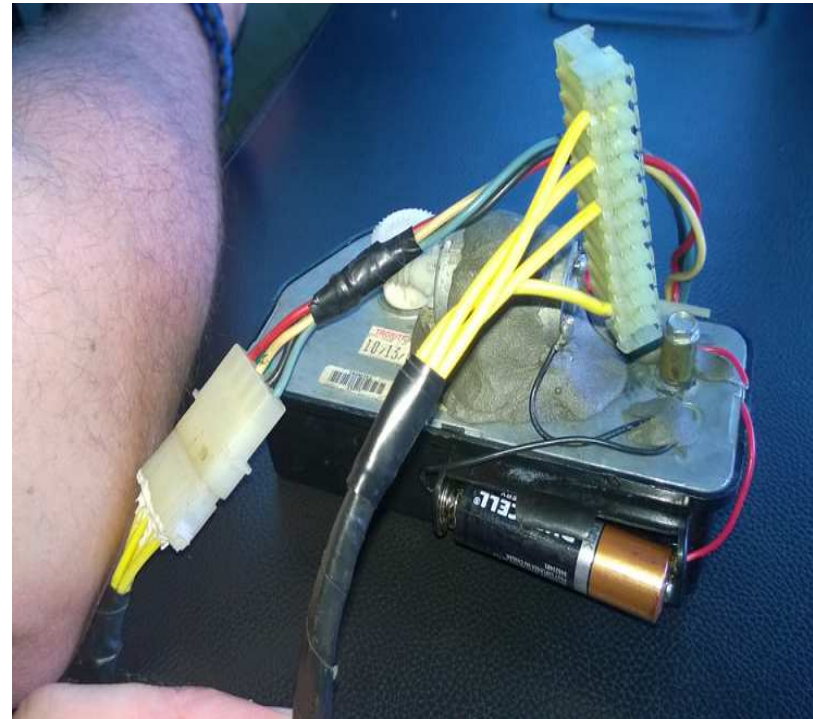
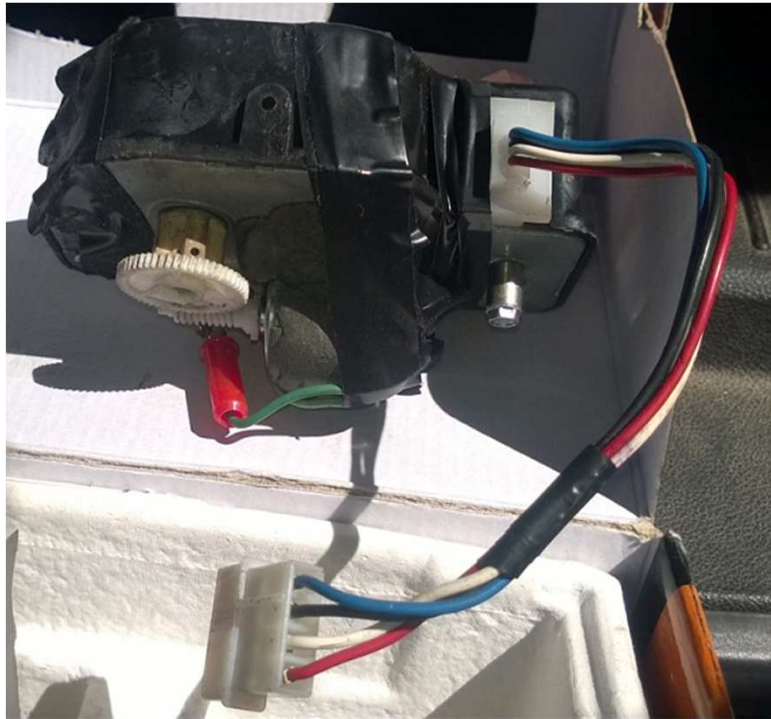
# Dispenser lock was replaced with a bolt for repeat easy access



# Toggle switch added to allow free flow of gas



# Devices used to manipulate Dispensers/Pulsars



# Fuel Tank Siphoning Example



# Fuel Tank Siphoning Example





# Fuel Tank Siphoning Example



# Fuel Tank Siphoning Example



# Fuel Tank Siphoning Example

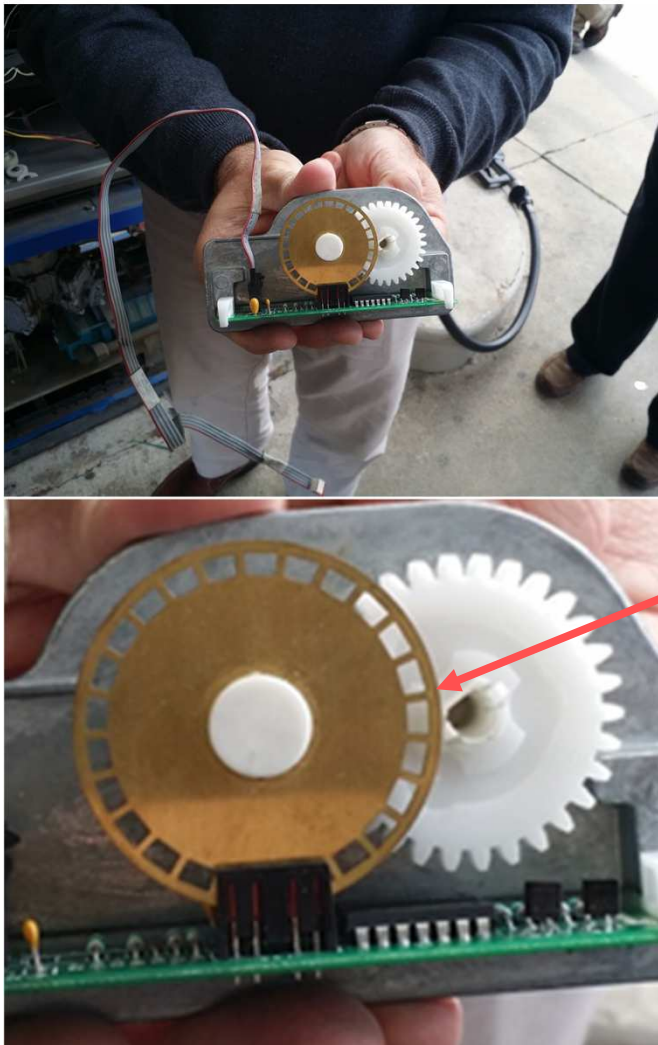


# Powered Hand Held Fuel Siphon



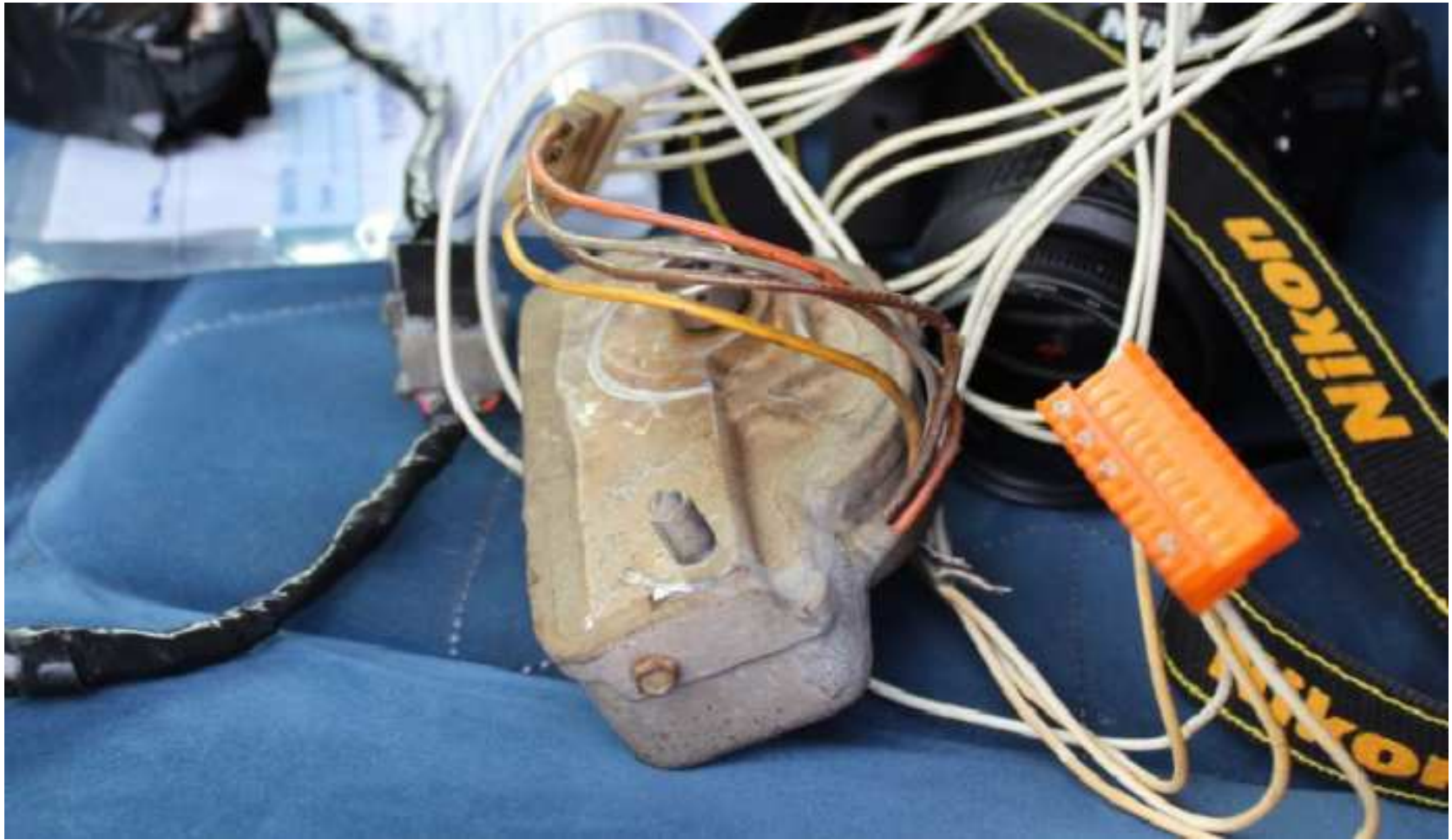
# Pulsar Manipulation Example

Gilbarco Pulsar



- This is a Gilbarco Pulsar, approx \$20 on the internet.
- Disabling this device once the pump starts allows fuel to pump without being metered.
- The gaps on the brass disc are calibrated to equal a specific amount of fuel.
- Physically altering the disc to enlarge those gaps allows more fuel to dispense than what is shown on the meter.

# Pulsar Replacement Example

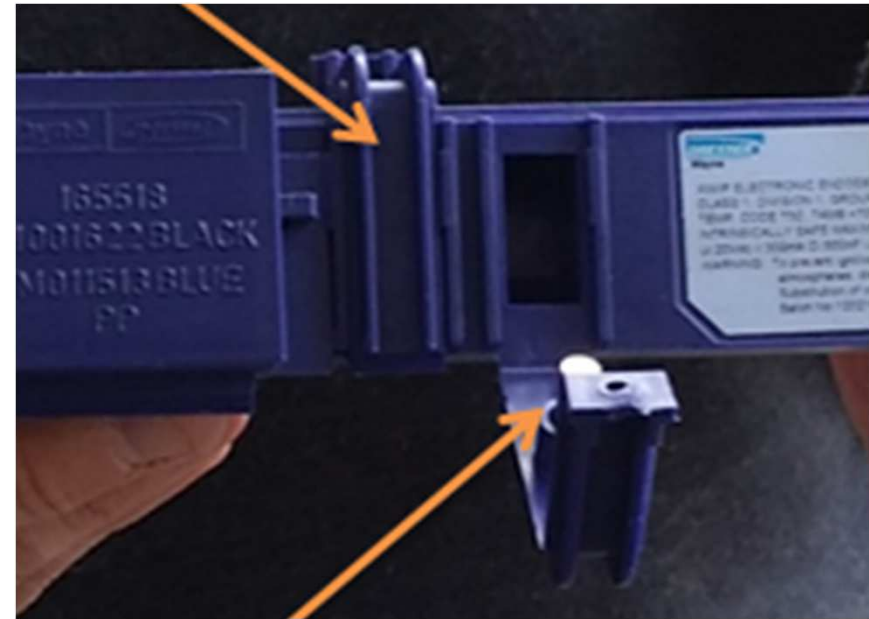
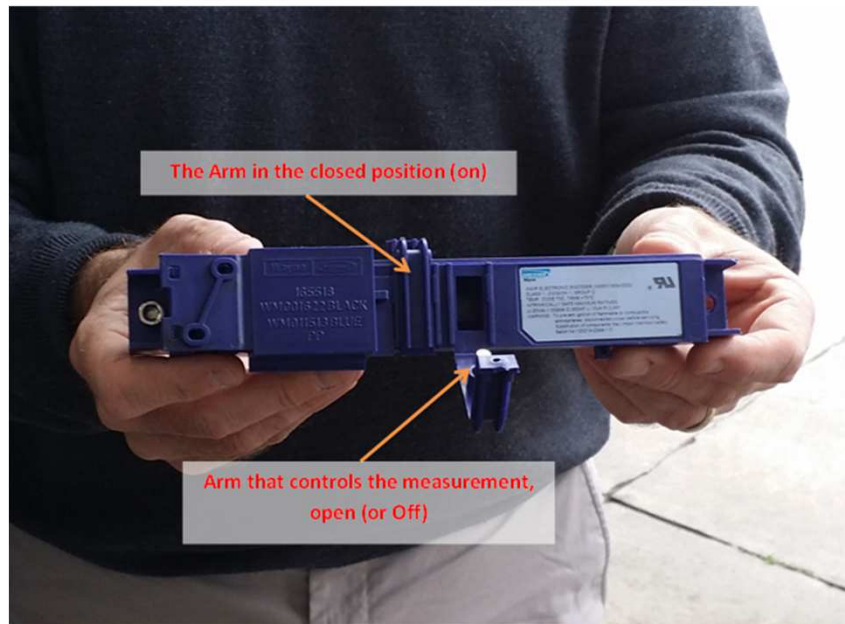


# Pulsar Replacement Example



# Pulsar Manipulation Example

Wayne-Dresser Pulsar



The Wayne-Dresser pulsars are located in the bottom portion of the dispensers, just atop the meters, as opposed to the middle like on the Gilbarco. They also operate magnetically and you can see a small magnet on the exposed arm of the pulsar. As the fuel pumps through the meter a metal piece is spinning inside, the magnet counts its rotations which is then transferred electronically into the volume and amount of fuel sold. When the arm is pulled open, the fuel is no longer being accounted for and is free flowing.



# Stand Alone Pump Mode



Gilbarco Keypad  
(should be removed from the pump)  
Approx. \$30 on the internet



Tokheim Magnet  
Approx. \$50 on internet



Wayne Dresser Remote Control (infra red)  
Approx. \$100 on internet



- Technicians place dispensers into Stand Alone Mode while they are performing maintenance.
- Once a dispenser is in Stand Alone Mode, fuel is dispensed freely without being registered.
- Dispensers cannot be placed into Stand Alone Mode with any of the customer controls, the tools pictured above must be employed.

# Aerial Mapping



# Aerial Mapping

