

# Spot Welding

	8	4	2	1	8	4	2	1
T	0	1	0	1	0	1	0	0
				5			4	
A	0	1	0	0	0	0	0	1
				4			1	
F	0	1	0	0	0	1	1	0
				4			6	
E	0	1	0	0	0	1	0	1
				4			5	

UEENE102A

# Resistance Welding

- Developed in the early 1900's
- A process in which the heat required for welding is produced by means of electrical resistance across the two components
- RW does not **requiring the following**:
  - Consumable electrodes
  - Shield gases
  - Flux
  - 40 volts, mostly less than 10 volts are used @ 300A

# Resistance Spot Welding

- RSW uses the tips of two opposing solid cylindrical electrodes
- Pressure is applied to the lap joint until the current is turned off in order to obtain a strong weld

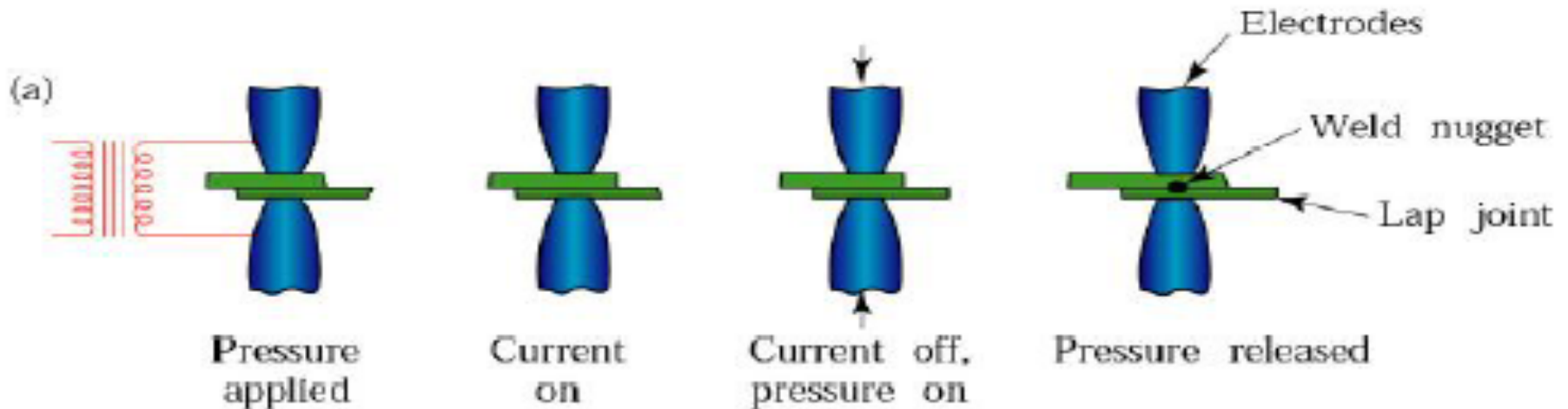


Fig: (a) Sequence in the resistance spot welding

# Resistance Spot Welding

- Surfaces should be clean
- Accurate control of and timing of electric current and of pressure are essential in resistance welding

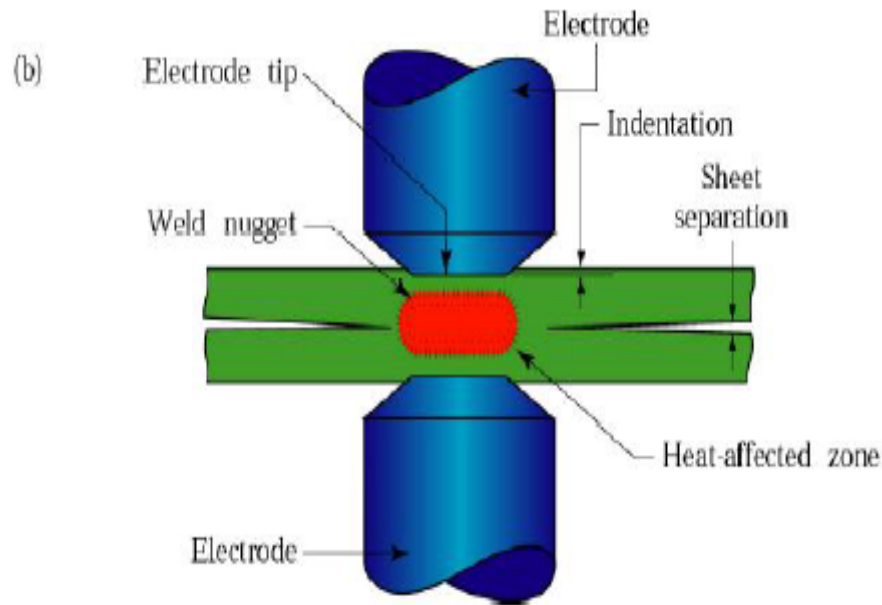


Fig: b) Cross-section of a spot weld, showing the weld nugget and the indentation of the electrode on the sheet surfaces. This is one of the most commonly used processes in sheet-metal fabrication and in automotive-body assembly

# Resistance Seam Welding

- RSEM is modification of spot welding wherein the electrodes are replaced by rotating wheels or rollers
- The electrically conducting rollers produce a spot weld
- RSEM can produce a continuous seam & joint that is liquid and gas tight
- Petrol tanks in cars are made this way.

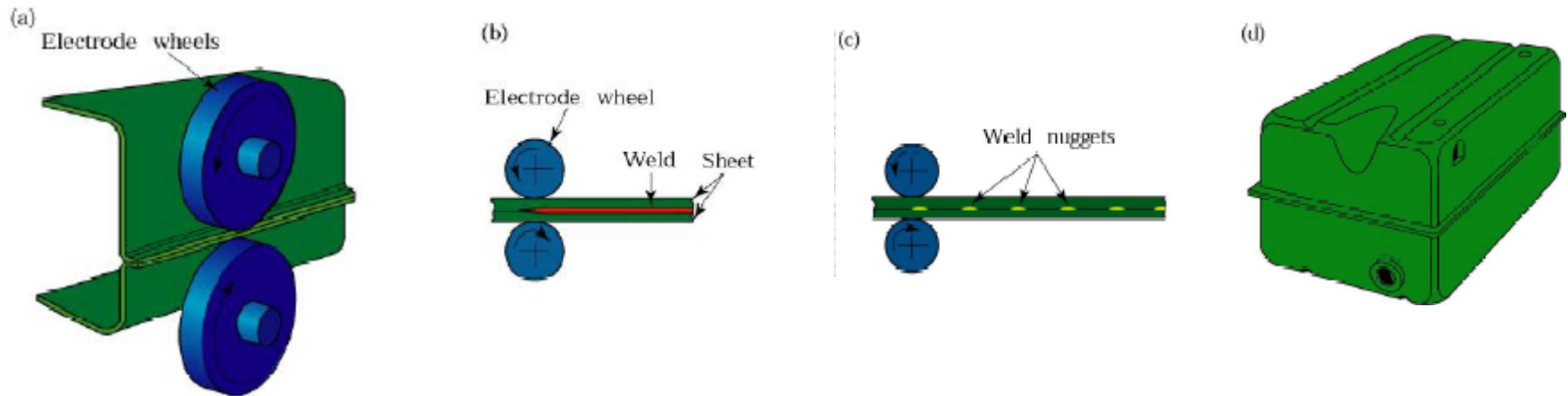


Fig : (a) Seam-Welding Process in which rotating rolls act as electrode (b) Overlapping spots in a seam weld. (c) Roll spot weld (d) Resistance-welded gasoline tank

Old is new again!