



## Custom Engineered Solutions

Helping Industries Keep it Together



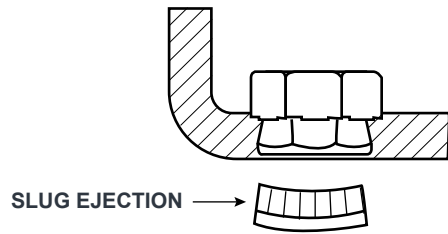
RB&W Manufacturing was established in 1845 and is based in North America, Europe and Asia. RB&W is a leader in cold-forming technology. This cold forming process is a viable, cost-effective alternative to screw machining, hot forging and casting. Working with our customers, we carefully appraise every aspect of the cold-forming function to ensure that our parts meet or exceed performance specifications.



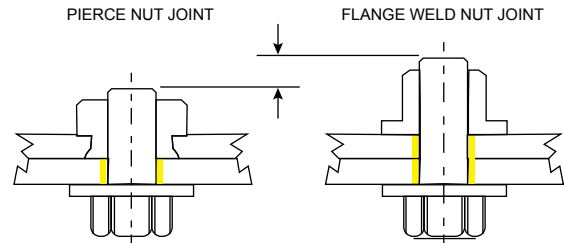
## SPAC® 101

SPAC® stands for Self Pierce And Clinch. SPAC® nuts and bolts are available in a range of sizes from M6 through to M16, suitable for material 0.8mm to 10mm thick, and are property class 8-10. They are also available with a mechanical thread lock feature. The application of SPAC® nuts is a simple mechanical process involving a lower die and force to insert the nut through the material, resulting in a positive slug ejection. Lastly, the nut clinches the material into the tapered punch and anti-rotation features on the bearing surface.

## NO PREHOLE REQUIRED



## 25% MASS JOINT REDUCTION



## THE SPAC® ADVANTAGE

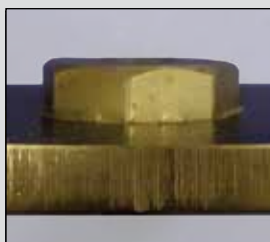
- IN DIE INSERTION ELIMINATES MFG OPERATIONS & COST
- PIERCE & CLINCH; NO PREHOLE REQUIRED
- UP TO 1700 MPA PIERCE & CLINCH
- STATE OF COMPRESSION ACHIEVED IN JOINT
- PIERCE & CLINCH INTO 10MM ALUMINUM AND MAGNESIUM



SMOOTH SURFACE



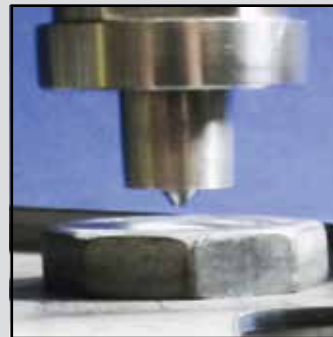
SETTING RING



PIERCE & CLINCH UP TO 10MM



ALUMINUM CASTING



1 STATION INSERTION



PIERCE & CLINCH UP TO 1700 MPA



SPAC® BOLT



PIERCE & CLINCH IN ROLL FORMED

## THE SPAC® DIFFERENCE

# RB&W MANUFACTURING PROVIDES A TOTAL END TO END SOLUTION.

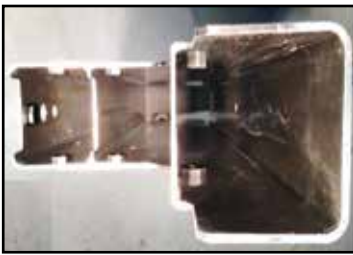
## SPAC® for Lightweight Materials

Welding complexity, tempering of critical material point, embrittlement, crystallization, corrosion and costs are challenges the automotive industry faces today. The solution is RB&W Manufacturing's SPAC® fastening product.

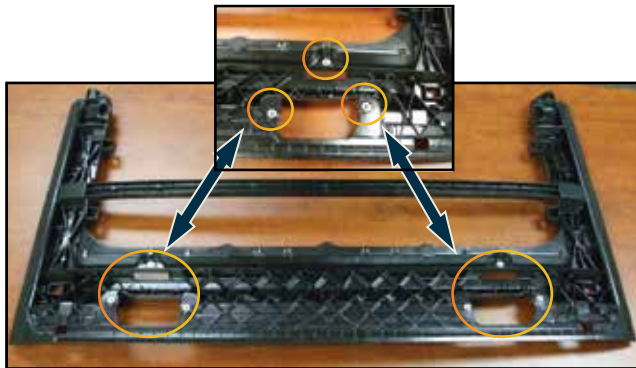
### HIGH STRENGTH



### ALUMINUM

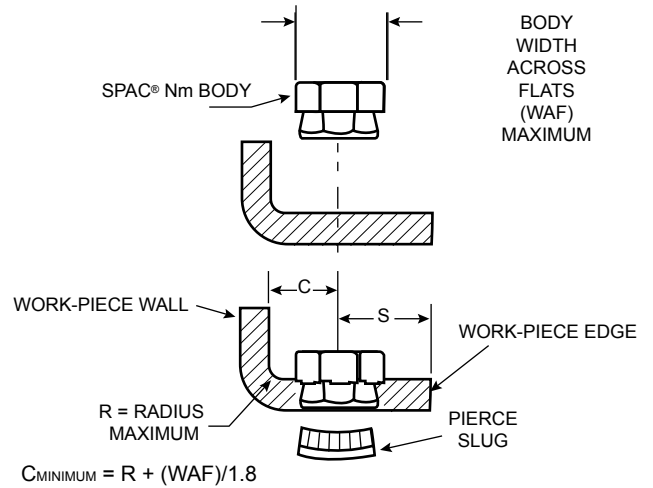


### MAGNESIUM

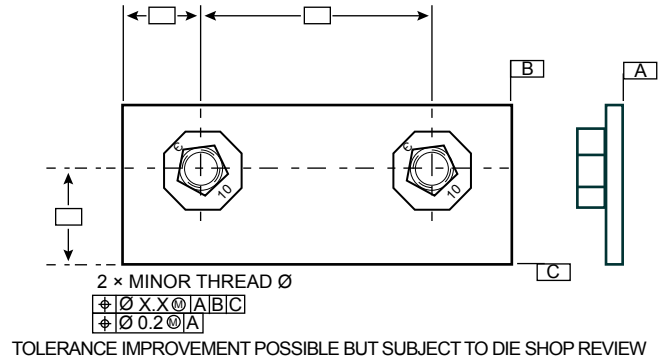


## TECHNICAL DATA

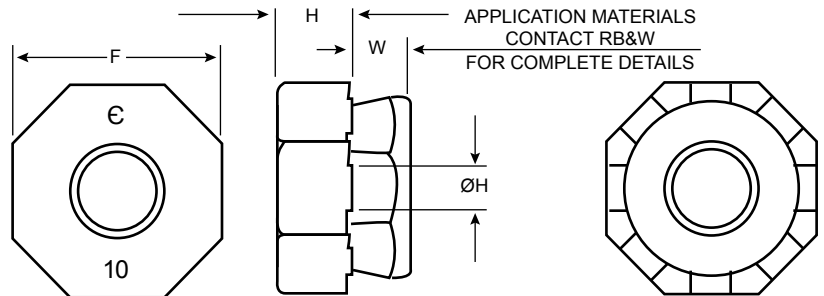
### SPAC® Nut Edge Spacing



### SPAC® Nut True-Position Standards



### SPAC® Nut Dimensions and Performance



Thread size and Product Style	Application Material Thickness		F (max)	H (max)	P (min)	W (max)
	min	max				
M6×1 HGL Lt	1.00	2.00	11.81	4.43	9.12	2.36
M6×1 HGL Hv	1.00	3.50	14.43	4.43	10.16	2.74
M8×1.25 HGL Lt	1.00	3.50	14.43	5.48	11.28	3.15
M8×1.25 HGL Hv	1.00	4.00	15.39	5.48	12.50	3.38
M10×1.5 HGL Lt	1.00	3.50	18.29	6.78	14.58	3.94
M10×1.5 HGL Hv	1.00	4.50	20.12	6.78	17.07	4.34
M10×1.5 HGL Os	1.00	6.00	24.18	6.78	18.50	4.80
M12×1.75 HGL Lt	1.00	5.00	24.18	8.53	19.33	5.13
M12×1.75 HGL Hv	1.00	7.00	25.96	8.53	21.82	5.54
M14×2 HGL Lt	1.50	7.00	27.79	10.55	22.61	5.70
M16×2 HGL Lt	1.50	5.00	27.79	12.65	22.61	5.70
M16×2 HGL Hv	1.50	7.00	31.79	12.65	25.84	6.52



**LOCATIONS:**

**RB&W Corporation of Canada**

5190 Bradco Boulevard  
Mississauga, Ontario L4W 1G7  
Ph: 905-624-4490  
Fax: 905-624-6195  
www.rbwmfg.com

**RB&W Detroit**

30100 Stephenson Hwy  
Madison Hts, MI 48071

**RB&W Manufacturing, LLC**

10800 Wellman Road  
Streetsboro, OH 44241  
Ph: 234-380-8540  
Fax: 234-380-8545

**RB&W UK**

Unit 12B, Two Locks  
Hurst Business Park  
Brierley Hill, DY5 1UU  
Ph: +44 (0) 1384-486628  
Fax: +44 (0) 1384-263352

**RB&W Japan GK**

2-4-14 Toyo  
2nd Floor - JAMCO  
Koto-ku, Tokyo 135-0016  
Ph: 81-70-1440-6934

**RB&W Shanghai CFT**

6999 Chuansha Road, Bldg B7  
Shanghai, China  
Ph: (+86-21) 5011-5901  
Fax: (+86-21) 5011-5903

# AUTO FEEDING EQUIPMENT

Auto feeding into the die at the time the component is being stamped is by far the most economical solution. Savings of up to 50% versus weld nuts can be achieved. Transport from press to secondary weld station, overhead costs, secondary equipment, personnel, and WIP are reduced or eliminated. Feed system combinations of standalone feed heads to complete press die stations are available.



C-FRAME



FEEDER SYSTEM



IN-DIE APPLICATION

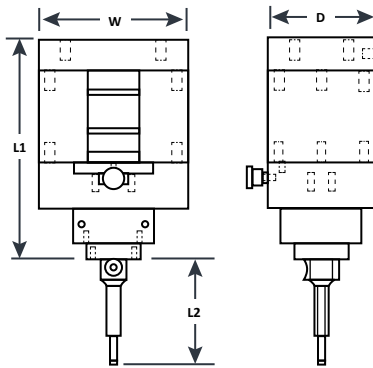


DIE SET

## STANDARD TOOLING CHECKLIST

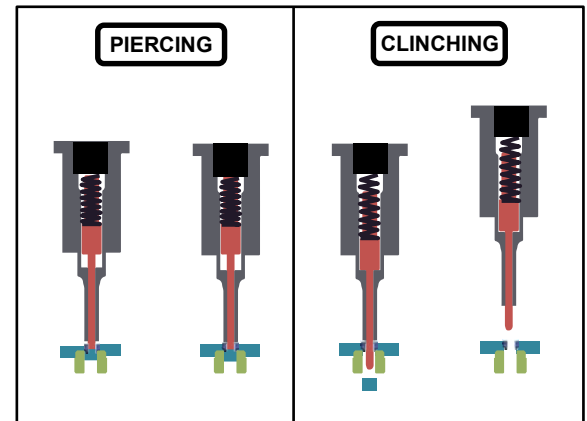
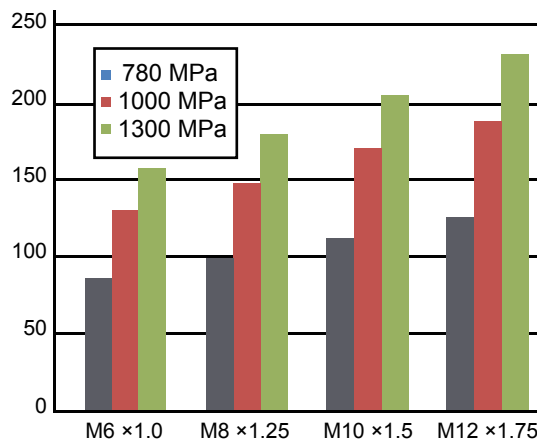
APPLICATION	PROCESS	NUT FEED
Bracket/Stamping Print and CAD Data	In-Die Process	Manual Load
Material Grade	Stand-Alone Press	Gravity
Material Hardness	C-Frame Press	Blow Feed
Material Thickness	Bracket	
SPAC® Nut ID	Nut Handling	

## DIMENSIONS - STANDARD TOOL HEAD; TOP DOWN OR CAM



LOAD		L1				
kN	lbs	W	D	10mm stroke	16mm stroke	L2
10-32	3300-7200	108		185	213	150
16-47	4800-10000	120	100	190	216	150
25-75	7700-17000	140		200	226	150
40-118	12000-26000	165	125	210	230	150
61-183	19000-41000	185	155	220	240	150

## PIERCING FORCE TONNAGE BY HARDNESS AND MATERIAL



\*Contact your RB&W Representative for further details.