



Standard Part

Projection Weld Studs Metric Coarse - Preferred and Non-Preferred

STPB860

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1. GENERAL

There are no national or international standards on projection weld studs as covered by this standard. The specifications are based upon local manufacturer and user requirements.

2. REFERENCE DOCUMENTS

- CNH STPA020—Fastener Finishes and Material Specifications
- ISO 262—General Purpose Screw Threads
- ISO 965—General Purpose Metric Threads
- Iveco 18-1103—Zinc-Nickel Electrolytic Coating for Ferrous Metal Parts

3. PREFERRED PARTS POLICY

Preferred parts are so designated to reduce variety of parts and assure maximum availability, interchangeability and cost savings in volume buying.

- Material: Steel
- Type: U3 Projection Weld Stud
- Pitch: Coarse
- Finish: Plain (Pln)

Preferred Nominal Sizes and Length
Dimensions in Millimeters

LENGTH	NOMINAL SIZES					
	4	5	6	8	10	12
8	X					
10	X	X				
12	X	X	X			
16	X	X	X	X		
20	X	X	X	X	X	X
25	X	X	X	X	X	X
30		X	X	X	X	X
35			X	X	X	X
40				X	X	X
45					X	X
50					X	X

4. CROSS REFERENCE

For cross reference listing of company part numbers, go to [PARTsolutions](#).

AUTHOR	APPROVED BY	ECO NO.	CNH INDUSTRIAL NUMBER
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			87352926

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5. HEAD

The bearing surface of the head shall be at right angles to the axis of the shank within 2 degrees.

6. LENGTH

The length of weld studs shall be measured as indicated in the illustration for each type. The tolerance for length shall be as follows:

Up to and including 25 mm	=0,-0.8 mm
Over 25 mm thru 50 mm	=0,-1.6 mm
Over 50 mm	=0,-2.3 mm

7. THREADS

Thread form, diameters and associated pitches are in accordance with ISO recommendations for coarse pitch series as shown in ISO 262 General Purpose Screw Threads. Threads shall be made to the tolerances of the medium class of fit (6g) for plain or unplated parts as shown in ISO 965 General Purpose Metric Screw Threads. Full formed thread shall extend to within one and one half pitches of the projection under the head.

8. MARKING

Weld studs may carry some form of manufacturers identification on top of head. Each stud will show an "M" embossed or indented on top of head to designate this product as metric.

9. MATERIAL

High welding quality low carbon steel.

Hardened weld studs where Heat Treated Steel (HTS) is specified the material should be high welding quality low carbon steel heat treated to RC 27-34

10. FINISH

Weld studs are not normally plated due to objectionable effects of certain plating on the welding process. However, where requirements dictate, studs may be zinc or copper plated in accordance with CNH Engineering Material Specification MAT0310.



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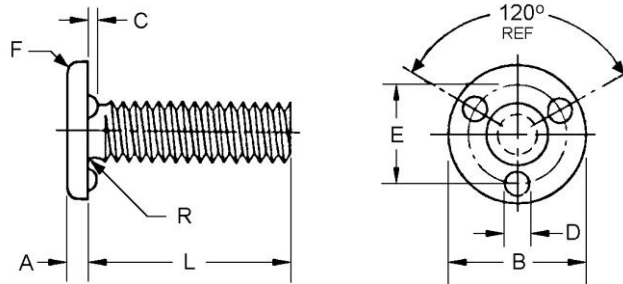
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Type U3 Projection Weld Stud – Threaded (Shaded parts are Non-Preferred)

Size				B		A	D	C	E	F	R	CNH Part. No.
				Head Dia.		Head Height	Projection Dia.	Projection Height	Locating Circle	Flange Radius	Fillet Radius	
Dia	Pitch	Length	Fin.	Max.	Min.	±0.13	±0.13	±0.05	Dia. Ref	Max.	Max.	
M4	.7	8	PLN	9.5	9	1.3	1.78	0.64	6.75	0.9	0.6	47787600
M5	.8	30	PLN	11.8	11.3	1.6	2.13	0.81	7.92	1.0	0.8	48124386
M6	1.0	12	PLN	14.3	13.7	1.9	2.54	1.02	10.3	1.3	1.0	87016120
		16	PLN									86626345
		16	ZND									51564402
		16	*ZnNi									90441976
		20	PLN									9672412
		25	PLN									87752087
		30	PLN									47437206
		45	PLN									90355337
		50	PLN									87681212
		55	PLN									92280499
		65	PLN									92771913
70	PLN	92713194										
M8	1.25	16	PLN	19.2	18.4	2.5	3.1	1.2	13.4	1.4	1.2	86626344
		16	ZN-NI-4									92655582
		20	PLN									87016121
		20	ZND									92736086
		20	ZN-NI-4									92752114
		25	PLN									86639113
		25	ZND									92660381
		25	BGM									90347408
		25	ZN-NI-4									92302317
		30	ZN-NI-4									92643072
		30	PLN									86981626
		35	PLN									51408250
		40	PLN									87016122
		45	PLN									87016123

*ZnNi – Zinc Nickel per Iveco 18-1103 Fe/ZnNi 7 IV
 ZN-NI-4 – Per STPA020



Standard Part

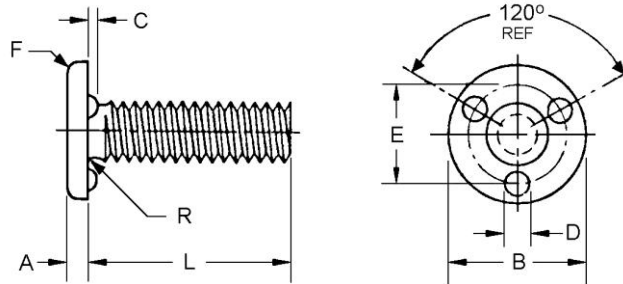
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Type U3 Projection Weld Stud – Threaded (Continued) (Shaded parts are Non-Preferred)

Size				B		A	D	C	E	F	R	CNH Part. No.
Dia	Pitch	Length	Fin.	Head Dia.		Head Height	Projection Dia.	Projection Height	Locating Circle	Flange Radius	Fillet Radius	
				Max.	Min.	±0.13	±0.13	±0.05	Dia. Ref	Max.	Max.	
M8	1.25	45	ZND	19.2	18.4	2.5	3.1	1.2	13.4	1.4	1.2	92736087
		50	PLN									92804554
		55	PLN									87017602
		55	ZND									92752116
		60	PLN									87017603
		60	ZND									92736088
		65	PLN									48178798
		70	PLN									51448191
		85	PLN									48156663
		100	PLN									47629243
		130	PLN									47947824
M10	1.5	20	PLN	23.4	22.6	3.1	3.56	1.4	15.8	1.7	1.5	86625233
		20	ZN-NI-4									92305849
		25	PLN									86981627
		30	PLN									86639112
		30	*ZnNi									90441978
		35	PLN									87039087
		40	PLN									87016119
		45	PLN									47409456
		50	PLN									47870414
		60	PFL									91856720
		70	PLN									47659194
70	ZND	47666560										
M12	1.75	25	PLN	25.4	24.6	3.6	3.81	1.52	18.5	2.2	1.8	84543941
		30	PLN									92207512
		30	ZND									92736089
		35	PLN									86981629
		45	PLN									86981630
		50	PLN									84163835

*ZnNi – Zinc Nickel per Iveco 18-1103 Fe/ZnNi 7 IV
 ZN-NI-4 – Per STPA020



Standard Part

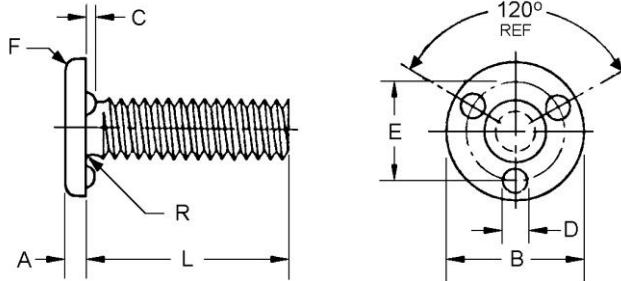
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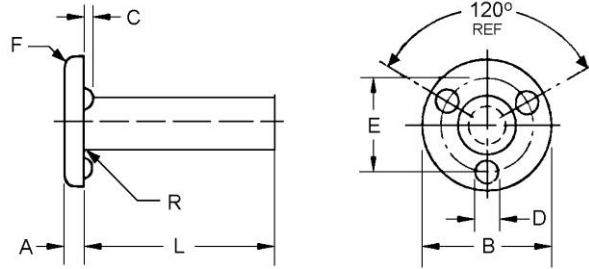
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Type U3 Projection Hardened Weld Stud – Threaded Material: Heat Treated Steel (HTS)

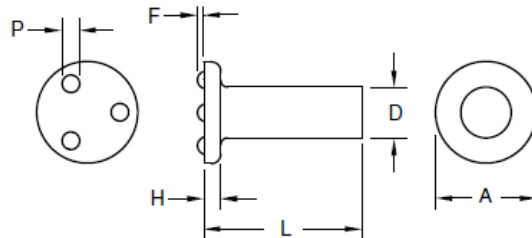
Size				B		A	D	C	E	F	R	CNH Part. No. Non -Preferred
				Head Dia.		Head Height	Projection Dia.	Projection Height	Locating Circle	Flange Radius	Fillet Radius	
Dia	Pitch	Length	Fin.	Max.	Min.	±0.13	±0.13	±0.05	Dia. Ref	Max.	Max.	
M4	.7			9.5	9	1.3	1.78	0.64	6.75	0.9	0.6	
M5	.8			11.8	11.3	1.6	2.13	0.81	7.92	1.0	0.8	
M6	1.0	12	PLN	14.3	13.7	1.9	2.54	1.02	10.3	1.3	1.0	
		16	PLN									
		20	PLN									
		25	PLN									
		30	PLN									
		50	PLN									
M8	1.25	16	PLN	19.2	18.4	2.5	3.1	1.2	13.4	1.4	1.2	
		20	PLN									
		25	PLN									
		30	PLN									
		40	PLN									
		45	PLN									
		55	PLN									
		60	PLN									
		100	PLN									
M10	1.5	20	PLN	23.4	22.6	3.1	3.56	1.4	15.8	1.7	1.5	
		25	PLN									
		30	PLN									
		35	PLN									
		40	PLN									
		45	PLN									
		70	PLN									
M12	1.75	25	PLN	25.4	24.6	3.6	3.81	1.52	18.5	2.2	1.8	
		35	PLN									
		45	PLN									
		50	PLN									

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Type U3 Projection Weld Pin Preferred

Size			B		A	D	C	E	F	R	CNH Part. No.
			Head Dia.		Head Height	Projection Dia.	Projection Height	Locating Circle	Flange Radius	Fillet Radius	
Dia.	Length	Fin.	Max.	Min.	±0.13	±0.13	±0.05	Dia. Ref	Max.	Max.	
4			11	10.5	1.5	2.03	0.76		0.9	0.6	
5			12.7	13.3	1.8	2.4	0.93		1.0	0.8	
6	6	PLN	15.2	15.8	2.1	2.74	1.04		1.3	1.0	47985191
6	12	PLN	15.2	15.8	2.1	2.74	1.04		1.3	1.0	51461433
8	16	PLN	19.6	20.4	2.8	3.3	1.27		1.4	1.2	87692698
8	25	PLN	19.6	20.4	2.8	3.3	1.27		1.4	1.2	47646046
10			23.6	24.4	3.4	3.68	1.44		1.7	1.5	
12	35	PLN	24.8	25.6	3.6	3.81	1.52		2.2	1.8	47646059
12	50	PLN	24.8	25.6	3.6	3.81	1.52		2.2	1.8	87692697



Type T3 Projection Weld Pin Preferred

Size				A		H	P	F	CNH Part. No.
				Head Dia.		Head Height	Projection Dia.	Projection Height	
D max	D min	Length	Fin.	Max.	Min.	±0.13	±0.13	±0.05	
4	3.90			8.25	7.75	1.5	2.03	0.76	
5	4.88			10.25	9.75	1.8	2.40	0.93	
6	5.87			12.30	11.70	2.1	2.74	1.04	
8	7.85	16	PLN	16.30	15.70	2.8	3.30	1.27	47966608
8	7.85	20	PLN	16.30	15.70	2.8	3.30	1.27	47968123
10	9.83			20.40	19.60	3.4	3.68	1.44	



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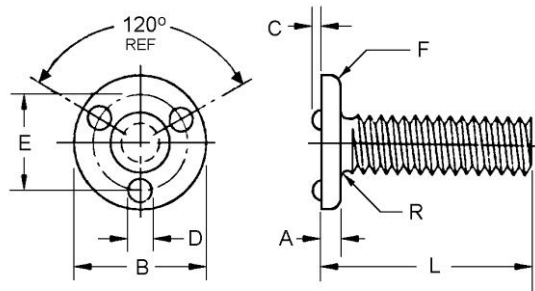
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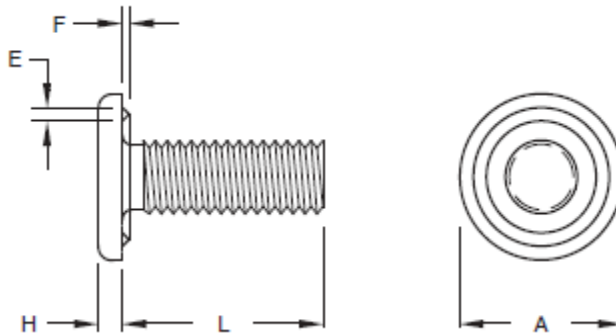
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Type T3 Projection Weld Stud – Threaded Non-Preferred

Size				B		A	D	C	E	F	R	CNH Part. No.
				Head Dia.		Head Height	Projection Dia.	Projection Height	Locating Circle Dia. Ref	Flange Radius Max.	Fillet Radius Max.	
Dia	Pitch	Length	Fin.	Max.	Min.	±0.13	±0.13	±0.05	Dia. Ref	Max.	Max.	
M4	.7	10	PLN	8.25	7.75	1.2	1.78	0.64	5.2	0.9	0.6	92134693
M5	.8	16	PLN	10.25	9.75	1.6	2.13	0.81	6.3	1.0	0.8	84206670
M6	1.0	16	PLN	12.3	11.7	1.9	2.54	1.02	7.9	1.3	1.0	86639331
		20	PLN									86639332
M8	1.25	40	PLN	16.3	15.7	2.5	3.1	1.2	9.9	1.4	1.2	87675534
M10	1.5	25	PLN	20.4	19.6	3.1	3.56	1.4	12.3	1.7	1.5	47601709
M12	1.75	25	ZN	25.4	24.6	3.6	3.81	1.52	18.5	2.2	1.8	87672175
		50	PLN									48090753

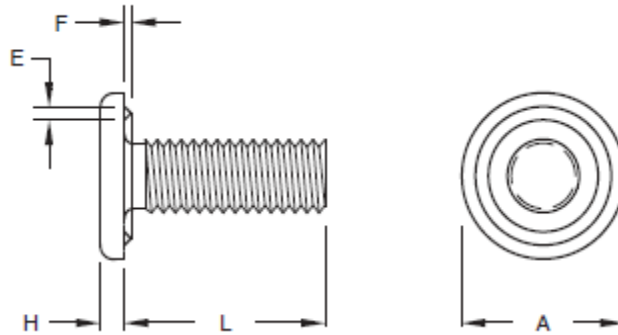


Ring Projection Weld Stud – Threaded Non-Preferred

Size				A		H	F	E	CNH Part. No.
				Head Dia.		Head Height	Projection Height	Projection Width	
Dia.	Pitch	Length	Fin.	Max.	Min.	±0.13	+0.08 -0.05	Ref.	
M3.5	.6			8.2	7.7	1.2	0.30	0.64	
M4	.7			9.5	9.0	1.3	0.38	0.79	
M5	.8			11.8	11.3	1.6	0.43	0.89	
M6	1.0			14.3	13.7	1.9	0.61	1.22	
M8	1.25	30	PLN	19.2	18.4	2.5	0.76	1.53	84278112
M10	1.5	40	PLN	23.4	22.6	3.1	0.86	1.73	47604129

Recommended hole in sheet is 0.381mm above the major diameter.

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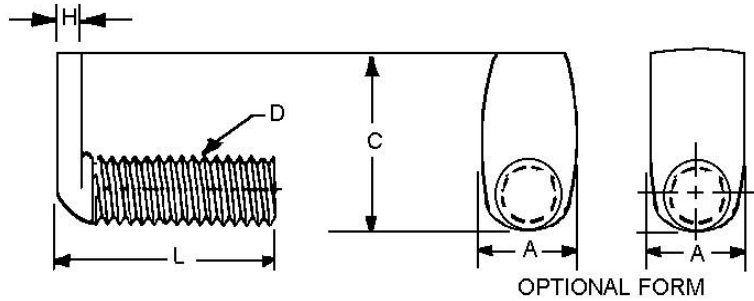


Ring Projection Weld Stud – Threaded

Material: Heat Treated Steel (HTS)

Size				A		H	F	E	CNH Part. No.
				Head Dia.		Head Height	Projection Height	Projection Width	
Dia.	Pitch	Length	Fin.	Max.	Min.	±0.13	+0.08 -0.05	Ref.	
M3.5	.6			8.2	7.7	1.2	0.3	0.64	
M4	.7			9.5	9.0	1.3	0.38	0.79	
M5	.8			11.8	11.3	1.6	0.43	0.89	
M6	1.0			14.3	13.7	1.9	0.61	1.22	
M8	1.25	20	PLN	19.2	18.4	2.5	0.76	1.53	47661377
		25	PLN						47661390
M10	1.5	30	PLN	23.4	22.6	3.1	0.86	1.73	90405522
		40	PLN						

Recommended hole in sheet is 0.381mm above the major diameter.



Right Angle Spade Spot Weld Stud - Threaded Non-Preferred

D			A	H		C	CNH Part. No.
Size	Pitch	Length	Head Width	Head Thickness		Head Length	
			Ref.	Max.	Min.	Ref.	
M3.5	.6		5.5	1.40	1.15	14	
M4	.7		6.2	1.60	1.35	15	
M5	.8		7.9	2.00	1.75	17	
M6	1.0		8.9	2.50	2.25	19	
M8	1.25	20	11.8	3.40	3.15	22	87690476
M10	1.5		14.3	4.40	4.15	28	