1. GENERAL

This standard shall conform to ISO 8748 and IFI 512-C for Coiled Spring pins. For dimensions not shown in this standard refer to the above listed ISO and IFI standards.

2. RELATED DOCUMENTS

2.1 REFERENCE STANDARDS

ISO 8748—Spring type straight pins – Coiled and Heavy Duty
CNH MAT0310—Zinc Plating
CNH STPA020—Fastener Finishes and Material Specifications
IFI 512-C–Metric Spring Pins

2.2 REPLACED STANDARDS

JM-050 (Case)—Spring Pins, Coiled (General Specifications)
JM-051 (Case)—Spring Pins, Coiled – Preferred
JM-052 (Case)—Spring Pins, Coiled – Non-Preferred

3. PREFERRED PARTS POLICY

Preferred parts are so designed to reduce variety of parts and assure maximum availability, interchangeability and cost savings. Refer to ENPA110 for details

4. CROSS REFERENCE

For cross reference listing of company part numbers, go to CNH Catalogue.

5. MATERIAL AND HARDNESS

Table 1 designates materials (CST) and the proper Rockwell scale to be used for coiled spring pins.

6. FINISH

6.1 Pins shall be furnished plain (PLN), plated, or coated in accordance with CNH STPA020.

- Zinc Dichromate (ZND) - CNH MAT0310, Class 5
- Phosphate (PHC) - Case MS-90

6.2 High tensile strength steel components such as spring pins are more susceptible to embrittlement by hydrogen. Therefore electroplating is not recommended for these products. However, if chemical or electrochemical surface coating cannot be avoided, the plated spring pin must be heated at a temperature sufficiently high and for a period sufficiently long to remove the hydrogen. Refer to MAT0310 section 4.7.

6.3 To reduce susceptibility to hydrogen embrittlement mechanical plating is preferred.

TABLE 1: Materials and Hardness

Material	Stock Thickness Range			
	Over .025 up to .25 mm	Over .25 up to .63 mm	Over .63 up to 1.27 mm	Over 1.27 up to 2.39 mm
SAE 1070-1095	420-545 HV	82-86.4 HR15N	72-76.8 HRA	43-52 HRC

SAE 6150 alloy steel is optional for pins greater than 12 mm in diameter.

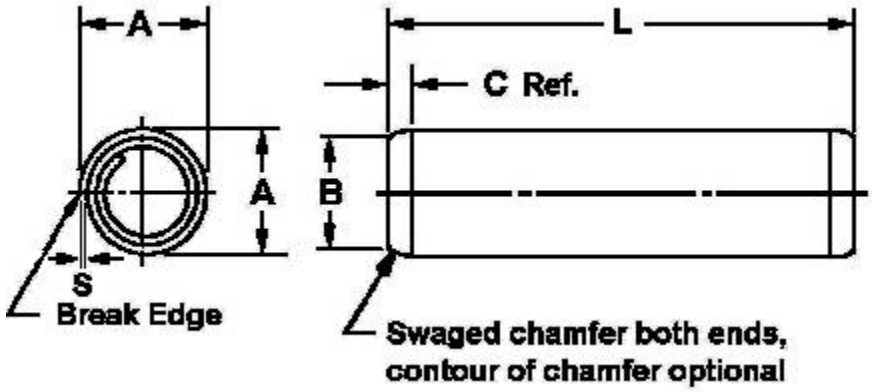

FIGURE 1: Coiled Spring Pin Diagram

TABLE 2: Basic Dimensions in Millimeters

Nominal pin Size	Pin Thickness		Pin Diameter				Chamfer		Recommended Hole Size		Minimum Double Shear Load, kN	
	S		STD Duty		Heavy Duty		Diameter	Length				
			A		A		B	C				
	STD	HVY	Max	Min	Max	Min	Max	Ref	Max	Min	STD Duty	Heavy Duty
1.5	0.13	0.17	1.73	1.62	1.71	1.61	1.4	0.5	1.60	1.50	1.45	1.9
2	0.17	0.22	2.25	2.13	2.21	2.11	1.9	0.7	2.10	2.00	2.5	3.5
2.5	0.21	0.28	2.78	2.65	2.73	2.62	2.4	0.7	2.60	2.50	3.9	5.5
3	0.25	0.33	3.30	3.15	3.25	3.12	2.9	0.9	3.10	3.00	5.5	7.6
3.5	0.29	0.39	3.84	3.67	3.79	3.64	3.4	1.0	3.62	3.50	7.5	10.0
4	0.33	0.45	4.40	4.20	4.30	4.15	3.9	1.1	4.12	4.00	9.6	13.5
5	0.42	0.56	5.50	5.20	5.35	5.15	4.85	1.3	5.12	5.00	15	20
6	0.50	0.67	6.50	6.25	6.40	6.18	5.85	1.5	6.12	6.00	22	30
8	0.67	0.90	8.63	8.30	8.55	8.25	7.8	2.0	8.15	8.00	39	53
10	0.84	1.10	10.80	10.35	10.65	10.30	9.75	2.5	10.15	10.00	62	84
12	1.00	1.30	12.85	12.40	12.75	12.35	11.7	3.0	12.18	12.00	89	120
14	1.20	1.60	14.95	14.45	14.85	14.40	13.6	3.5	14.18	14.00	120	165
16	1.30	1.80	17.00	16.45	16.90	16.40	15.6	4.0	16.18	16.00	155	210
20	1.70	2.20	21.10	20.45	21.00	20.40	19.6	4.5	20.21	20.00	250	340

Table 3: Metric Heavy Plain Coiled Spring Pins – Plain – Preferred

Length	Diameter								
	2.5	3	3.5	4	5	6	8	10	12
4									
5									
6							Non-Preferred		
8		13935170							
10				13937370					
12					13939670				
14									
16				86639254		13941870			
18					90354469		87530653		
20									
22					13940170				
24				13938070	13940270	13942270			
26					13940370	90468797	86639256		
28					87016665				
30					13940570	13942570	47694961		
32						13942670	47621938		
36					13940770	13942770			
40					87016668	86625115			
45						13942970			
50						13943070	87016670		
55						86639255		87017613	87040759
60									87037789
65								86639251	
70									87016664
75									
80									
85		Non-Preferred							
90									
95									
100									
120									
140									
160									

Table 4: Metric Standard Plain Coil Spring Pins – Plain – Non-Preferred

	Diameter									
	2	2.5	3	3.5	4	5	6	8	10	12
8	13895370									
10	13895470	13897270			13904170					
12					13904270	13906770				
14		13897470	13899470				13909570			
16	13895770		13899570	13902070	13904470				13915770	
18			87733385		13904570					
20			13899770	13902270	13904670		13909870			
22					13904770	13907270				
24		13897970	13899970	13902470	13904870	13907370				
25									87029979	
26			13900070	13902570	13904970	13907470	13910170	13913170		
28			13900170		13905070	13907570	13910270			13919570
30						13907670	13910370			
32						13907770	13910470	13913470		
36							13910570	13913570		
40					13905470	13907970	13910670	13913670	48064888	13919970
45							13910770	13913770	13916870	
50										13920170
55									13917070	
60								13914070	13917170	
70							13911270			
80										13920770
90									13917770	13920970
95										13921070
100									13917970	
120									13918070	

Table 5: Miscellaneous Metric Coil Spring Pins – Non-Preferred

Dia.	Length	Duty	Finish	Part No.
3	14	STD	PHC	83946839
4	10	HVY	DAC	90410320
4	24	STD	ZND	13904871
4	24	HVY	ZND	5186261
6	20	STD	PHC	83990342
6	24	STD	ZND	83956633
6	35	HVY	PLN	48142127
6	36	STD	ZND	83988404
6	40	STD	ZND	51436313
16	65	HVY	ZND	87012660
16	65	HVY	DAC	90347436