

## SERIES 89, 90, 91, 92, 96 & 97

### Introduction

Peg Type Retaining Pins (Series 89, 90, 91, and 92) are an easily fitted, and easily removed, Spring Steel wire retention device for shaft mounted items. They rely on their inherent spring force to maintain their installed position inserted diametrically through the shaft, and are sometimes referred to as Hair Pin Cotter, or "R" Pins.

There are many special variants to suit specific applications, including such shapes as square top leg and truncated designs. Pins having a double coil (Series 90) can be affixed to a host assembly by chain or lanyard, to avoid loss, owing to the complete ring form.

The Safety Pin Type (Series 92) is, as the name implies, a safety method of locking the pin to the larger diameter shafts, and also accommodates a wider variety of fitment applications. Because of this components adjustability to its purpose, we have been able to offer Metric dimensions only, but these cover Inch requirements in their entirety.

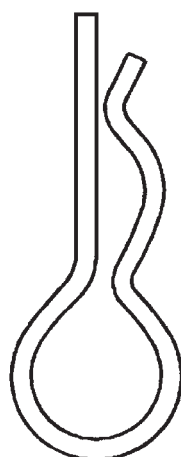
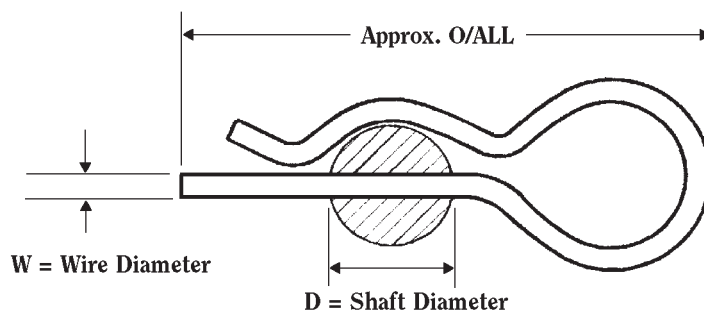
### SIZES AND DESCRIPTION

We describe size by Series No., Shaft fitment dia, Wire dia.,

e.g. Series 89, Shaft dia 7 - 11mm (this is the diameter of shaft upon which we feel, the pin will comfortably fit, though fit is affected by the hole diameter that has been made).  
Wire diameter (this is the diameter of wire from which the pin is made).

. . . Series 89 7 - 11 x 1.2 would be Type 89 fitting shaft dia's 7 - 11mm, made from 1.2 dia wire.

As a guide to use, the hole is normally drilled 10% larger than the nominal wire size of the pin.



Series 89  
UK Pattern



Series 90  
Double Coil



Series 91  
Euro Pattern



Series 92  
Safety Pin

Introduction continued overpage.

## SERIES 89, 90, 91, 92, 96 & 97 Continued

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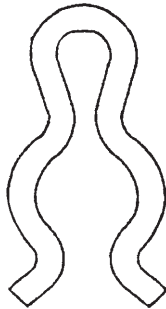
### Introduction Cont'd

Retaining Pins - Clamp Type are inexpensive, easy to attach and remove, Spring Steel Wire retention or location devices, similar in application to the Peg Type on previous page.

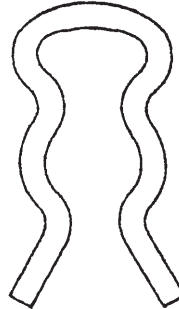
They are shaft mounted and located by a circumferential groove, and can be fitted and removed externally, or within a housing with an appropriate small radial clearance.

Clamp Type Retaining Pins are extensively used on shaft assemblies where location only is required, or where light axial loads have to be restrained. No special assembly tooling is required, and the clips are suitable for volume production.

Two popular forms are Series 96 & 97

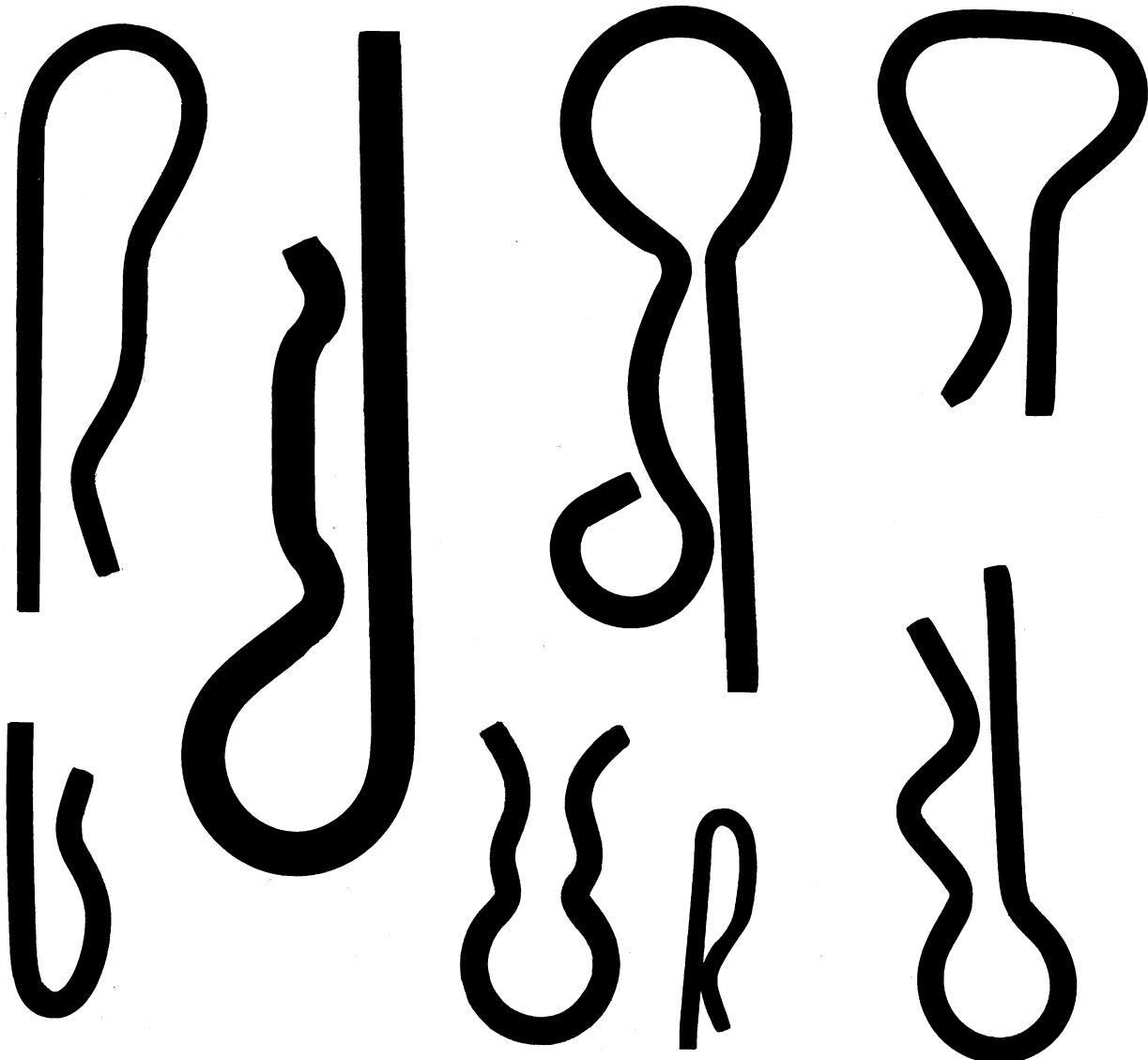


Series 96

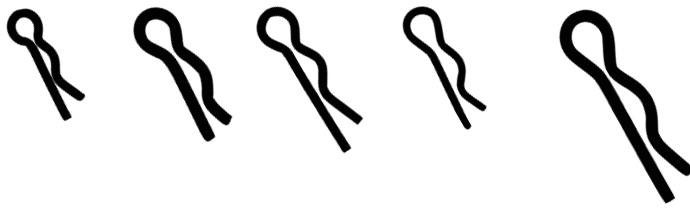


Series 97

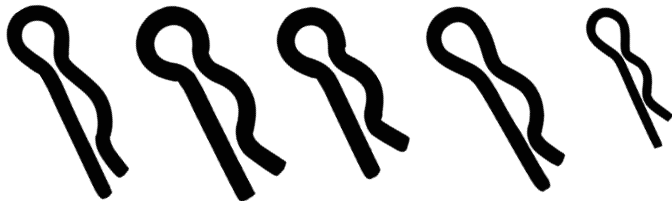
We are regularly producing "Specials" (Images shown are to scale).



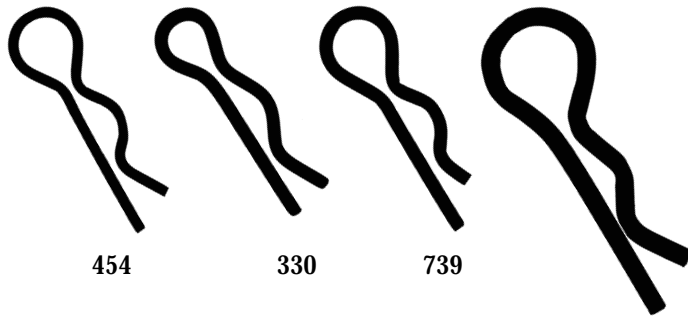
## SERIES 89



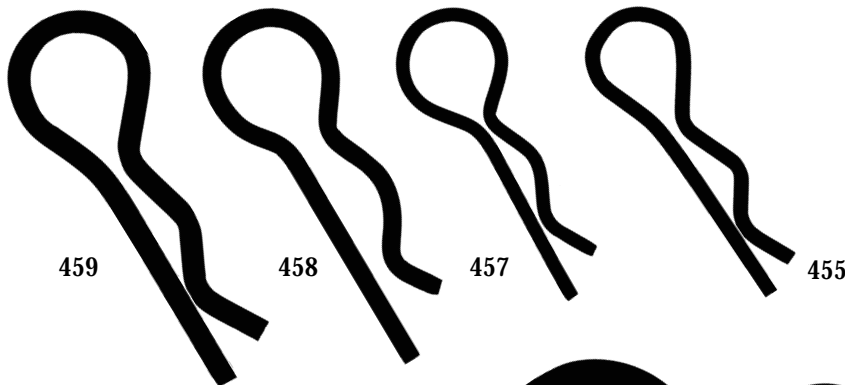
470      210      467      728      468



474      263      258      317      466

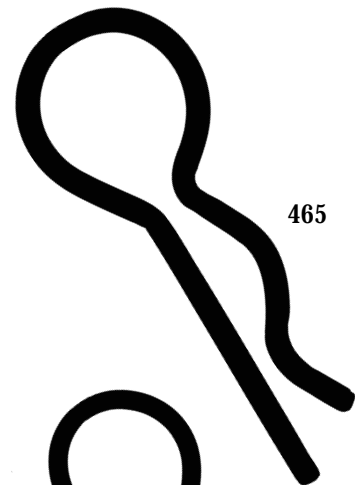


454      330      739      456

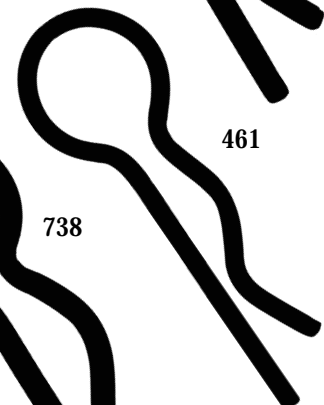


459      458      457      455

Ref.	Suggested Shaft Fitment	Wire Dia	Available in Stainless
470	4 - 5	1.2	
728	5 - 7	1.0	
466	5 - 7	1.2	✓
210	5 - 7	1.6	
467	7 - 9	1.2	
468	7 - 9	1.6	
330	8 - 10	1.8	
317	8 - 10	2.0	
454	9 - 11	1.4	✓
739	9 - 11	1.8	
455	9 - 11	2.0	✓
258	9 - 11	2.0	
474	9 - 11	2.0	
263	9 - 11	2.3	
456	9 - 11	2.5	✓
457	11 - 14	1.8	✓
458	14 - 18	2.5	✓
459	14 - 18	3.0	✓



465

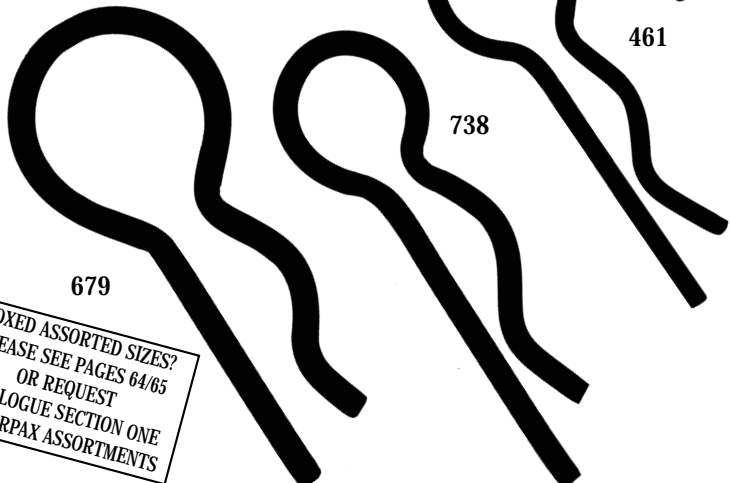


461

Ref.	Suggested Shaft Fitment	Wire Dia	Available in Stainless
461	18 - 21	2.6	✓
465	21 - 23	3.3	✓
738	24 - 28	3.2	
679	28 - 30	3.7	

Dimensions in millimetres  
Larger sizes see over.

BOXED ASSORTED SIZES?  
PLEASE SEE PAGES 64/65  
OR REQUEST  
CATALOGUE SECTION ONE  
FACTORPAX ASSORTMENTS



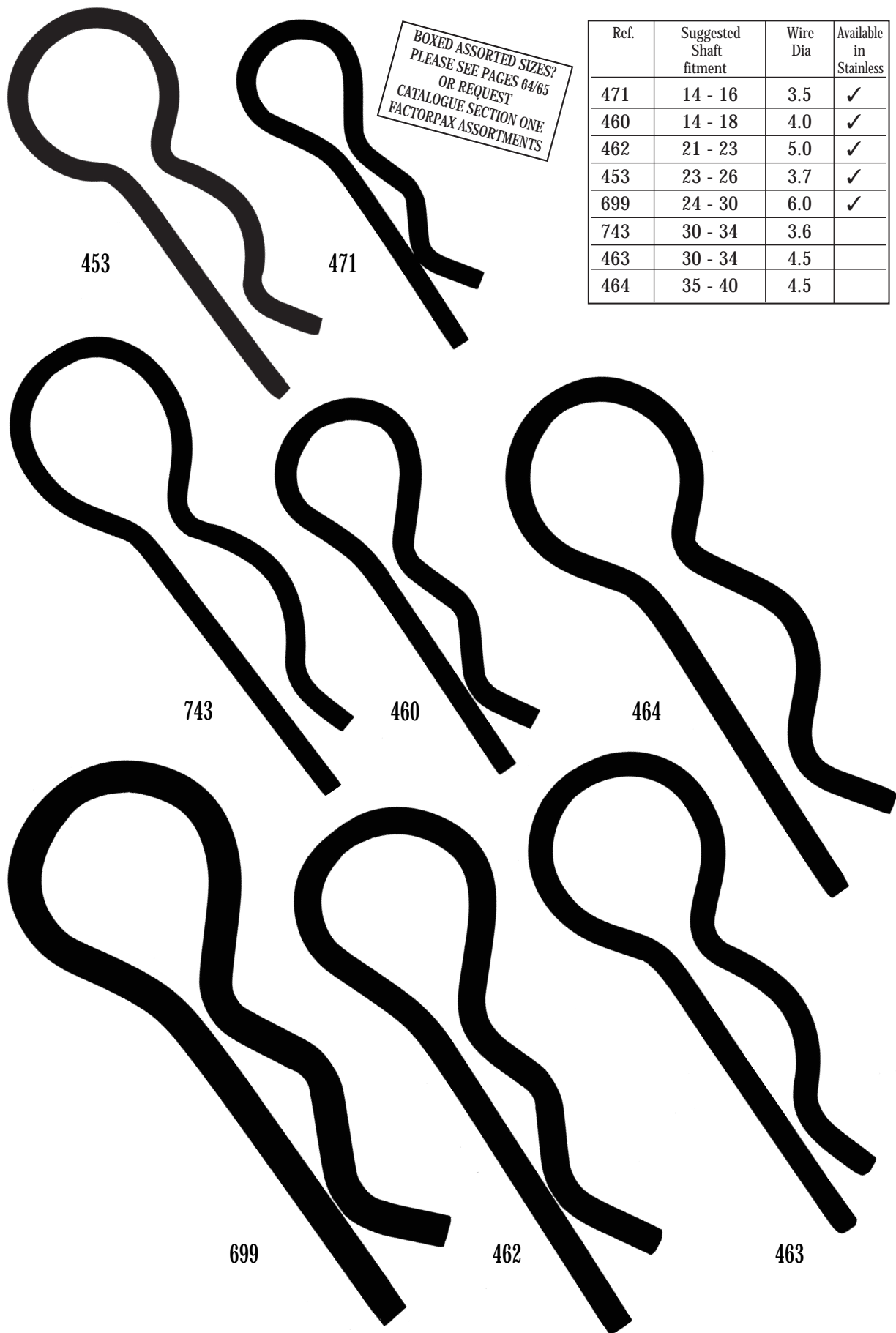
679

738

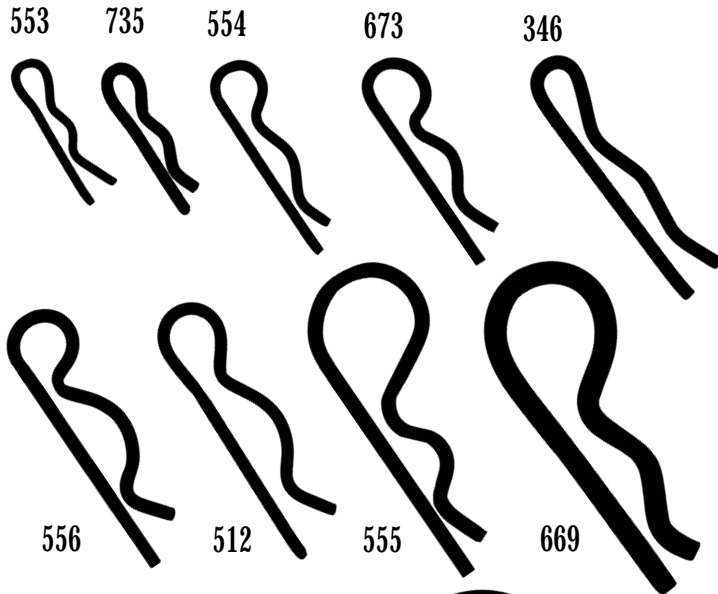
Note: Where more than one size is a possibility - we highlight the most used e.g. 9-11 x 2mm No 455

BOXED ASSORTED SIZES?  
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OR REQUEST  
CATALOGUE SECTION ONE  
FACTORPAX ASSORTMENTS

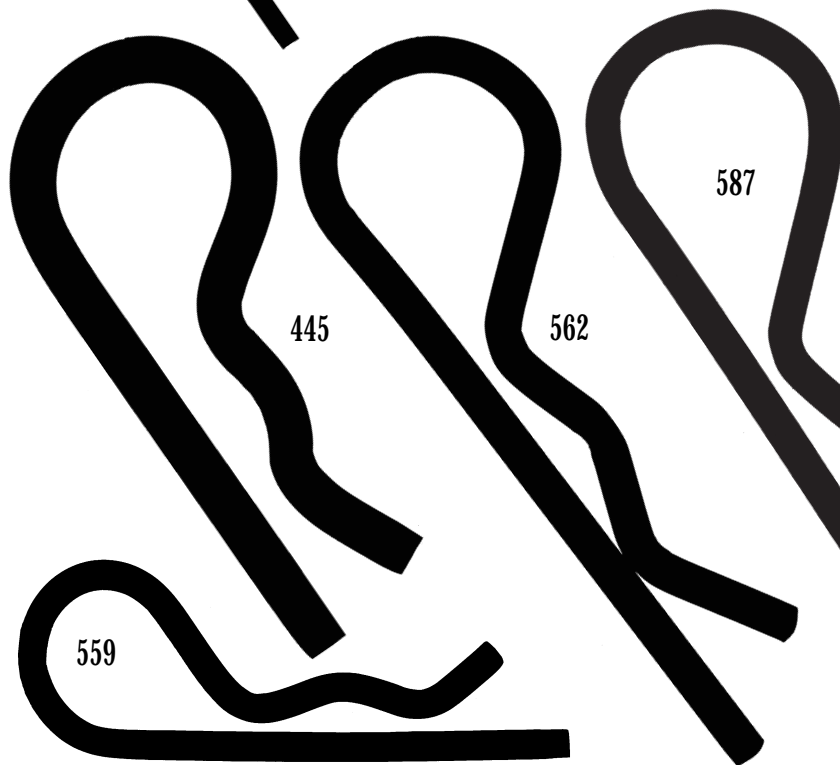
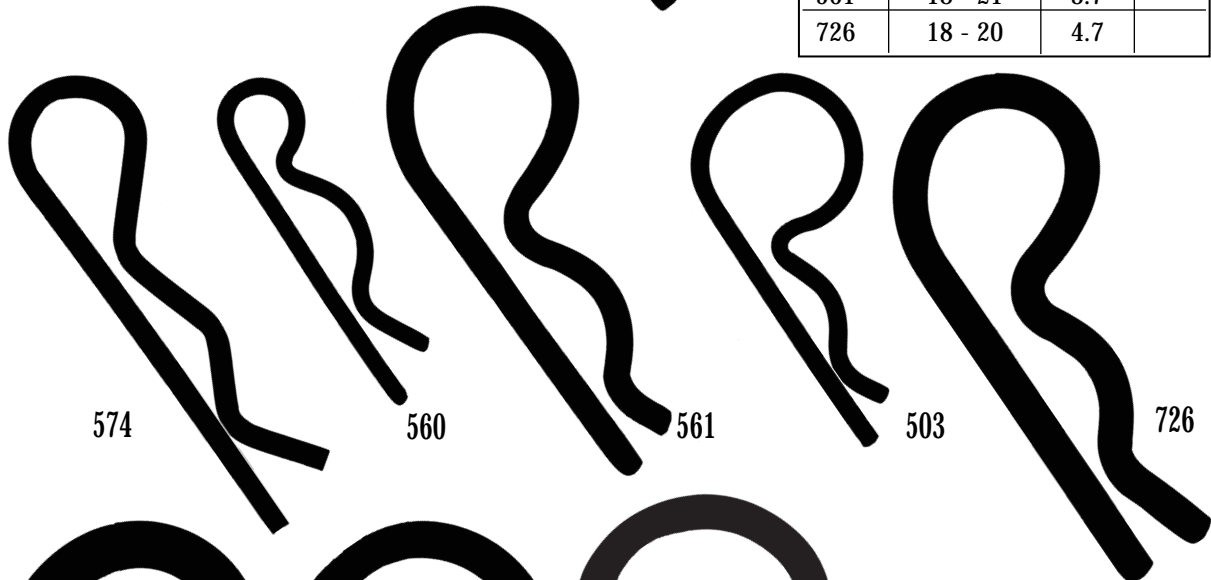
Ref.	Suggested Shaft fitment	Wire Dia	Available in Stainless
471	14 - 16	3.5	✓
460	14 - 18	4.0	✓
462	21 - 23	5.0	✓
453	23 - 26	3.7	✓
699	24 - 30	6.0	✓
743	30 - 34	3.6	
463	30 - 34	4.5	
464	35 - 40	4.5	



## SERIES 91

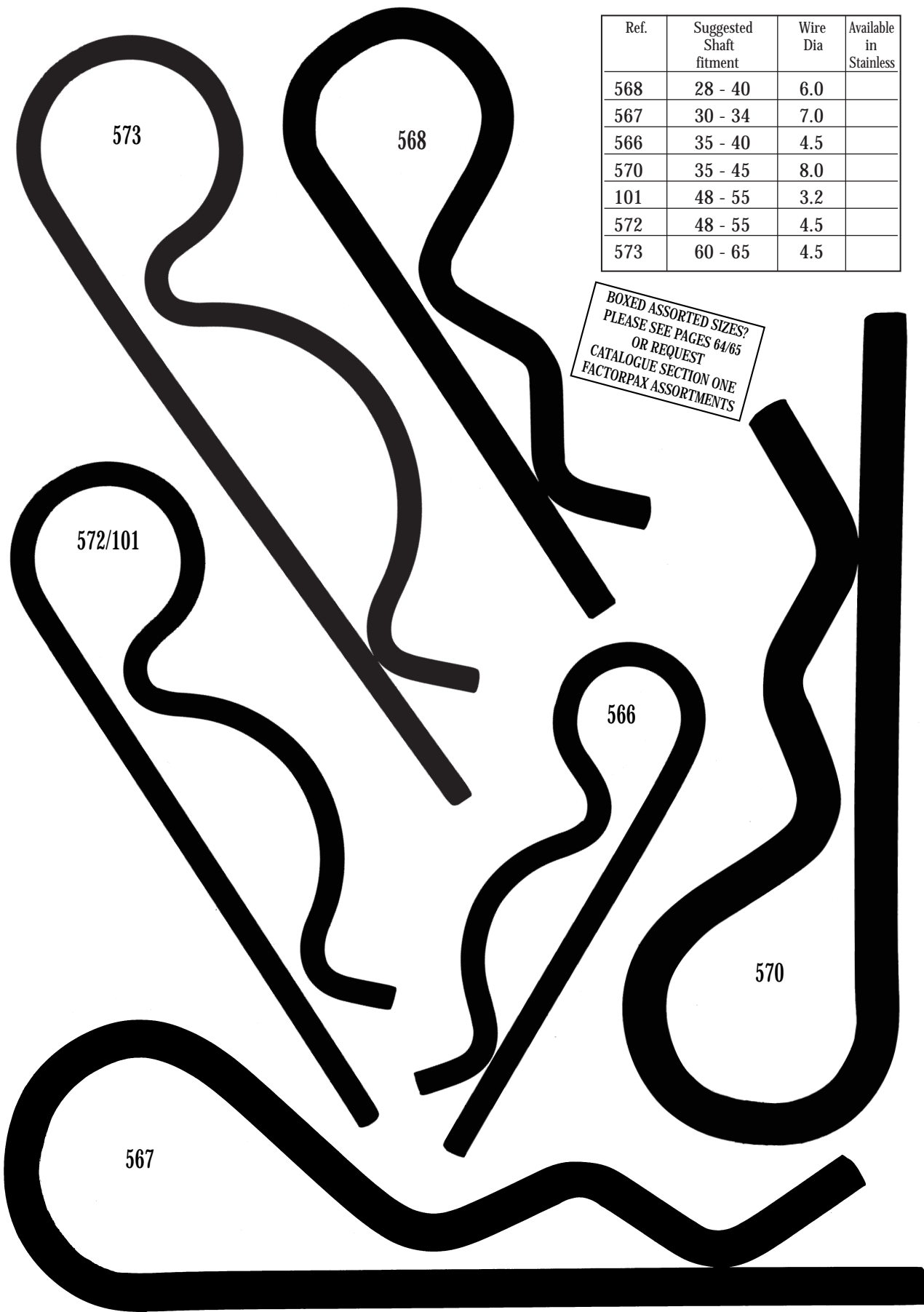


Ref.	Suggested Shaft fitment	Wire Dia	Available in Stainless
553	5 - 7	1.2	✓
735	5 - 7	1.6	
673	8 - 10	1.6	
554	9 - 12	1.4	
555	9 - 11	2.0	✓
669	9 - 11	3.0	
346	10 - 12	1.8	
503	10 - 12	2.5	
556	11 - 14	1.8	
512	12 - 14	1.6	
574	12 - 16	3.0	✓
560	18 - 21	2.3	
561	18 - 21	3.7	
726	18 - 20	4.7	



Ref.	Suggested Shaft fitment	Wire Dia	Available in Stainless
559	16 - 20	4.0	✓
587	18 - 24	4.5	
562	20 - 28	5.0	✓
445	28 - 32	6.3	

**BOXED ASSORTED SIZES?  
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FACTORPAX ASSORTMENTS**



Ref.	Suggested Shaft fitment	Wire Dia	Available in Stainless
568	28 - 40	6.0	
567	30 - 34	7.0	
566	35 - 40	4.5	
570	35 - 45	8.0	
101	48 - 55	3.2	
572	48 - 55	4.5	
573	60 - 65	4.5	

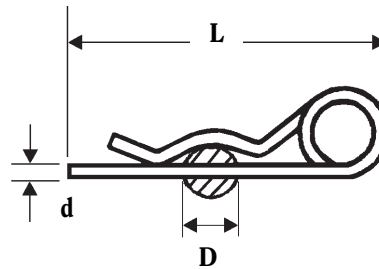
BOXED ASSORTED SIZES?  
 PLEASE SEE PAGES 64/65  
 OR REQUEST  
 CATALOGUE SECTION ONE  
 FACTORPAX ASSORTMENTS

## SERIES 90 & 92

### SERIES 90 DOUBLE COIL PIN

Has significant advantage

1. Because the double coil produces a complete ring - it is much safer to attach a lanyard.
2. The Double Coil increases its elasticity and so gives wider size coverage.



Standard Material is High Carbon Steel with Zinc Plate Finish.  
Stainless Steel is to special order only.

SERIES 90 - DOUBLE COIL				
D	W	L	kg/100	Box Qty
8 - 14	2.0	52	.46	100
10 - 16	2.5	52	.70	
14 - 20	3.0	74	1.24	
17 - 24	4.0	96	2.68	
18 - 30	5.0	118	3.42	
24 - 36	6.0	140	7.72	50
26 - 40	7.0	162	14.26	
28 - 40	8.0	168	18.67	

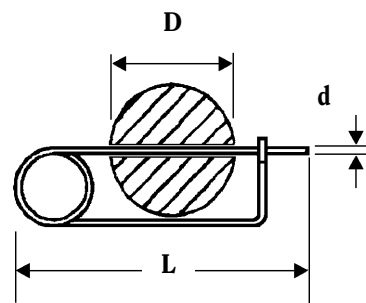
Dimension 'L' is for guidance only.

BOXED ASSORTED SIZES?  
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CATALOGUE SECTION ONE  
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### SERIES 92 SAFETY PIN

This is a sound engineering catch-all.  
Can be fitted through all shapes & Sizes  
and you know it is going to hold.

SERIES 92 - SAFETY PIN				
D	W	L	kg/100	Box Qty
20	1.6	38	.52	100
20	2.0	40	.76	
30	2.0	55	.79	
30	2.6	58	1.21	
40	2.6	68	1.61	50
40	3.3	77	2.26	
50	4.5	98	3.87	
60	5.0	115	6.82	



Standard material is High Carbon Steel with Zinc Plated Finish.

Some sizes available in Stainless.

Stock Range is being broadened please enquire.

## SERIES 96 & 97

### INTRODUCTION

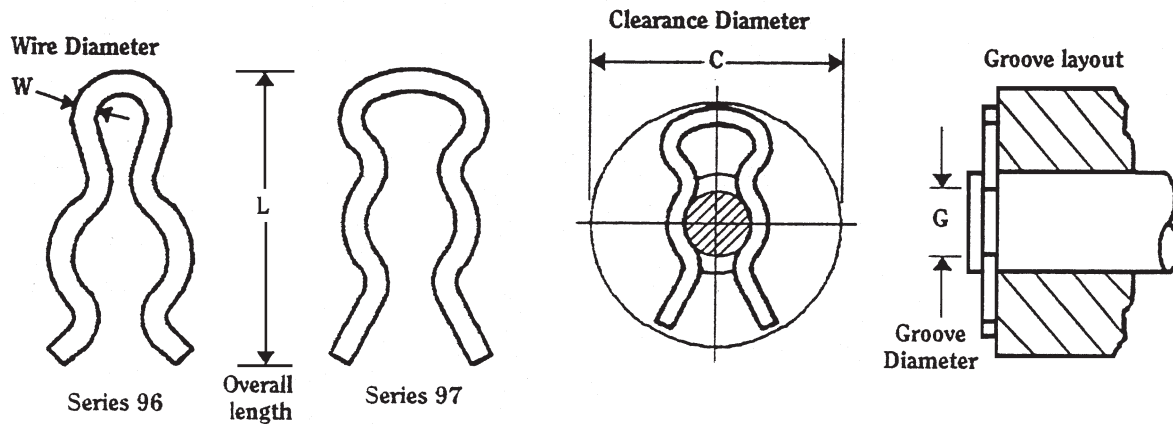
Clamp Type Retaining Pins are an inexpensive, easy to install and remove, Spring Steel Wire retention or location device. They are related to the "Peg Type" range as generally referred to below. No special assembly or removal Tooling is required, and radial clearance from the location groove position is the only other element to note.

### DIMENSIONS AND SPECIFICATION

Specification is by Series, Groove Diameter and Wire diameter

e.g. Series 96 0.440 x 0.056

Dimensions and weights are tabulated below.



### DIMENSIONS INCHES & WEIGHTS - SERIES 96 & 97

G	W	L	C	Series	Kg/100	Finish	Box Qty
0.080	0.022	0.41	0.43	A96	.01	Blued	1000
0.135	0.036	0.47	0.49	A97	.01	Bzp	
0.170	0.036	0.50	0.52	A97	.01	Phos	
0.195	0.040	0.52	0.36	A97	.02	Bzp	
0.300	0.056	0.93	0.89	A97	.03	Bzp	
0.390	0.056	0.85	0.95	A96	.06	Bzp	500
0.500	0.064	1.13	1.26	A96	.12	Blued	
0.500	0.120	1.72	1.86	A96	.60	Phos	
0.781	0.125	2.06	2.30	A96	.90	Bzp	100

## RETAINING PINS (ALL)

### SERIES 89, 90, 91, 92, 96, 97

BOXED ASSORTED SIZES?  
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### STANDARDS

There is very little by way of National Standards for this series of product. DIN 11024 does start to address a few of the popular sizes, but our own Factory Standards are the basis for most output.

### MATERIAL AND FINISH

Either High Carbon Spring Steel, generally Zinc Plated, or Stainless Steel.