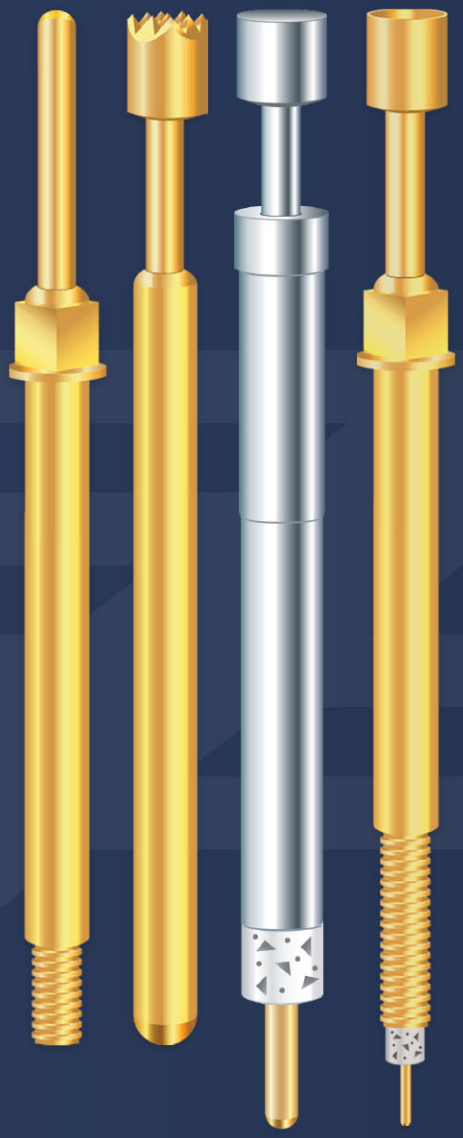
LONE STAR INDUSTRIAL®



SPRING TEST PROBES

CATALOG 13

MADE IN THE U.S.A.

LONE STAR INDUSTRIAL
CORPORATION OF TEXAS, INC.

Dear Customer,

Since 1977, Lone Star Industrial has provided products that are used throughout the world in all types of electronic assembly operations.

Beginning with its original founders, Ralph and Bob Navar, Lone Star Industrial has been involved with resolving problems faced by our customers. The individualized care shown by them continues with this new generation of owners.

We continue to dedicate our efforts to produce high quality products which will comply with the most demanding requirements found in today's marketplace.

The spring test probes and switch test probes seen in this catalog will meet your needs for quality and delivery at a competitive cost. We are proud to carry on the tradition of products made in the USA.

We have enjoyed working with our established customers and look forward to a long and prosperous relationship working with you.

Mark L. Atchley
President
Lone Star Industrial

Joann Navar
Vice-President
Lone Star Industrial

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Design

The creation of a test probe starts here. It must meet or exceed the customer's expectations. Our designers use their combined product performance experience and engineering knowledge to develop the best suited test probe for a given application.

Materials

Barrel:
This is a fundamental component in the operation and life of the test probe. Besides containing all the internal parts it must resist damage caused by impact, installation forces and wear caused by the friction of the moving plunger and spring. The barrel must also be a good electrical conductor. We use gold plating for minimum resistance, as required by the electronics industry, or nickel plating as used by the wire harness industry.

Plunger:
Our plungers are made of heat treated beryllium copper. This material resists bending forces and wear. We also use steel for economy in the larger sized probes. The plungers are gold or nickel plated as required by the user.

Spring:
This element can be considered as the heart of the spring test probe. It must retain the same force characteristics after one million cycles as it had when it was first installed. It must also have a strong resistance to corrosion. Corrosion on the spring will alter its designed force. The stainless steel and music wire that we use in our springs meets this criteria satisfactorily, assuring a long spring test probe life.

Concepts

We are well aware that in a number of cases, spring test probes are subjected to conditions that are not considered normal. To remedy these conditions, Lone Star Industrial has fortified its spring test probes with the following features:

- Thicker walled barrels.
- Minimum clearance between plungers and barrels.
- Contact points with sufficient surface area.
- The interior of the spring test probe must be kept as clean as possible. Abrasive material will shorten its functional life and in extreme cases cause the plunger to stick. We install a chrome steel seal ball in the bottom of each barrel to keep out contaminants such as dust, airborne particles and solder residue.

Plunger Selection

There are three basic factors in selecting a plunger. They are plunger style, plunger diameter and barrel diameter. We recommend that the user always uses the largest diameter plunger and barrel possible, keeping in mind the space available on the particular application. Throughout the catalog we have specified the minimum centers for each spring test probe and switch probe.

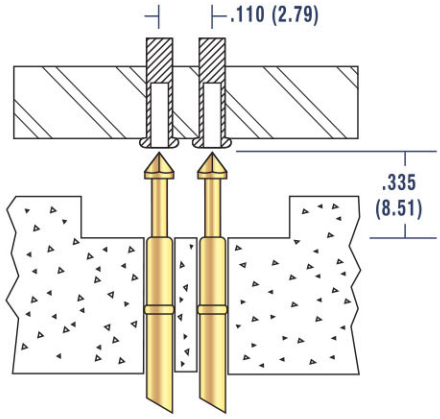
Keeping within the plunger's working travel will assure that the test probe will reach its designed cycle performance.

The plunger style to be selected must take into consideration whether the user is going to test leads, terminals, lands, pads, through holes or smooth surfaces. The user must also consider if contamination is an issue. Solder residue and greases used in water tight connectors pose a particular challenge. In some applications self-cleaning plungers should be considered. Self-cleaning plungers will shed any contaminants picked up from the components being tested.

Application Example

If the objective is to measure an electrical impulse between two round terminals with .045 (1.14) diameter holes and a center to center distance of .110 (2.79), several factors must be considered. The first step is to determine the best suited test probe. Be sure to take into consideration the center to center distance between the test points. Always use the largest spring test probe or switch probe with their respective receptacles that will fit into the application. The catalog specifies the minimum centers for each test probe. In this example we find that the best suited test probe for this application will be the LS054R series. The next consideration should be the distance between the surfaces where the spring test probes and the terminals are mounted. In the example shown, we see a minimum plunger length requirement of .335 (8.51).

Once a series has been selected the plunger style will be determined. Let us suppose that these terminals were exposed to several contaminants such as soldering flux, fingerprints or dust. Being concerned about possible contamination the user may want to contact the inside of the terminal where less deterrents to the flow of electric current may be found. We suggest using an LS054R-427-N because the corners of the four-sided pyramid will act as "knives" which will penetrate through any contaminates.



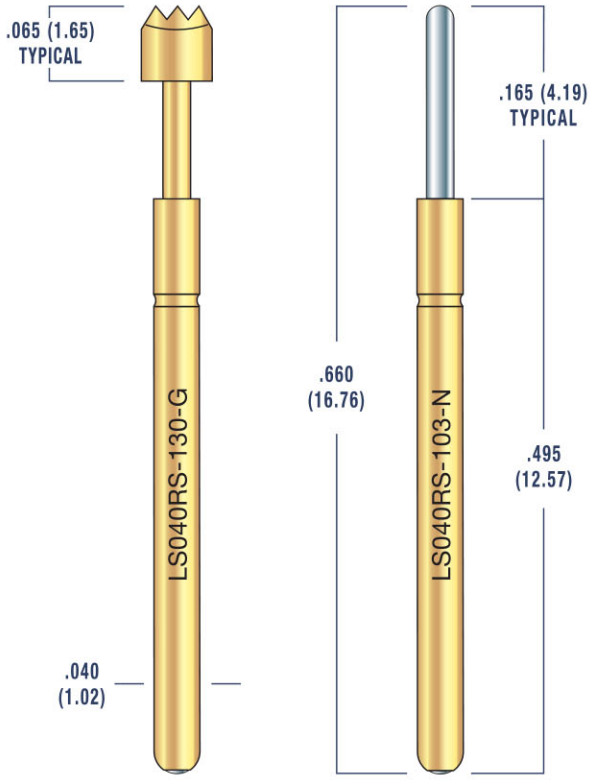
Style	Form	Recommended Application	Style	Form	Recommended Application
BULLET		CLEAN SURFACES. DOES NOT LEAVE MARKS.	CROWN		CONTAMINATED SURFACES. SELF-CLEANING.
LARGE CONCAVE		THIN OR FLEXIBLE LEADS AND TERMINALS.	ROUND		CLEAN SURFACES. DOES NOT LEAVE MARKS.
LARGE FLAT		NONSPECIFIC CONTACT POINTS. DOES NOT LEAVE MARKS.	SERRATED		THIN OR FLEXIBLE NONSPECIFIC CONTACT POINTS. FLAT SURFACES.
CONVEX		THROUGH HOLES, PADS, CLEAN SURFACES.	POINT		SPECIFIC CONTACT POINTS. LIMITED SPACE. CONTAMINATED SURFACES.
PYRAMID		THROUGH HOLES AND PADS. SELF-CLEANING.	SMALL CONCAVE		SMALL LANDS AND PADS. LIMITED SPACE. CLEAN SURFACES.

ELECTRONIC AND WIRE HARNESS

General Characteristics

- EASY INSTALLATION AND REMOVAL OF CONTACT PINS.
- CONSERVES WIRE TERMINATION DURING CONTACT PIN CHANGE.
- EXCELLENT ELECTRICAL CONDUCTIVITY.
- LONG LIFE IN OPTIMUM CONDITIONS.

	HEAD DIAMETER
LS040RS-103	.024 (0.61)
LS040RS-106	.042 (1.07)
LS040RS-109	.024 (0.61)
LS040RS-112	.062 (1.57)
LS040RS-115 30°	.024 (0.61)
LS040RS-118 90°	.062 (1.57)
LS040RS-121 60°	.062 (1.57)
LS040RS-124 90°	.024 (0.61)
LS040RS-127 90°	.062 (1.57)
LS040RS-130	.062 (1.57)
LS040RS-133	.062 (1.57)



Ordering Example: LS040RS-130-G-4.7

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.075 (1.91)
Working Travel:	.070 (1.78)
Current Rating:	3 Amps

MATERIALS

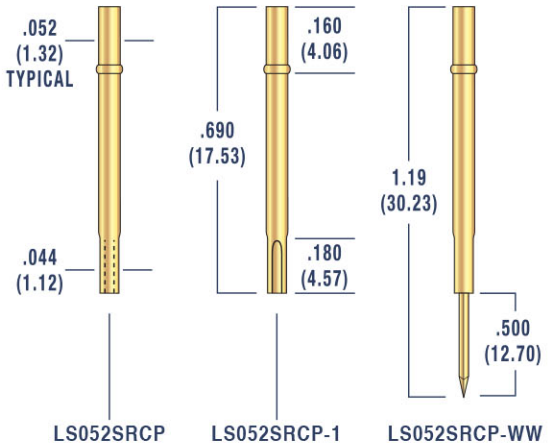
G N

Plunger:	Heat Treated BeCu, Gold or Nickel Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.
Receptacle:	Nickel Silver, Gold Plated.

SPRING FORCES

	Oz. (N) At .070 (1.78) Travel	PRELOAD
Standard	4.7 (1.31)	1.4 (0.39)
Optional	2.3 (0.64)	1.0 (0.28)
Optional	7.0 (1.95)	2.1 (0.58)

RECEPTACLES



LS052SRCP	LS052SRCP-1	LS052SRCP-WW
CRIMP	SOLDER CUP	WIRE WRAP SQUARE POST

Recommended Drill Size: .053/.055 (1.35/1.40)

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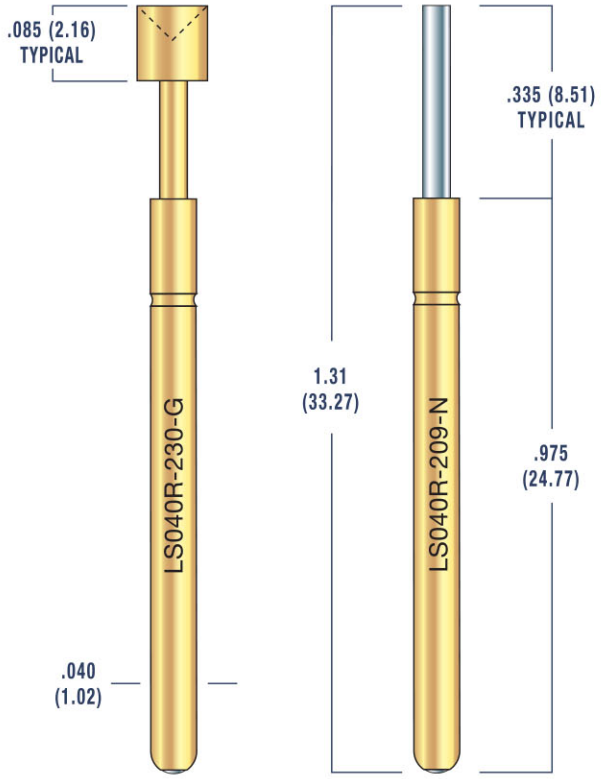
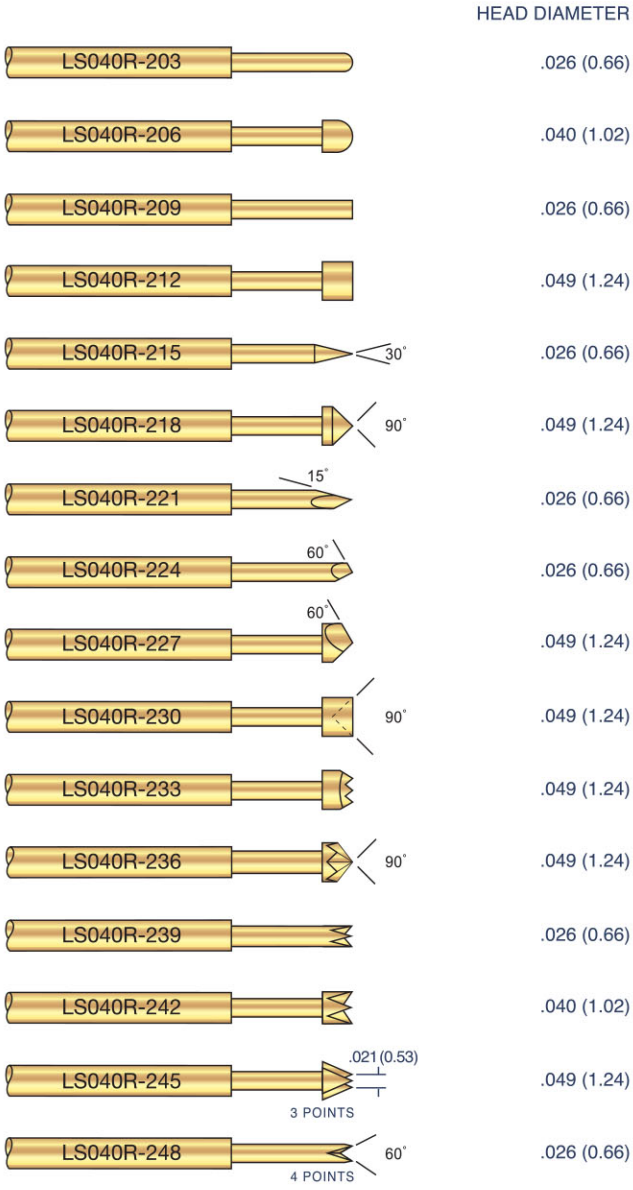
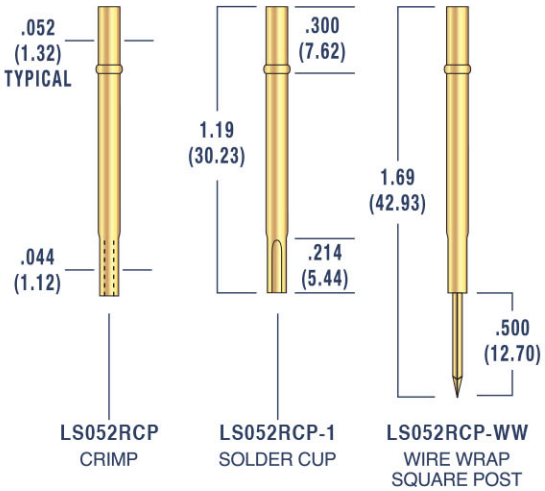




RECEPTACLES



Recommended Drill Size: .053/.055 (1.35/1.40)

Ordering Example: LS040R-230-G-4.7

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.075 (1.91)
Working Travel:	.170 (4.32)
Current Rating:	3 Amps

MATERIALS

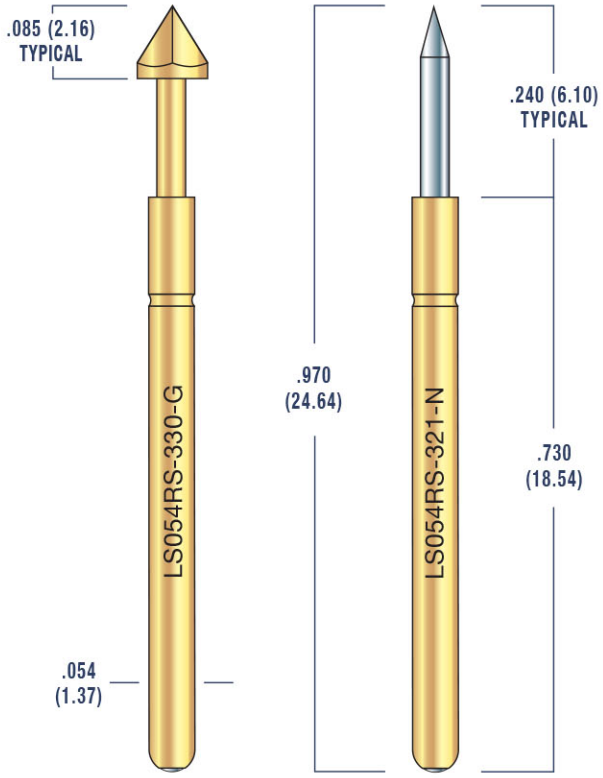
G N

Plunger:	Heat Treated BeCu, Gold or Nickel Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.
Receptacle:	Nickel Silver, Gold Plated.

SPRING FORCES

	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	4.7 (1.31)	1.4 (0.39)
Optional	2.3 (0.64)	1.0 (0.28)
Optional	7.0 (1.95)	2.1 (0.58)

	HEAD DIAMETER
LS054RS-303	.030 (0.76)
LS054RS-306	.040 (1.02)
LS054RS-309	.050 (1.27)
LS054RS-312	.030 (0.76)
LS054RS-315	.040 (1.02)
LS054RS-318	.075 (1.91)
LS054RS-321 30°	.030 (0.76)
LS054RS-324 30°	.040 (1.02)
LS054RS-327 90°	.075 (1.91)
LS054RS-330 60°	.075 (1.91)
LS054RS-333 60°	.075 (1.91)
LS054RS-336 90°	.030 (0.76)
LS054RS-339 90°	.040 (1.02)
LS054RS-342 90°	.075 (1.91)
LS054RS-345	.075 (1.91)
LS054RS-348 90°	.075 (1.91)
LS054RS-351	.060 (1.52)



Ordering Example: LS054RS-330-G-3.7

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.100 (2.54)
Working Travel:	.105 (2.67)
Current Rating:	4 Amps

MATERIALS

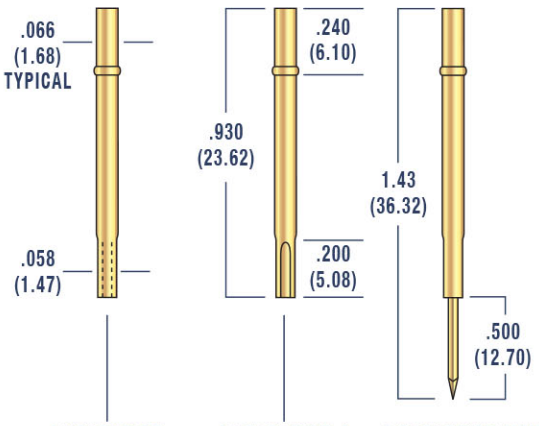
G N

Plunger:	Heat Treated BeCu, Gold or Nickel Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.
Receptacle:	Nickel Silver, Gold Plated.

SPRING FORCES

	Oz. (N) At .105 (2.67) Travel	PRELOAD
Standard	3.7 (1.03)	1.7 (0.47)
Optional	5.0 (1.39)	2.0 (0.56)
Optional	7.5 (2.09)	2.5 (0.70)

RECEPTACLES



LS066SRCP
WIRE CRIMP OR AMP TERMINAL 60885-2

LS066SRCP-1
SOLDER CUP

LS066SRCP-WW
WIRE WRAP SQUARE POST

Recommended Drill Size: .067/.069 (1.70/1.75)

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LS054R

MINIMUM CENTERS .100 (2.54)

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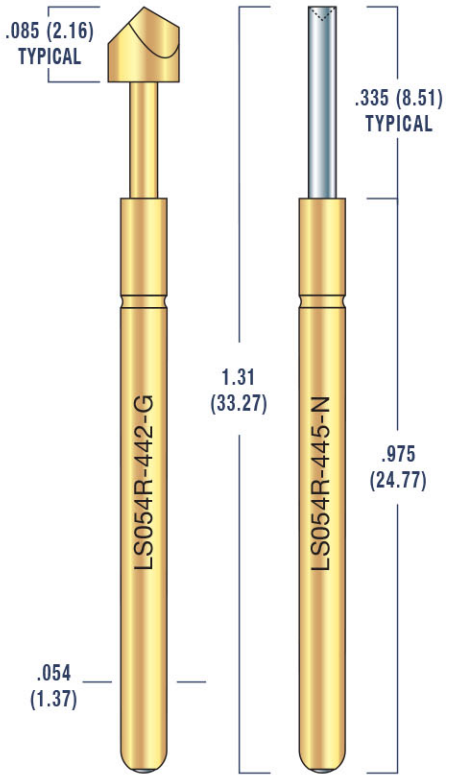

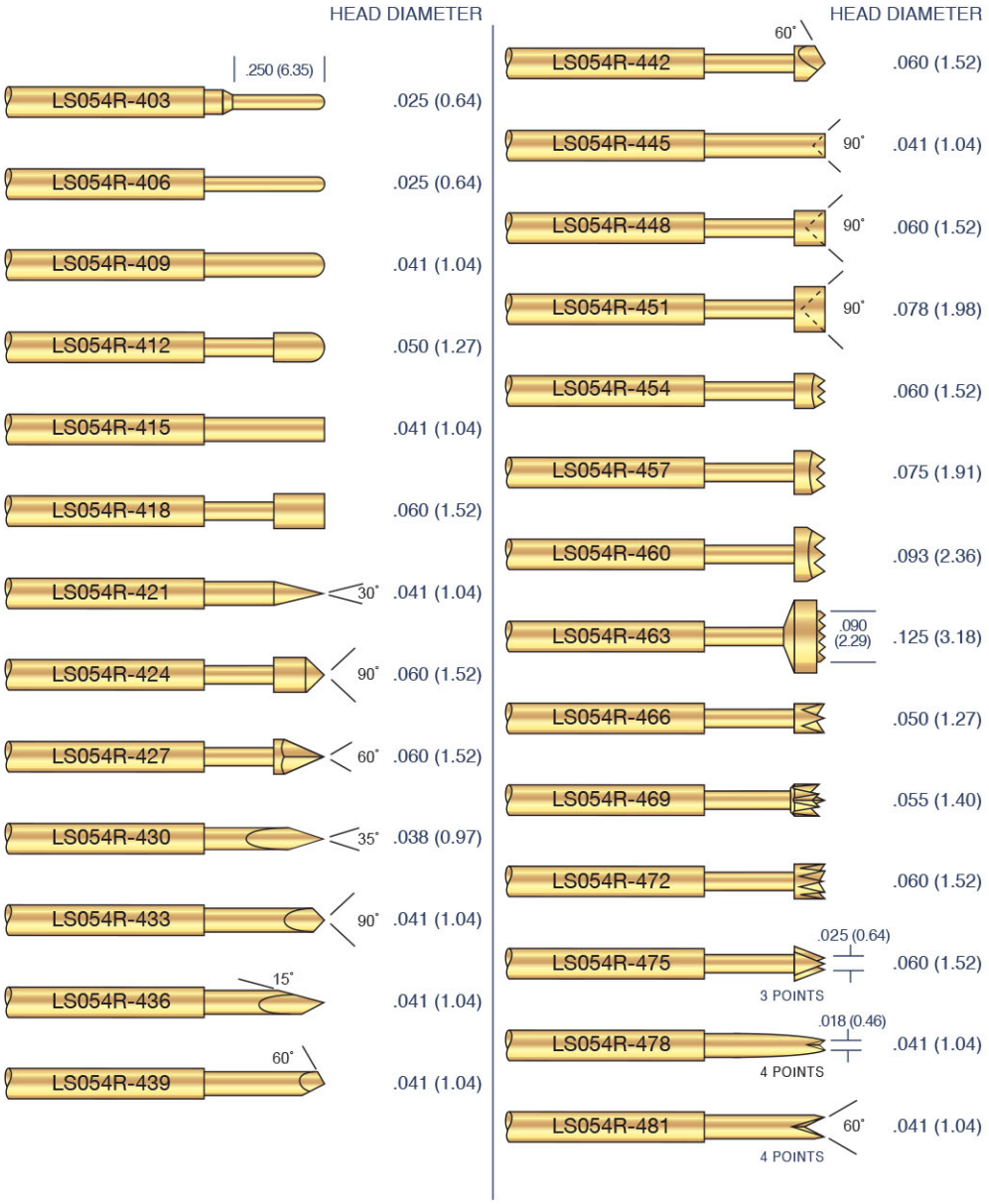

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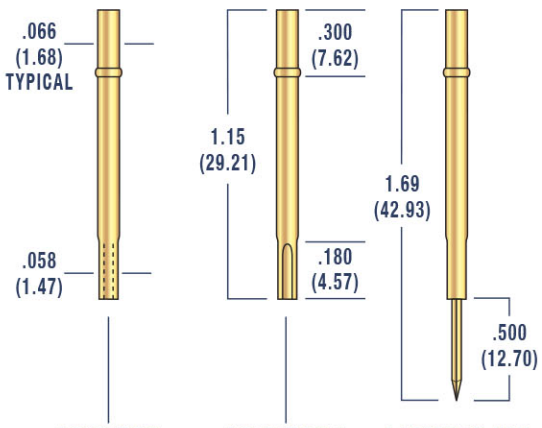


LS066RCP
WIRE CRIMP OR AMP TERMINAL 60885-2

LS066RCP-1
SOLDER CUP

LS066RCP-WW
WIRE WRAP SQUARE POST

Recommended Drill Size: .067/.069 (1.70/1.75)

Ordering Example: LS054R-442-G-4.6
Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.100 (2.54) except 460 and 463
Working Travel:	.170 (4.32)
Current Rating:	4 Amps

MATERIALS

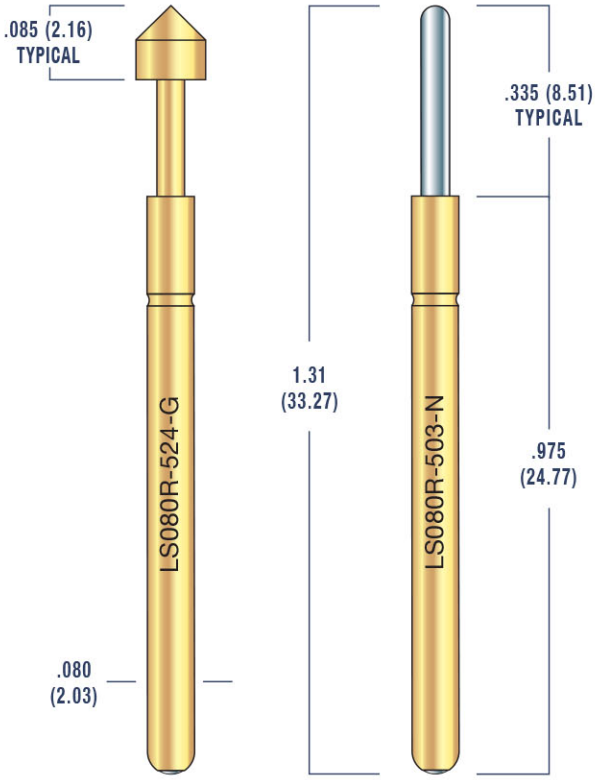
G N

Plunger:	Heat Treated BeCu, Gold or Nickel Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.
Receptacle:	Nickel Silver, Gold Plated.

SPRING FORCES

	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	4.6 (1.28)	1.7 (0.47)
Optional	3.5 (0.97)	1.0 (0.28)
Optional	7.0 (1.95)	2.0 (0.56)

	HEAD DIAMETER
LS080R-503	.050 (1.27)
LS080R-506	.062 (1.57)
LS080R-509	.066 (1.68)
LS080R-512	.050 (1.27)
LS080R-513	.066 (1.68)
LS080R-515	.100 (2.54)
LS080R-518 30°	.050 (1.27)
LS080R-521 30°	.066 (1.68)
LS080R-524 90°	.100 (2.54)
LS080R-527 60°	.100 (2.54)
LS080R-530 90°	.050 (1.27)
LS080R-533 90°	.100 (2.54)
LS080R-536	.100 (2.54)



Ordering Example: LS080R-524-G-4.7

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.125 (3.18)
Working Travel:	.170 (4.32)
Current Rating:	5 Amps

MATERIALS

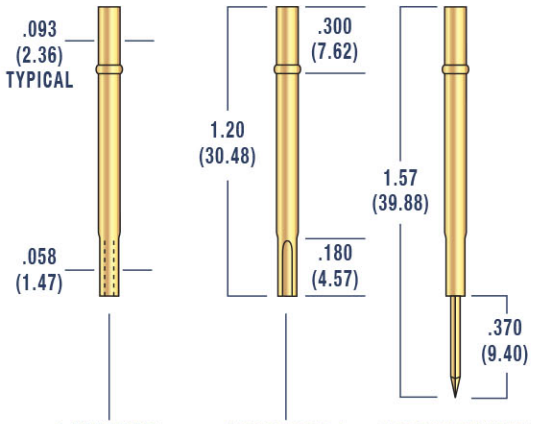
G N

Plunger:	Heat Treated BeCu, Gold or Nickel Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.
Receptacle:	Nickel Silver, Gold Plated.

SPRING FORCES

	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	4.7 (1.31)	1.7 (0.47)
Optional	10.0 (2.78)	3.0 (0.83)
Optional	16.0 (4.45)	4.5 (1.25)

RECEPTACLES



LS093RCP
WIRE CRIMP OR AMP TERMINAL 60885-2

LS093RCP-1
SOLDER CUP

LS093RCP-WW
WIRE WRAP SQUARE POST

Recommended Drill Size: .094/.095 (2.39/2.41)

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LS093R

MINIMUM CENTERS .184 (4.75)

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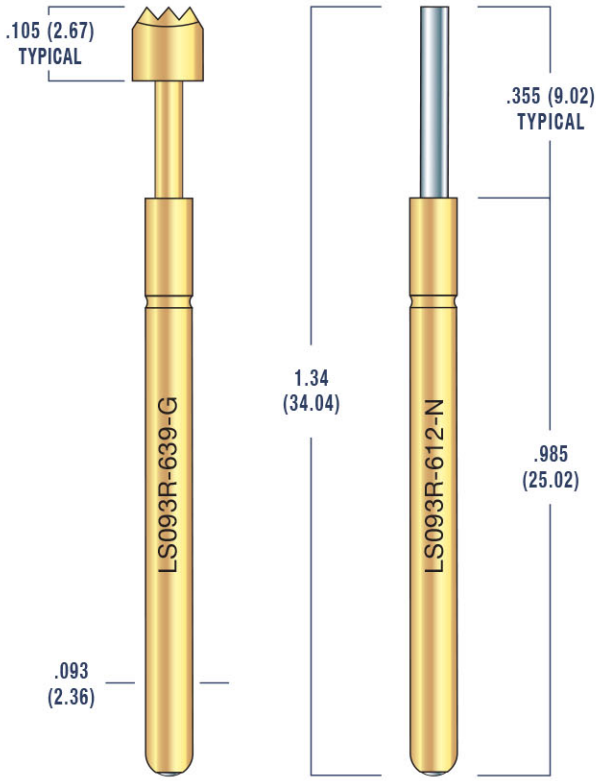
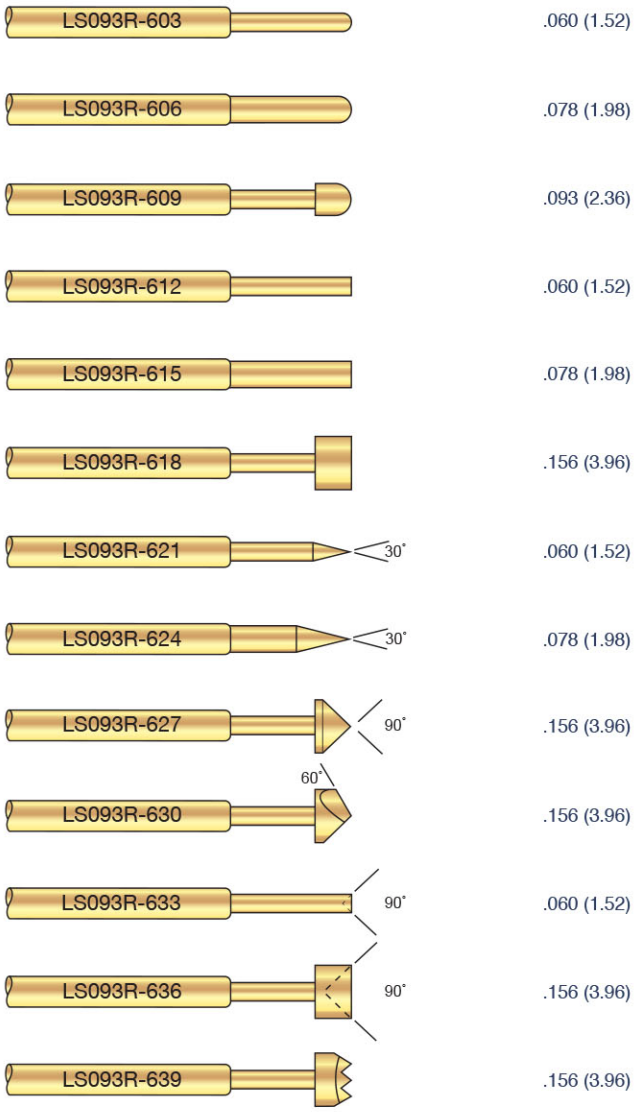
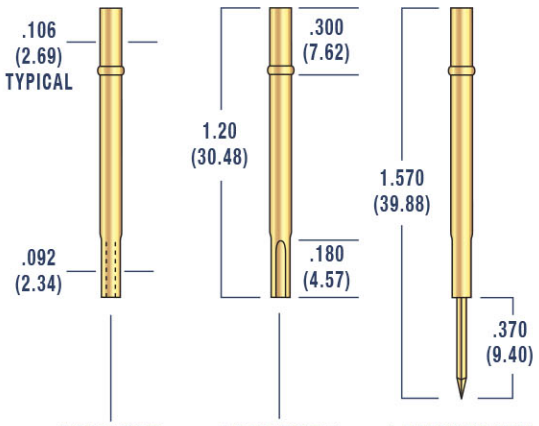


HEAD DIAMETER



RECEPTACLES



LS106RCP
WIRE CRIMP OR AMP TERMINAL 61260-1

LS106RCP-1
SOLDER CUP

LS106RCP-WW
WIRE WRAP SQUARE POST

Recommended Drill Size: .107/.108 (2.72/2.74)

Ordering Example: LS093R-639-G-5.4
Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.187 (4.75)
Working Travel:	.170 (4.32)
Current Rating:	6 Amps

MATERIALS

G N

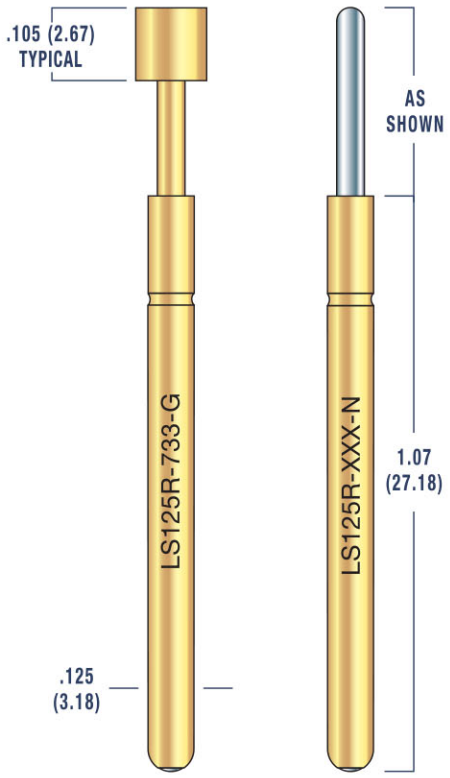
Plunger:	Heat Treated BeCu, Gold or Nickel Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.
Receptacle:	Nickel Silver, Gold Plated.

SPRING FORCES

	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	5.4 (1.50)	2.3 (0.64)
Optional	7.0 (1.95)	3.1 (0.86)
Optional	10.0 (2.78)	4.4 (1.22)

		HEAD DIAMETER
LS125R-703	.270 (6.86)	.032 (0.81)
LS125R-706	.270 (6.86)	.047 (1.19)
LS125R-709	.270 (6.86)	.055 (1.40)
LS125R-712	.410 (10.41)	.055 (1.40)
LS125R-715	.270 (6.86)	.057 (1.45)
LS125R-718	.270 (6.86)	.069 (1.75)
LS125R-721	.410 (10.41)	.069 (1.75)
LS125R-724	.270 (6.86)	.074 (1.88)
LS125R-727	.410 (10.41)	.074 (1.88)

			HEAD DIAMETER
LS125R-730	.355 (9.02)		.125 (3.18)
LS125R-733	.355 (9.02)		.156 (3.96)
LS125R-736	.355 (9.02)	30°	.080 (2.03)
LS125R-739	.270 (6.86)	90°	.074 (1.88)
LS125R-742	.295 (7.49)	90°	.120 (3.05)
LS125R-745	.355 (9.02)	90°	.156 (3.96)
LS125R-748	.355 (9.02)		.156 (3.96)
LS125R-751	.355 (9.02)	.062 (1.57)	.250 (6.35)
LS125R-754	.355 (9.02)	.035 (0.89)	.250 (6.35)



Ordering Example: LS125R-733-G-6.6

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.187 (4.75) except 751 and 754
Working Travel:	.170 (4.32)
Current Rating:	7 Amps

MATERIALS

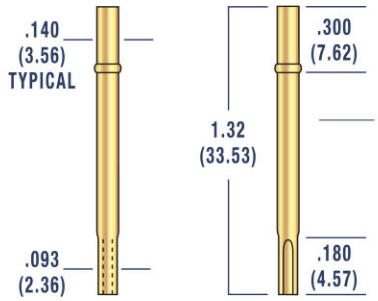
G N

Plunger:	Steel, except for 703, 736, 748, 751 and 754 which are Heat Treated BeCu, Gold or Nickel Plated as shown.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.
Receptacle:	Nickel Silver, Gold Plated.

SPRING FORCES

	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	6.6 (1.83)	2.2 (0.61)
Optional	16.0 (4.45)	6.1 (1.70)
Optional	32.0 (8.90)	10.0 (2.78)

RECEPTACLES



LS140RCP
WIRE CRIMP OR AMP TERMINAL 42827-2

LS140RCP-1
SOLDER CUP

Recommended Drill Size: .141/.142 (3.58/3.61)

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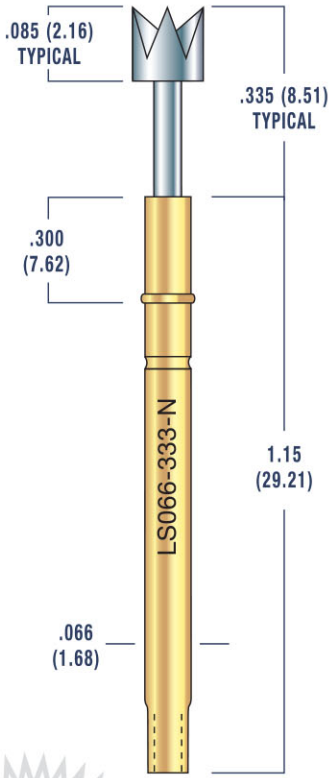
ONE PIECE PIN-RECEPTACLE COMBINATION

General Characteristics

- ONLY ONE PIECE IS REQUIRED.
- EXCELLENT ELECTRICAL CONDUCTIVITY.
- LONG LIFE IN OPTIMUM CONDITIONS.

		HEAD DIAMETER
LS066-303		.041 (1.04)
LS066-306		.050 (1.27)
LS066-309		.041 (1.04)
LS066-312		.060 (1.52)
LS066-315	30°	.041 (1.04)
LS066-318	90°	.060 (1.52)
LS066-321	60°	.060 (1.52)
LS066-324	90°	.041 (1.04)
LS066-327	90°	.060 (1.52)
LS066-330		.060 (1.52)
LS066-333		.050 (1.27)

COMBINATION



Receptacle Not Required

Recommended Drill Size: .067/.069 (1.70/1.75)

Ordering Example: LS066-333-N-4.6
Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.100 (2.54)
Working Travel:	.170 (4.32)
Current Rating:	4 Amps
Wire Crimp or Amp Terminal	60983-1

MATERIALS

Plunger:	Heat Treated BeCu, Nickel Plated.
Barrel:	Nickel Silver, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.

SPRING FORCES	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	4.6 (1.28)	1.7 (0.47)
Optional	2.0 (0.56)	1.0 (0.28)
Optional	3.5 (0.97)	1.0 (0.28)
Optional	7.0 (1.95)	2.0 (0.56)

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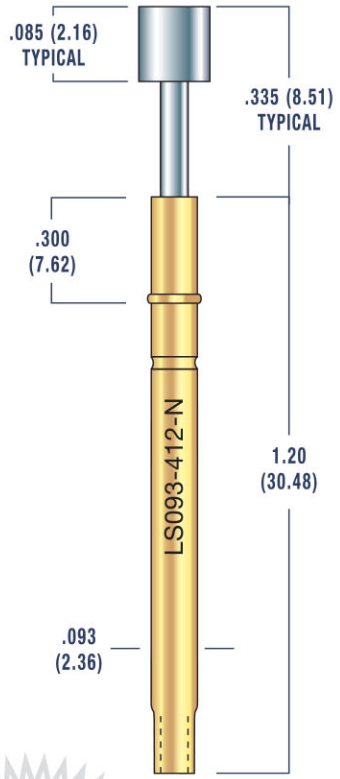
COMBINATION



Receptacle Not Required

Recommended Drill Size: .094/.095 (2.39/2.41)

Ordering Example: LS093-412-N-5.4

Plunger Plating - Spring Force

TECHNICAL DATA

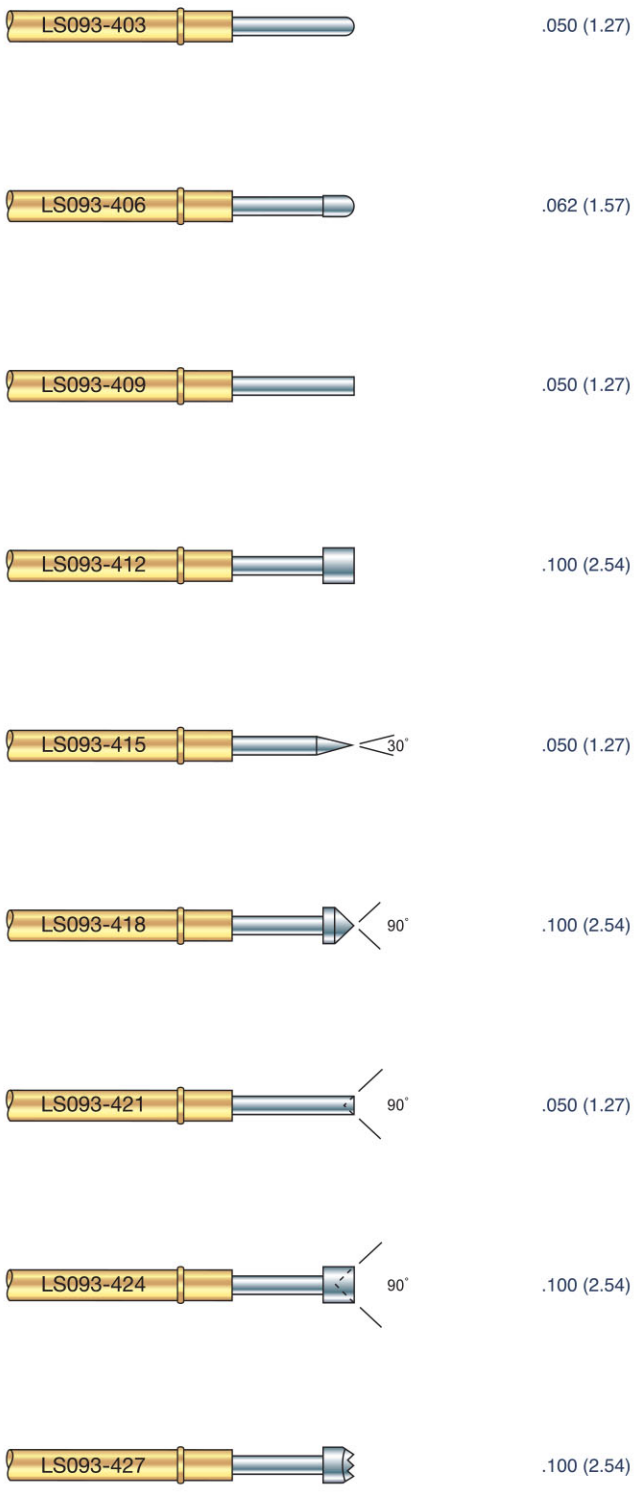
Minimum Centers:	.125 (3.18)
Working Travel:	.170 (4.32)
Current Rating:	5 Amps
Wire Crimp or Amp Terminal	60983-1

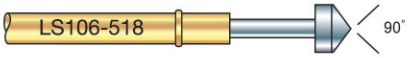
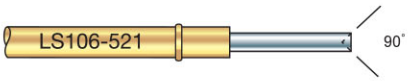
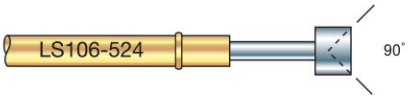
MATERIALS

Plunger:	Heat Treated BeCu, Nickel Plated.
Barrel:	Nickel Silver, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.

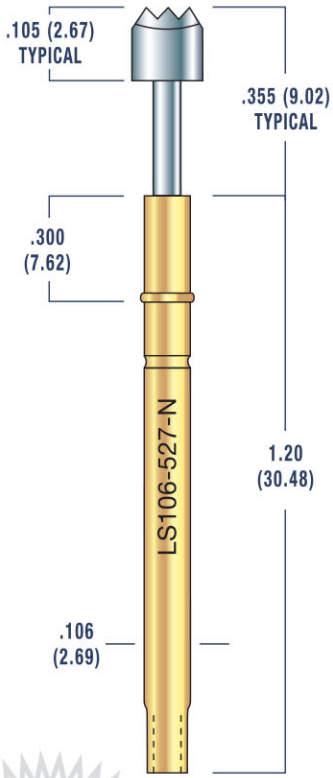
SPRING FORCES

	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	5.4 (1.50)	2.3 (0.64)
Optional	7.0 (1.95)	3.1 (0.86)
Optional	10.0 (2.78)	4.4 (1.22)



	HEAD DIAMETER
	.060 (1.52)
	.093 (2.36)
	.060 (1.52)
	.156 (3.96)
	.060 (1.52)
	.156 (3.96)
	.060 (1.52)
	.156 (3.96)
	.156 (3.96)

COMBINATION



Receptacle Not Required

Recommended Drill Size: .107/.108 (2.72/2.74)

Ordering Example: LS106-527-N-8.3
Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.187 (4.75)
Working Travel:	.170 (4.32)
Current Rating:	6 Amps
Wire Crimp or Amp Terminal	61260-1

MATERIALS

Plunger:	Heat Treated BeCu, Nickel Plated.
Barrel:	Nickel Silver, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.

SPRING FORCE	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	8.3 (2.31)	3.5 (0.97)

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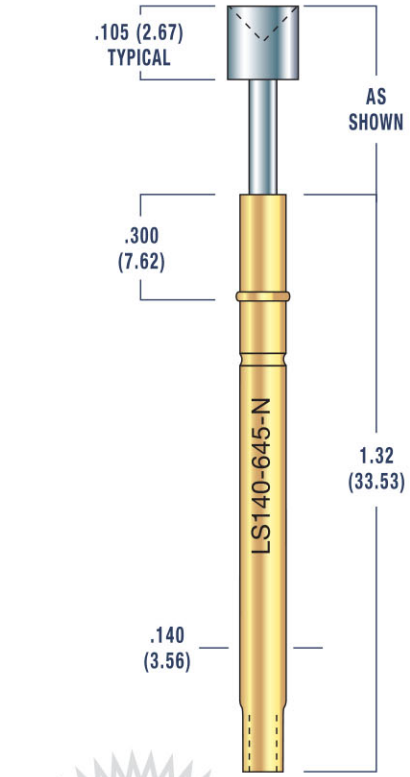
COMBINATION



Receptacle Not Required

Recommended Drill Size: .141/.142 (3.58/3.61)

Ordering Example: LS140-645-N-9.6

Plunger Plating - Spring Force

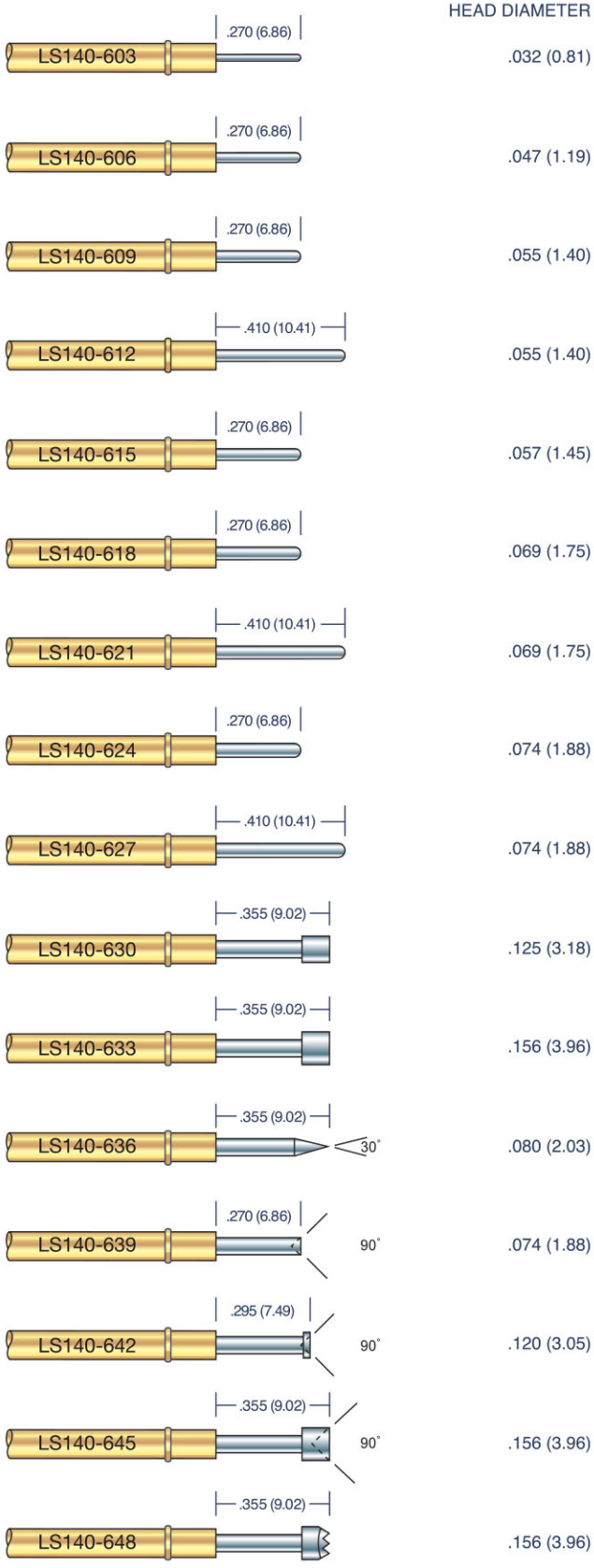
TECHNICAL DATA

Minimum Centers:	.187 (4.75)
Working Travel:	.170 (4.32)
Current Rating:	7 Amps
Wire Crimp or Amp Terminal	42827-2

MATERIALS

Plunger:	Steel, Nickel Plated, except for 603, 636 and 648 which are Heat Treated BeCu, Nickel Plated.
Barrel:	Nickel Silver, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.

SPRING FORCE	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	9.6 (2.67)	4.5 (1.25)



MINIMUM RESISTANCE

General Characteristics

- MINIMUM ELECTRICAL RESISTANCE.
- LOW IMPEDANCE.
- CONDUCTS HIGHER VOLTAGE AND CURRENT.

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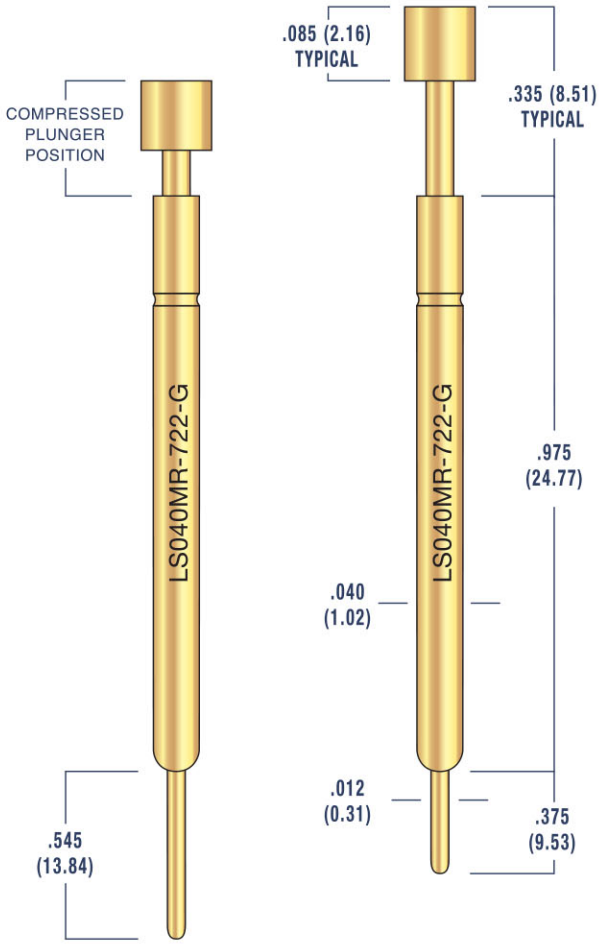
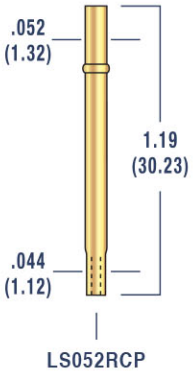
MINIMUM RESISTANCE



RECEPTACLE



Recommended Drill Size: .053/.055 (1.35/1.40)

	HEAD DIAMETER
LS040MR-713	.026 (0.66)
LS040MR-716	.040 (1.02)
LS040MR-719	.026 (0.66)
LS040MR-722	.049 (1.24)
LS040MR-725 30°	.026 (0.66)
LS040MR-728 90°	.049 (1.24)
LS040MR-731 60°	.026 (0.66)
LS040MR-734 60°	.049 (1.24)
LS040MR-737 90°	.026 (0.66)
LS040MR-740 90°	.049 (1.24)
LS040MR-743	.049 (1.24)
LS040MR-746 .025 (0.64) 3 POINTS	.049 (1.24)
LS040MR-749 60° 4 POINTS	.026 (0.66)

Ordering Example: LS040MR-722-G-4.7

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.075 (1.91)
Working Travel:	.170 (4.32)
Current Rating:	4 Amps

MATERIALS

Plunger:	Heat Treated BeCu, Gold Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Receptacle:	Nickel Silver, Gold Plated.

SPRING FORCES	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	4.7 (1.31)	1.4 (0.39)
Optional	2.3 (0.64)	1.0 (0.28)
Optional	7.0 (1.95)	2.1 (0.58)

	HEAD DIAMETER
LS054MR-813	.041 (1.04)
LS054MR-816	.050 (1.27)
LS054MR-819	.041 (1.04)
LS054MR-822	.060 (1.52)
LS054MR-825 30˚	.041 (1.04)
LS054MR-828 90˚	.060 (1.52)
LS054MR-831 60˚	.060 (1.52)
LS054MR-834 90˚	.041 (1.04)
LS054MR-837 35˚	.041 (1.04)
LS054MR-840 60˚	.060 (1.52)
LS054MR-843 90˚	.041 (1.04)
LS054MR-846 90˚	.060 (1.52)
LS054MR-849	.060 (1.52)
LS054MR-852	.050 (1.27)
LS054MR-855 .025 (0.64) 3 POINTS	.060 (1.52)

Ordering Example: LS054MR-828-G-4.6
Plunger Plating - Spring Force

TECHNICAL DATA

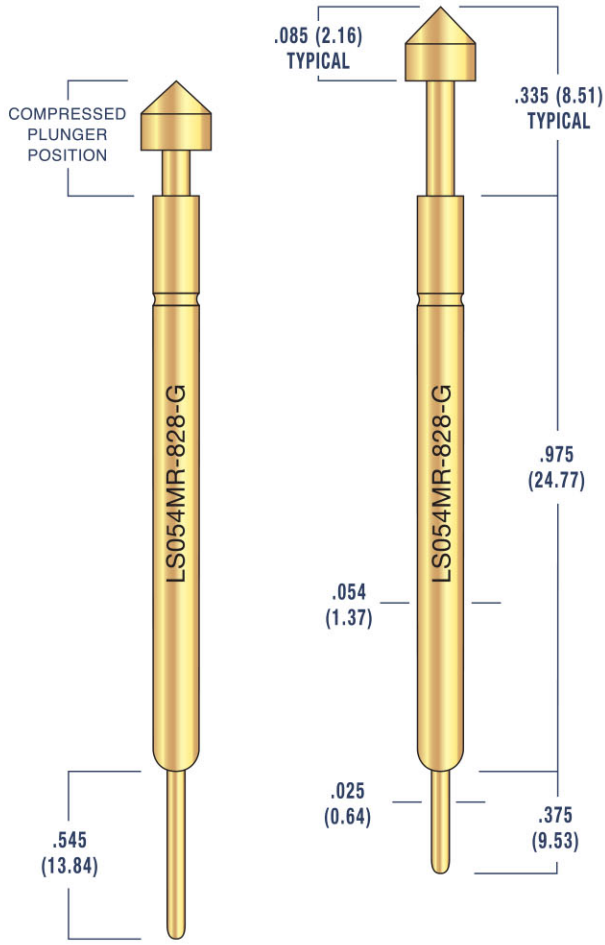
Minimum Centers:	.100 (2.54)
Working Travel:	.170 (4.32)
Current Rating:	5 Amps

MATERIALS

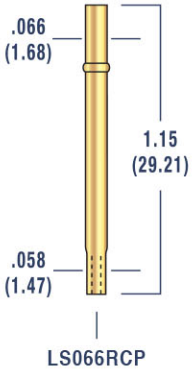
Plunger:	Heat Treated BeCu, Gold Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Receptacle:	Nickel Silver, Gold Plated.

SPRING FORCES	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	4.6 (1.28)	1.7 (0.47)
Optional	3.5 (0.97)	1.0 (0.28)
Optional	7.0 (1.95)	2.0 (0.56)

MINIMUM RESISTANCE



RECEPTACLE



Recommended Drill Size: .067/.069 (1.70/1.75)

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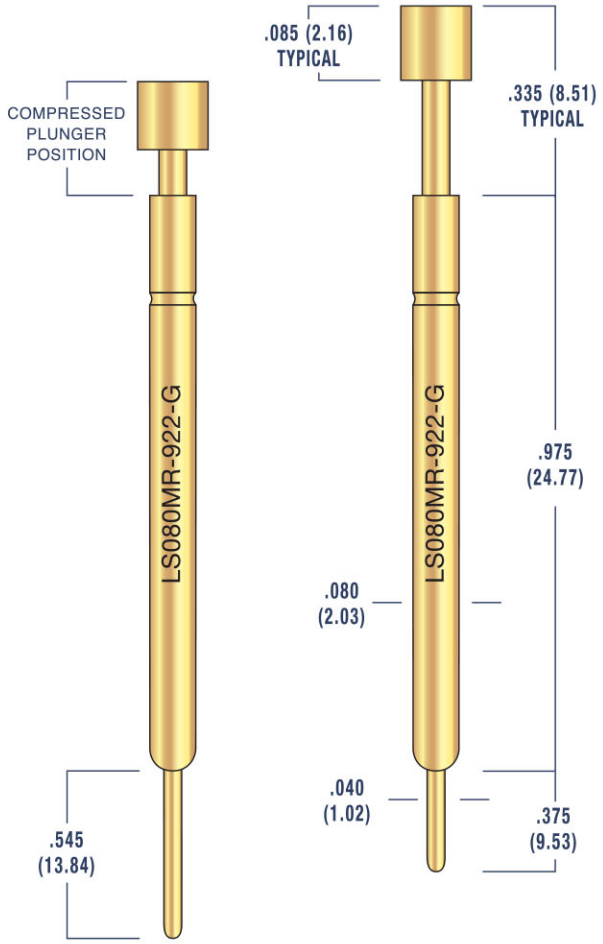
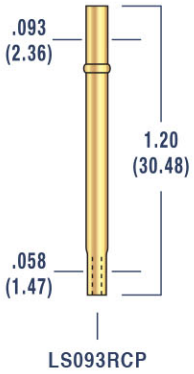
MINIMUM RESISTANCE

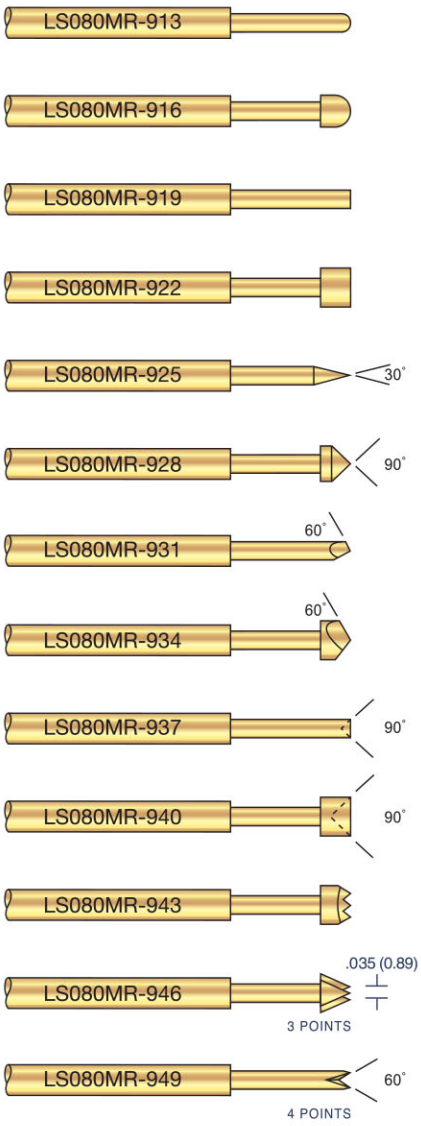


RECEPTACLE



Recommended Drill Size: .094/.095 (2.39/2.41)

HEAD DIAMETER



Ordering Example: LS080MR-922-G-6.2

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.125 (3.18)
Working Travel:	.170 (4.32)
Current Rating:	6 Amps

MATERIALS

Plunger:	Heat Treated BeCu, Gold Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Receptacle:	Nickel Silver, Gold Plated.

SPRING FORCES

	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	6.2 (1.72)	2.5 (0.70)
Optional	4.0 (1.11)	1.8 (0.50)
Optional	16.0 (4.45)	4.5 (1.25)

WIRE HARNESS

General Characteristics

- THREADED PINS FOR QUICK INSTALLATION AND REMOVAL.
- IDEAL FOR HEAVY DUTY APPLICATIONS.
- MECHANICALLY STRONG.
- EASY WIRE CONNECTION.

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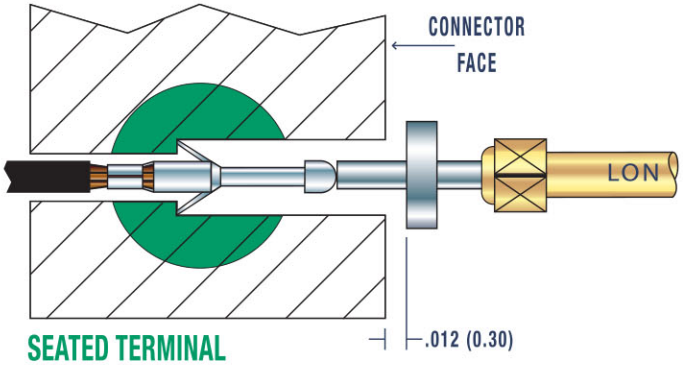
ATTENTION WIRE HARNESS PEOPLE

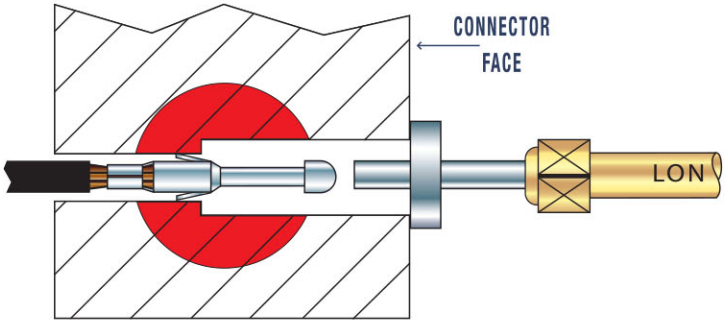
WE HAVE THE SOLUTION TO FINDING NON-SEATED TERMINALS. AVOIDS DAMAGING FEMALE TERMINALS.



SEATED TERMINAL

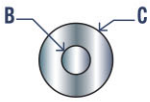
The distance between the Seated Terminal and the Connector Face is less than the Probe's Dimension 'A' allowing Electrical Contact.

'A' is determined by adding .012 (0.30) to the distance between the Seated Terminal and the Connector Face.



NON-SEATED TERMINAL

The distance between the Non-Seated Terminal and the Connector Face exceeds the Probe's Dimension 'A' causing the Harness to fail Electrical Test.



A= Plunger Length past the Hat

B= Plunger Diameter

C= Hat Diameter

D= Plunger Length

TO ORDER: Inform us of A, B, C, D and Barrel Diameter

BARREL DIAMETER	BARREL LENGTH	RECEPTACLES
.054 (1.37)	.827 (21.00)	LS066THDRCP-K
.065 (1.65)	1.08 (27.43)	LS079THDRCP-K
.076 (1.93)	1.45 (36.83)	Not Required
.104 (2.65)	.787 (20.00)	LS118THDRCP, LS118THDRCP-K

MATERIALS

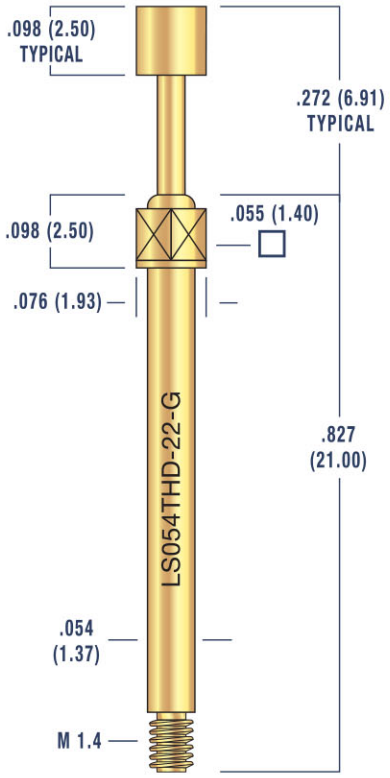
Plunger:	Steel or BeCu, Nickel Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Receptacle:	Brass, Gold Plated.

SPRING FORCES

Standard

	HEAD DIAMETER
LS054THD-10	.026 (0.65)
LS054THD-13	.030 (0.75)
LS054THD-16	.049 (1.25)
LS054THD-19	.030 (0.75)
LS054THD-22	.071 (1.80)
LS054THD-25 30°	.030 (0.75)
LS054THD-28 90°	.071 (1.80)
LS054THD-31 60°	.051 (1.30)
LS054THD-34 60°	.118 (3.00)
LS054THD-37 90°	.071 (1.80)
LS054THD-40	.051 (1.30)
LS054THD-43	.071 (1.80)
LS054THD-46	.051 (1.30)
LS054THD-49	.071 (1.80)
LS054THD-52 90°	.071 (1.80)

THREADED



Ordering Example: LS054THD-22-G-5.0

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.100 (2.54)
Working Travel:	.120 (3.05)
Current Rating:	4 Amps

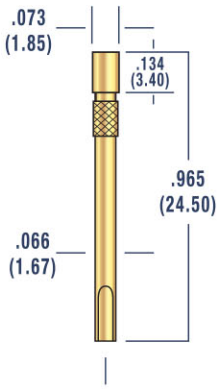
MATERIALS

Plunger:	Heat Treated BeCu, Gold Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Receptacle:	Brass, Gold Plated.

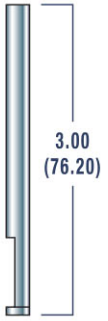
SPRING FORCES

	Oz. (N) At .120 (3.05) Travel	PRELOAD
Standard	5.0 (1.39)	2.0 (0.56)
Optional	3.7 (1.03)	1.7 (0.47)
Optional	7.5 (2.09)	2.5 (0.70)

RECEPTACLE



LS066THDRCP-K



LS054THD-WRCH
WRENCH

Recommended Drill Size: .067 (1.70)

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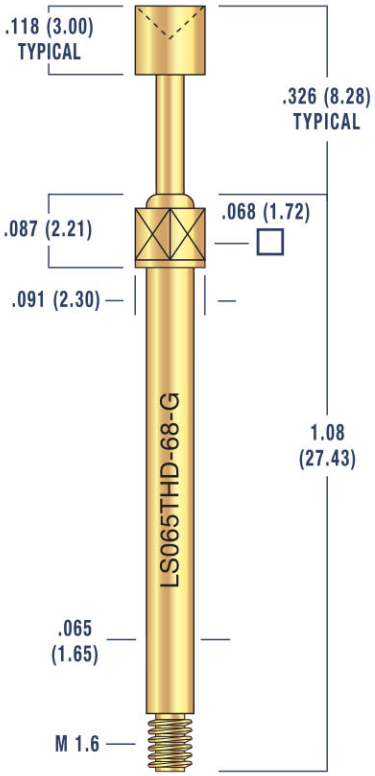
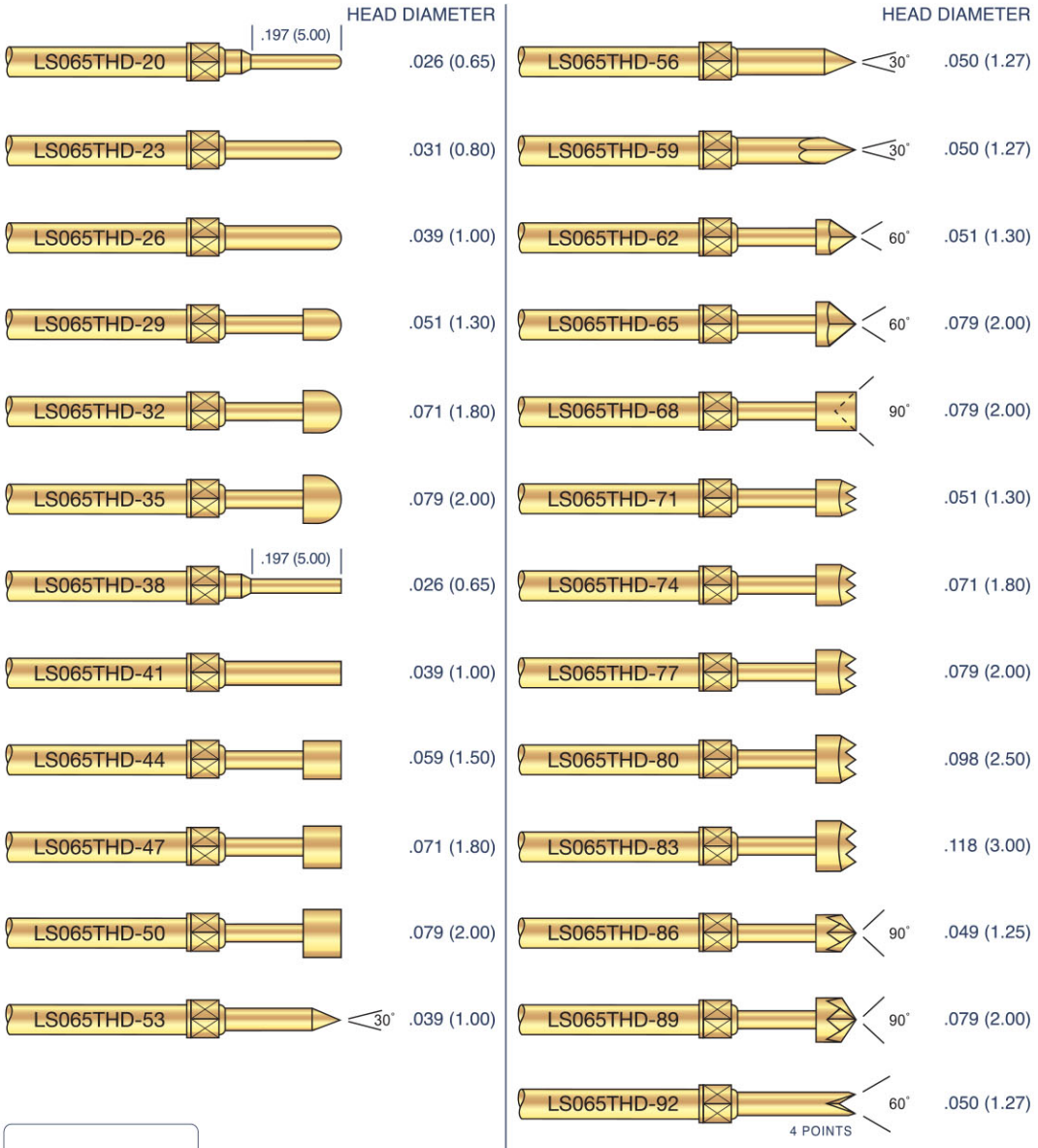
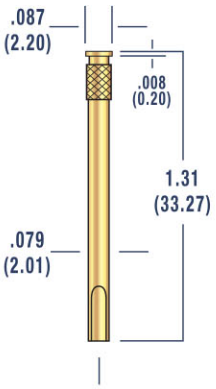
THREADED

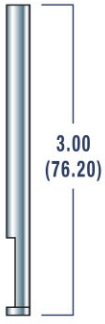




RECEPTACLE



LS079THDRCP-K



LS065THD-WRCH
WRENCH

Recommended Drill Size: .081 (2.05)

Ordering Example: LS065THD-68-G-4.6

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.100 (2.54) except for 80 and 83
Working Travel:	.140 (3.56)
Current Rating:	4 Amps

MATERIALS

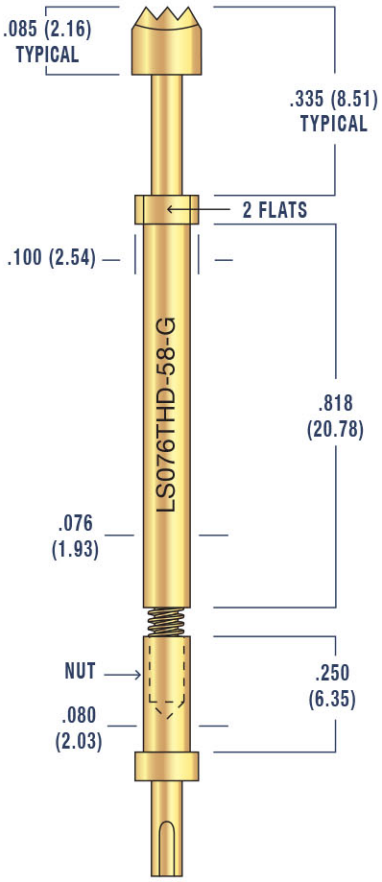
Plunger:	Heat Treated BeCu, Gold Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Receptacle:	Brass, Gold Plated.

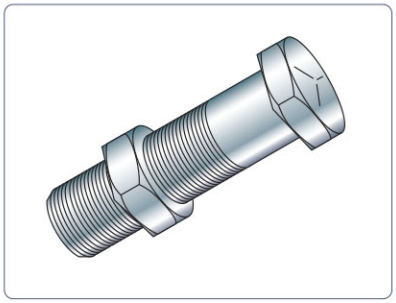
SPRING FORCES

	Oz. (N) At .140 (3.56) Travel	PRELOAD
Standard	4.6 (1.28)	1.7 (0.47)
Optional	3.5 (0.97)	1.0 (0.28)
Optional	7.0 (1.95)	2.0 (0.56)

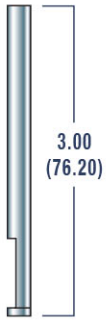
	HEAD DIAMETER
LS076THD-40	.050 (1.27)
LS076THD-43	.050 (1.27)
LS076THD-46	.100 (2.54)
LS076THD-49 30°	.050 (1.27)
LS076THD-52 90°	.050 (1.27)
LS076THD-55 90°	.100 (2.54)
LS076THD-58	.100 (2.54)

THREADED

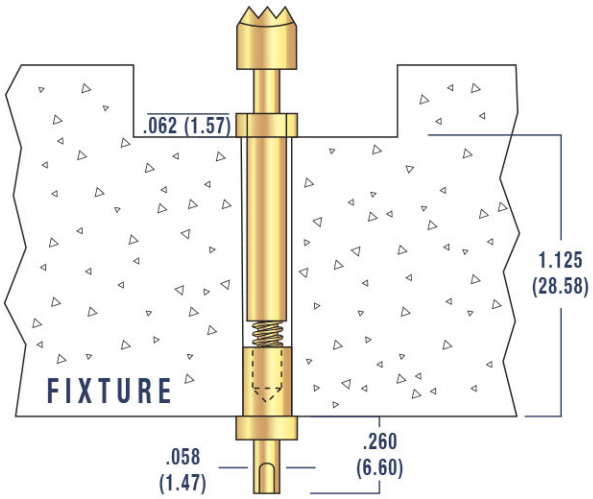




This pin works like a nut and bolt. Once it is installed, it will NOT move up or down.



LS076THD-WRCH
WRENCH



IMPORTANT

The fixture must be designed so that the pin body is 1.125 (28.58) thick.

Use a .0781 (1.98) drill.

The nut is press fit in place.

USE AMP TERMINAL 60885-2 OR SOLDER CUP

Ordering Example: LS076THD-58-G-3.0

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.125 (3.18)
Working Travel:	.170 (4.32)
Current Rating:	5 Amps

MATERIALS

Plunger:	Heat Treated BeCu, Gold Plated.
Barrel and Nut:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.

SPRING FORCE	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	3.0 (0.83)	1.2 (0.33)

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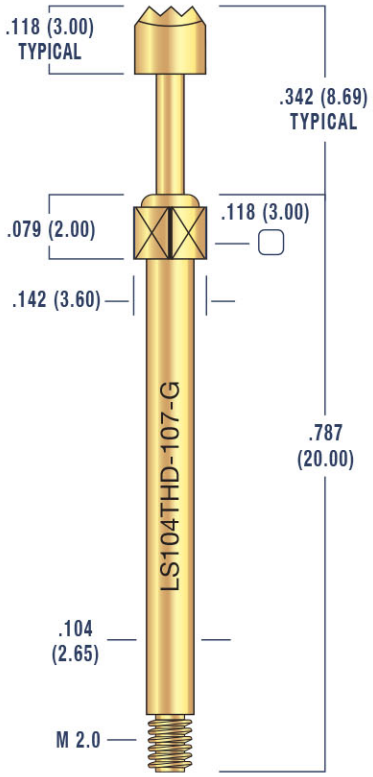
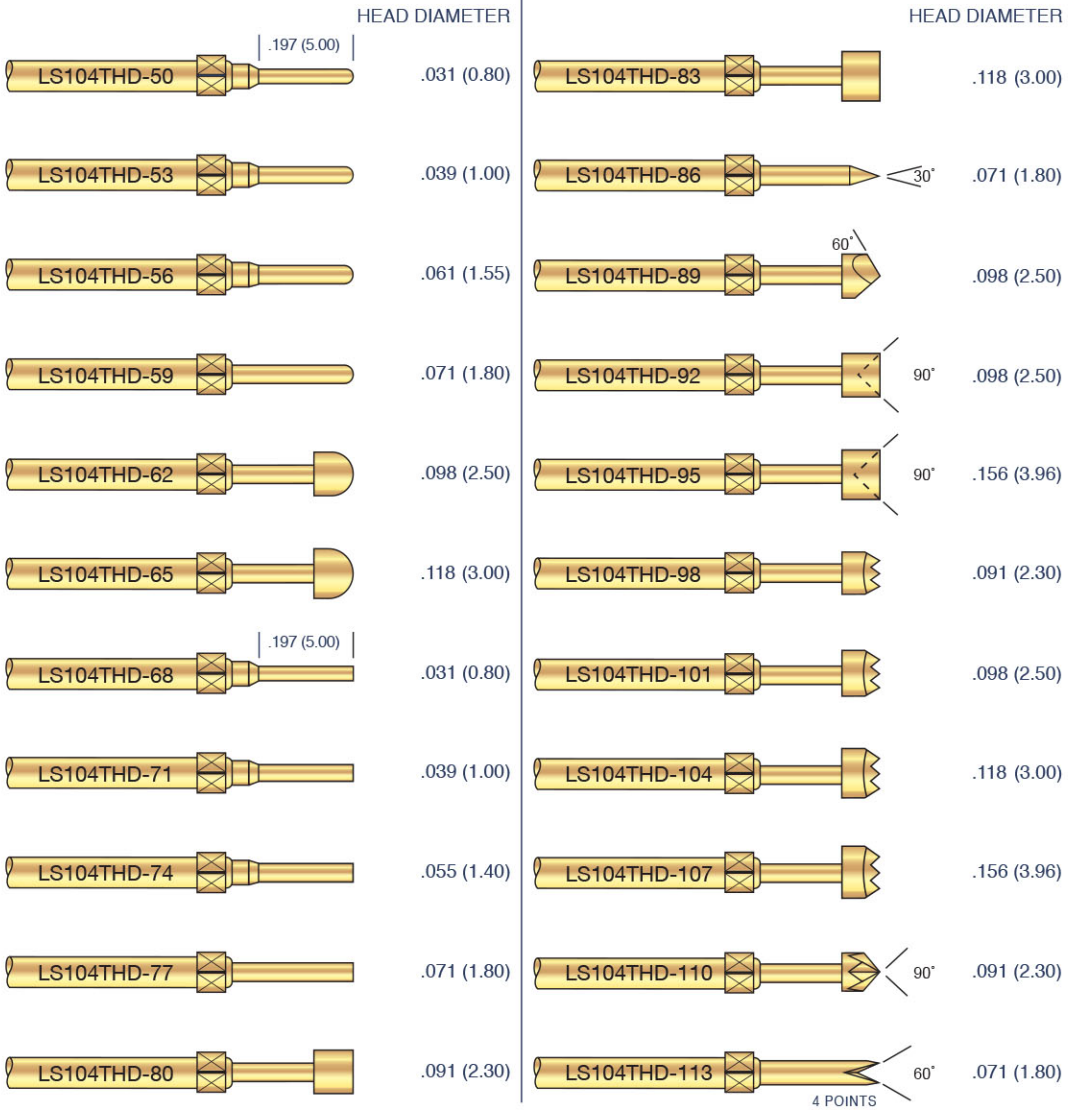
LS104THD

MINIMUM CENTERS .187 (4.75)

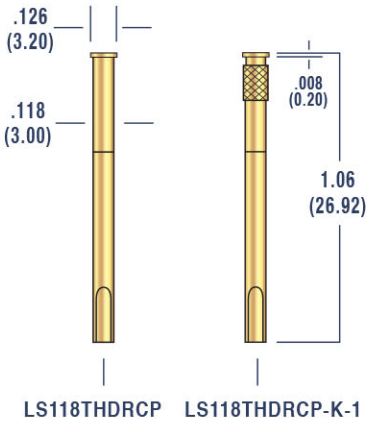
LONE STAR INDUSTRIAL®

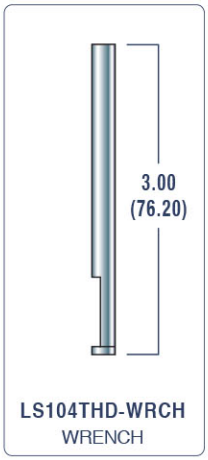
THREADED





RECEPTACLES





Recommended Drill Size: .118 (3.00)

Ordering Example: LS104THD-107-G-5.4

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.187 (4.75)
Working Travel:	.150 (3.81)
Current Rating:	5 Amps

MATERIALS

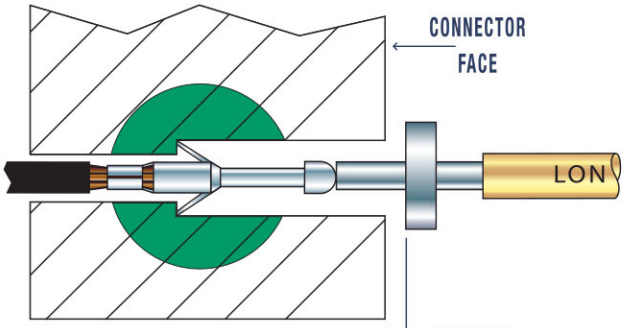
Plunger:	Heat Treated BeCu, Gold Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Receptacle:	Brass, Gold Plated.

SPRING FORCES

	Oz. (N) At .150 (3.81) Travel	PRELOAD
Standard	5.4 (1.50)	2.3 (0.64)
Optional	7.0 (1.95)	3.1 (0.86)
Optional	10.0 (2.78)	4.4 (1.22)

ATTENTION WIRE HARNESS PEOPLE

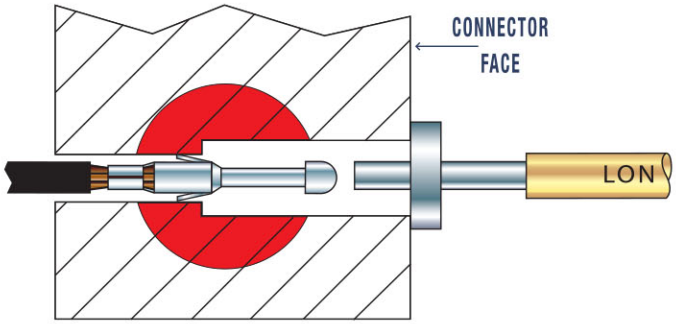
WE HAVE THE SOLUTION TO FINDING NON-SEATED TERMINALS. AVOIDS DAMAGING FEMALE TERMINALS.



SEATED TERMINAL

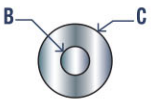
The distance between the Seated Terminal and the Connector Face is less than the Probe's Dimension 'A' allowing Electrical Contact.

'A' is determined by adding .012 (0.30) to the distance between the Seated Terminal and the Connector Face.



NON-SEATED TERMINAL

The distance between the Non-Seated Terminal and the Connector Face exceeds the Probe's Dimension 'A' causing the Harness to fail Electrical Test.

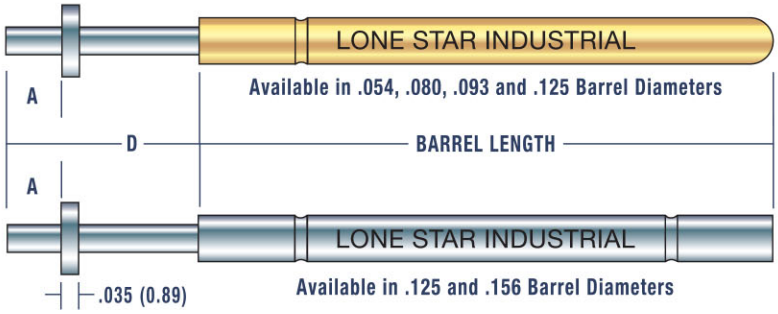


A= Plunger Length past the Hat

B= Plunger Diameter

C= Hat Diameter

D= Plunger Length



TO ORDER: Inform us of A, B, C, D and Barrel Diameter

BARREL DIAMETER	BARREL LENGTH	RECEPTACLES
.054 (1.37)	.730 (18.54)	LS066SRCP, LS066SRCP-1
.054 (1.37)	.975 (24.77)	LS066RCP, LS066RCP-1
.080 (2.03)	.975 (24.77)	LS093RCP, LS093RCP-1
.093 (2.36)	.985 (25.02)	LS106RCP, LS106RCP-1
.125 (3.18)	1.07 (27.18)	LS140RCP, LS140RCP-1
.125 (3.18)	1.38 (35.05)	Not Required
.156 (3.96)	1.38 (35.05)	Not Required

MATERIALS	
Plunger:	Steel or BeCu, Nickel Plated.
Barrel:	Brass, Gold or Nickel Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.
Receptacle:	Nickel Silver, Gold Plated.

SPRING FORCES
Standard

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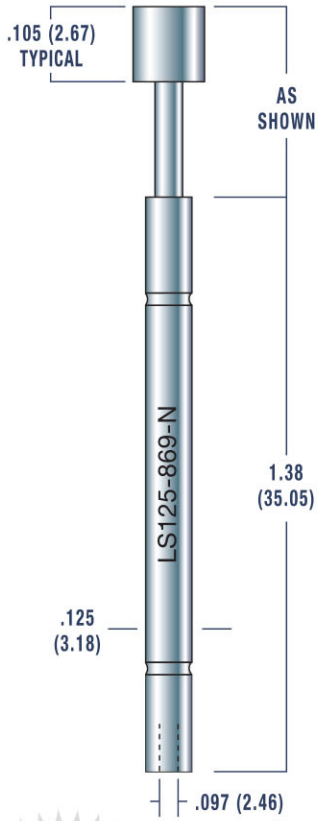
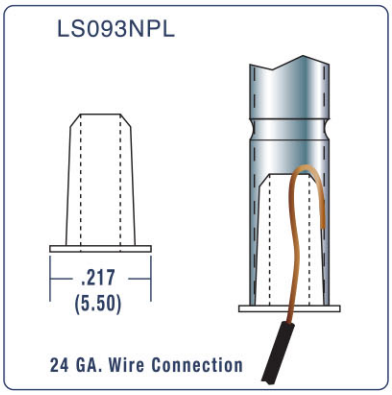
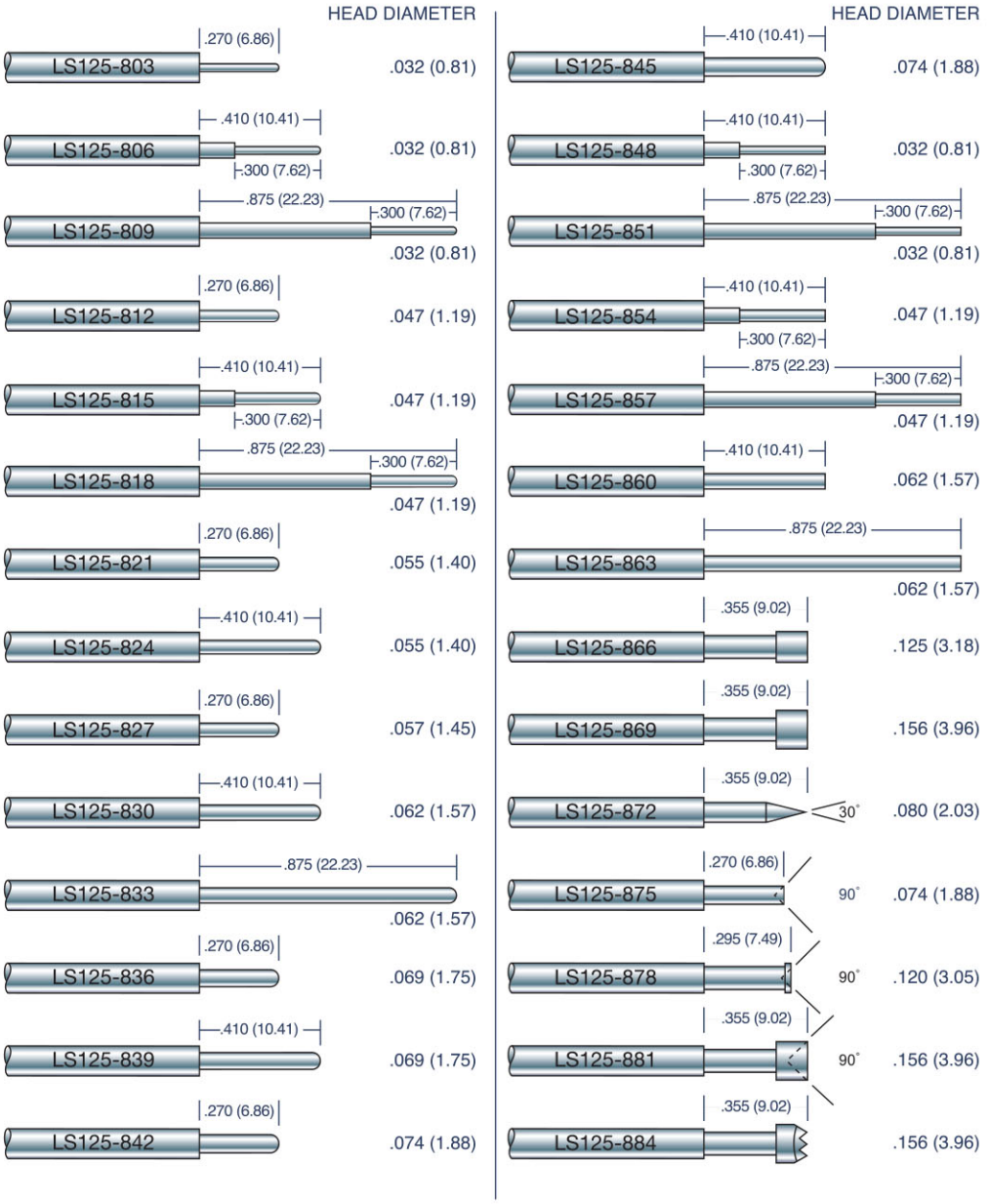
HEAVY DUTY



Receptacle Not Required

Recommended Drill Size: .1235 (3.14)





Ordering Example: LS125-869-N-9.4

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.187 (4.75)
Working Travel:	.170 (4.32)
Current Rating:	7 Amps

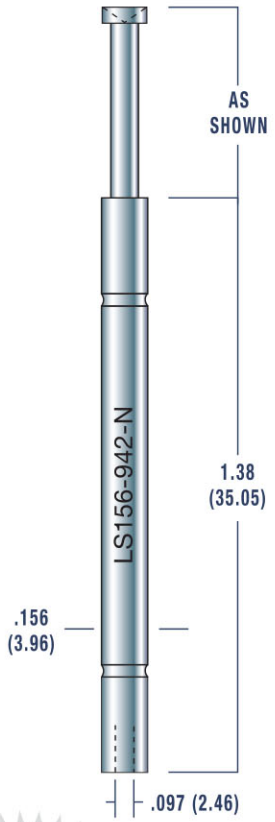
MATERIALS

Plunger:	Steel, Nickel Plated, except for 803,806, 809, 848, 851, 872 and 884 which are Heat Treated BeCu, Nickel Plated.
Barrel:	Brass, Nickel Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.
Wire Connection:	Nylon.

SPRING FORCE	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	9.4 (2.61)	2.5 (0.70)

		HEAD DIAMETER
.270 (6.86)	LS156-903	.062 (1.57)
.270 (6.86)	LS156-906	.094 (2.39)
.495 (12.57)	LS156-909	.250 (6.35)
.270 (6.86)	LS156-912	.062 (1.57)
.410 (10.41)	LS156-915	.068 (1.73)
.270 (6.86)	LS156-918	.094 (2.39)
.410 (10.41)	LS156-921	.094 (2.39)
.270 (6.86)	LS156-924	.125 (3.18)
.410 (10.41)	LS156-927	.125 (3.18)
.270 (6.86)	LS156-930 120°	.125 (3.18)
.410 (10.41)	LS156-933 120°	.125 (3.18)
.270 (6.86)	LS156-936 90°	.125 (3.18)
.410 (10.41)	LS156-939 90°	.125 (3.18)
.295 (7.49)	LS156-942 90°	.154 (3.91)

HEAVY DUTY



Receptacle Not Required

Recommended Drill Size: .154 (3.91)

Ordering Example: LS156-942-N-13.2

Plunger Plating - Spring Force

TECHNICAL DATA

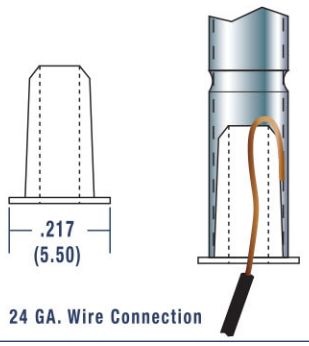
Minimum Centers:	.187 (4.75) except for 909
Working Travel:	.170 (4.32)
Current Rating:	8 Amps

MATERIALS

Plunger:	Steel, Nickel Plated.
Barrel:	Brass, Nickel Plated.
Spring:	Stainless Steel or Music Wire.
Seal Ball:	Chrome Steel.
Wire Connection:	Nylon.

SPRING FORCE	Oz. (N) At .170 (4.32) Travel	PRELOAD
Standard	13.2 (3.67)	3.5 (0.97)

LS093NPL



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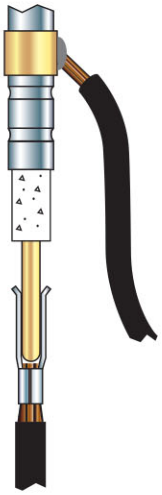
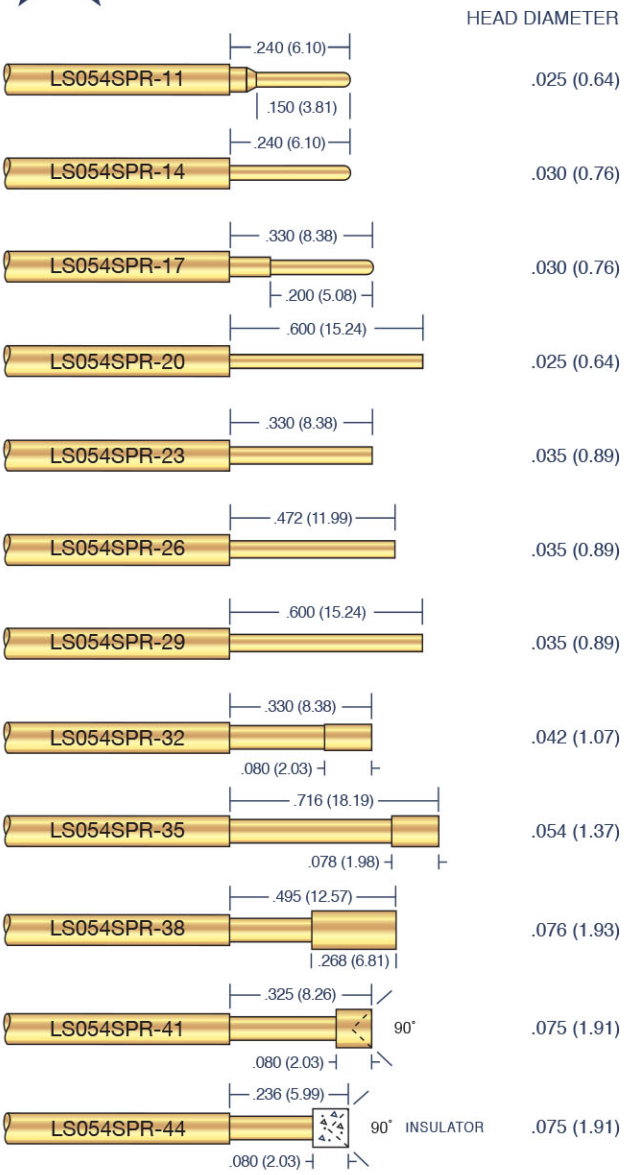
DETECT PRESENCE OF COMPONENTS. DETECT NON-SEATED TERMINALS.

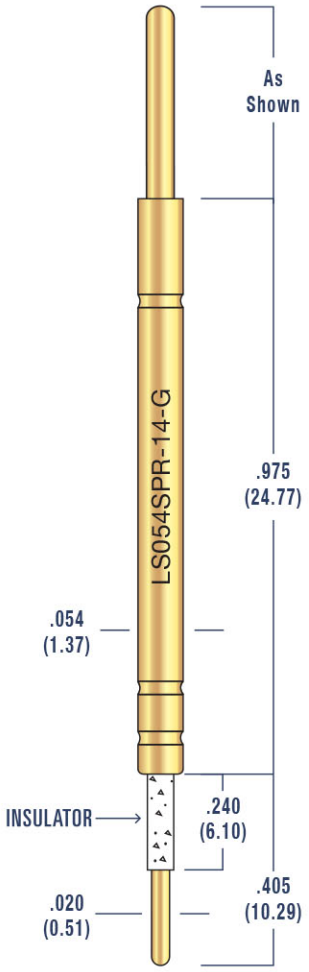


General Characteristics

- SIMPLE ELECTRICAL CONNECTION.
- AVAILABLE IN HIGH SPRING FORCES.
- LARGE BARREL AND PLUNGER SELECTION.
- THREADED SWITCH PROBES FOR QUICK INSTALLATION AND REMOVAL.



SWITCH



Ordering Example: LS054SPR-14-G-3.0

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.100 (2.54)
Working Travel:	.093 (2.36)
Current Rating:	3 Amps

MATERIALS

Plunger:	Heat Treated BeCu, Gold Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Receptacle:	Nickel Silver, Gold Plated.

TRAVEL TO SWITCH POINT

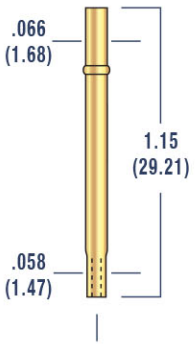
.030 (0.76) ± .010 (0.25)

SPRING FORCES

Oz. (N) At Switch Point.

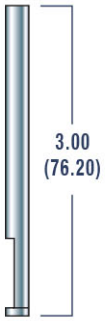
Standard	3.0 (0.83)
Optional	7.0 (1.95)

RECEPTACLE



LS066RCP

Install Switch Pins Tail First.



LS054SPR-IT
INSTALLATION TOOL

Recommended Drill Size: .067/.069 (1.70/1.75)

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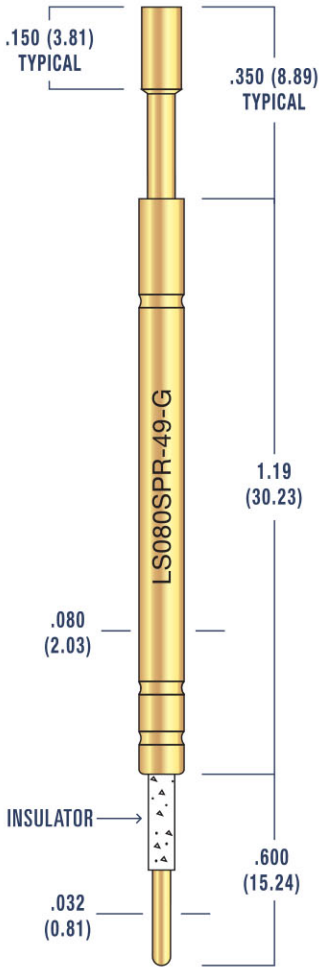
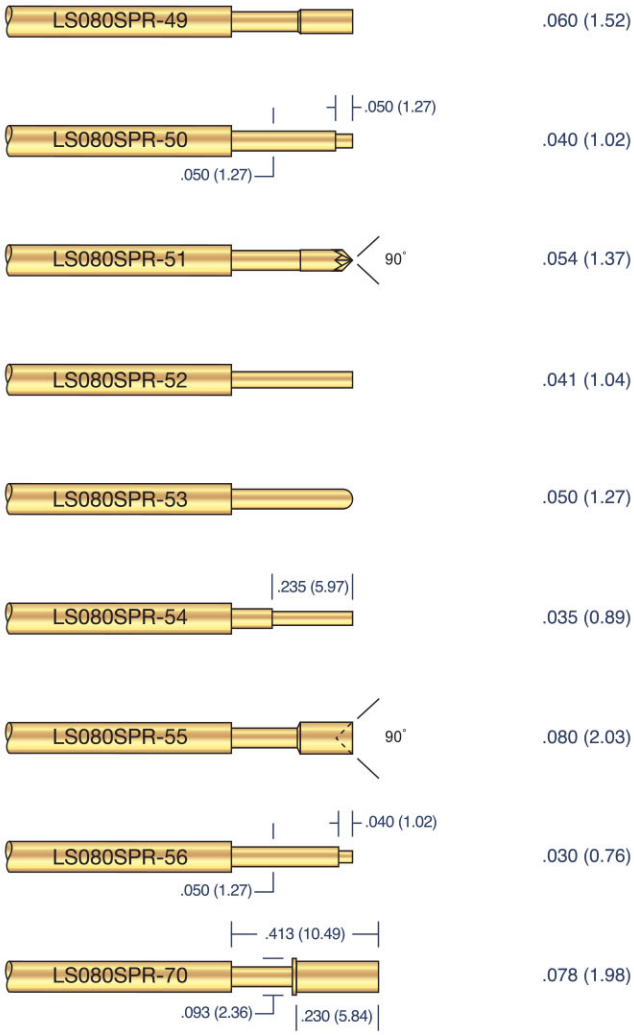
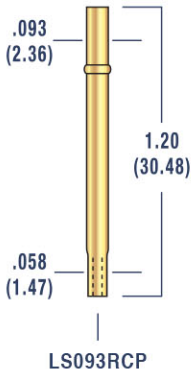
SWITCH



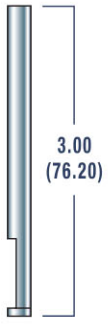
HEAD DIAMETER



RECEPTACLE



Install Switch Pins Tail First.



LS080SPR-IT
INSTALLATION TOOL

Recommended Drill Size: .094/.095 (2.39/2.41)

Ordering Example: LS080SPR-49-G-3.0

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.125 (3.18)
Working Travel:	.093 (2.36)
Current Rating:	3 Amps

MATERIALS

Plunger:	Heat Treated BeCu, Gold Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Receptacle:	Nickel Silver, Gold Plated.

TRAVEL TO SWITCH POINT

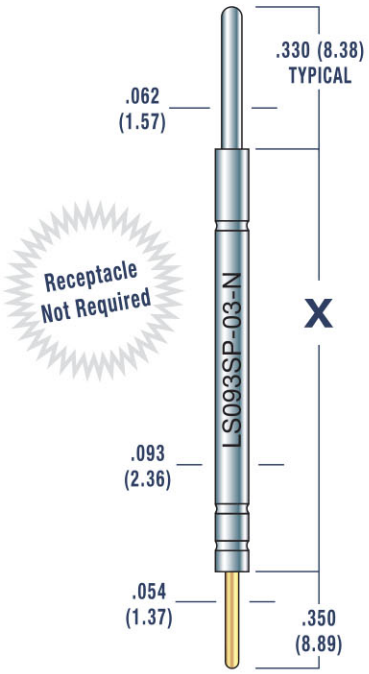
.030 (0.76) ± .010 (0.25)

SPRING FORCES

Oz. (N) At Switch Point.

Standard	3.0 (0.83)
Optional	16.0 (4.45)
Optional	32.0 (8.90)

SWITCH



Recommended Drill Size: .091/.092 (2.31/2.34)

01	X = 1.57 (40.01)
02	X = 2.00 (50.80)
03	X = 2.22 (56.52)
04	X = 1.42 (36.20)
05	X = 1.25 (31.75)

Ordering Example: LS093SP-03-N-4.0
Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers: .125 (3.18)
Working Travel: .175 (4.45)
Current Rating: 4 Amps

MATERIALS

Plunger:	Steel, Nickel Plated.
Barrel:	Brass, Nickel Plated.
Spring:	Stainless Steel or Music Wire.

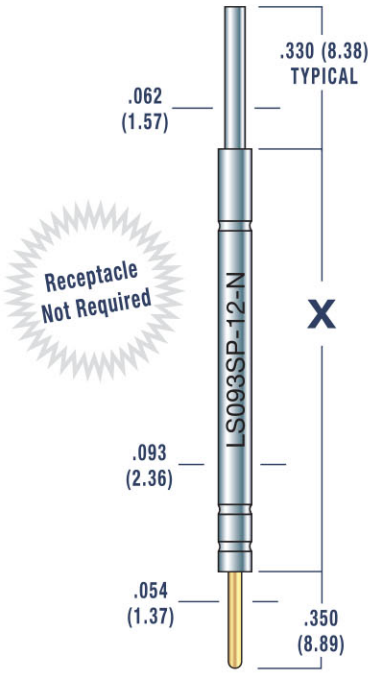
TRAVEL TO SWITCH POINT

.100 (2.54) ± .010 (0.25)

SPRING FORCE Oz. (N) At Switch Point.

Standard 4.0 (1.11)

SWITCH



Recommended Drill Size: .091/.092 (2.31/2.34)

10	X = 1.57 (40.01)
11	X = 2.00 (50.80)
12	X = 2.22 (56.52)
13	X = 1.42 (36.20)
14	X = 1.25 (31.75)

Ordering Example: LS093SP-12-N-4.0
Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers: .125 (3.18)
Working Travel: .175 (4.45)
Current Rating: 4 Amps

MATERIALS

Plunger:	Steel, Nickel Plated.
Barrel:	Brass, Nickel Plated.
Spring:	Stainless Steel or Music Wire.

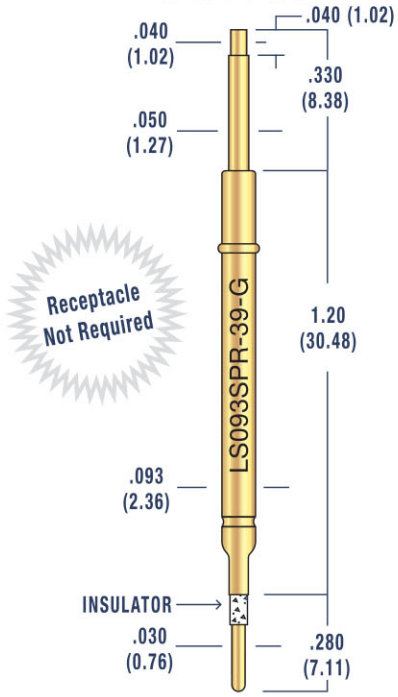
TRAVEL TO SWITCH POINT

.100 (2.54) ± .010 (0.25)

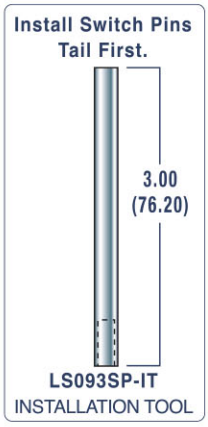
SPRING FORCE Oz. (N) At Switch Point.

Standard 4.0 (1.11)

SWITCH



Recommended Drill Size: .094/.095 (2.39/2.41)



Ordering Example: LS093SPR-39-G-2.0
Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers: .125 (3.18)
Working Travel: .197 (5.00)
Current Rating: 4 Amps

MATERIALS

Plunger:	Heat Treated BeCu, Gold Plated.
Barrel:	Nickel Silver, Gold Plated.
Spring:	Stainless Steel or Music Wire.

TRAVEL TO SWITCH POINT

.025 (0.64) ± .010 (0.25)

SPRING FORCE Oz. (N) At Switch Point.

Standard 2.0 (0.56)

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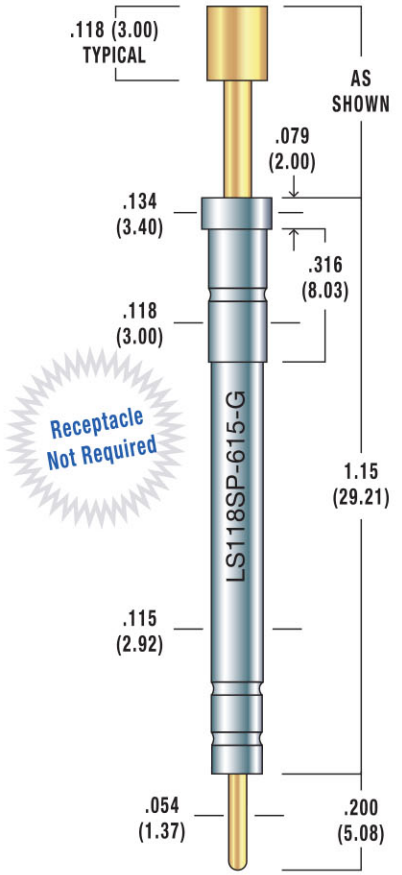
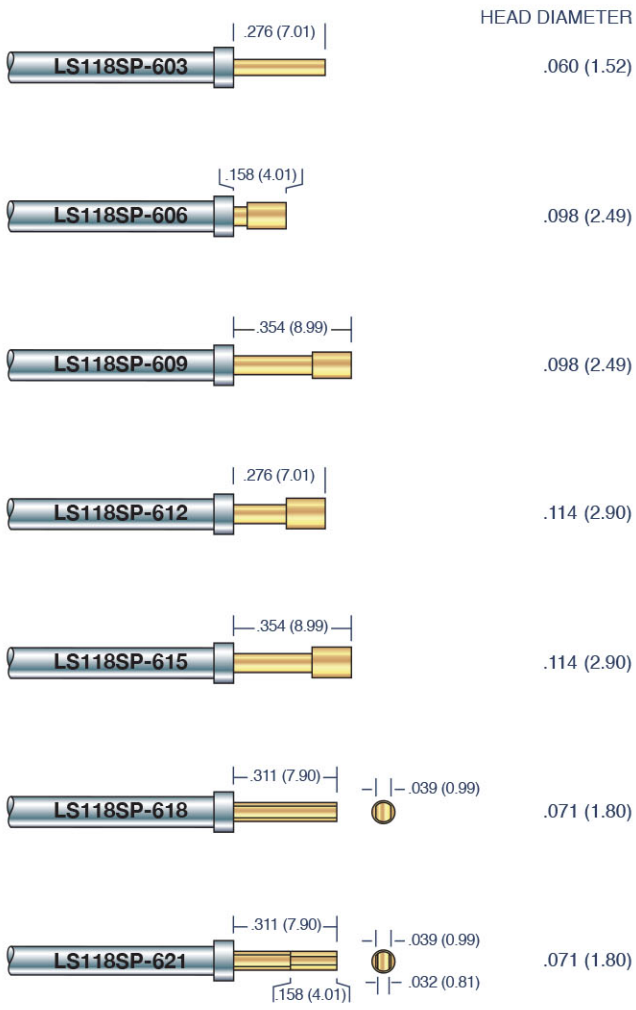
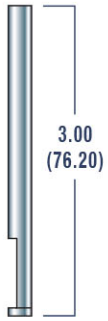
HIGH FORCE SWITCH



Recommended Drill Size: .116 (2.95)



Install Switch Pins Tail First.



LS125SP-IT
INSTALLATION TOOL

Ordering Example: LS118SP-615-G-4.0

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.156 (3.96)
Working Travel:	.093 (2.36)
Current Rating:	5 Amps

MATERIALS

Plunger:	Steel, Gold Plated, except for 618 and 621 which are Heat Treated BeCu, Gold Plated.
Barrel:	Brass, Nickel Plated.
Spring:	Stainless Steel or Music Wire.

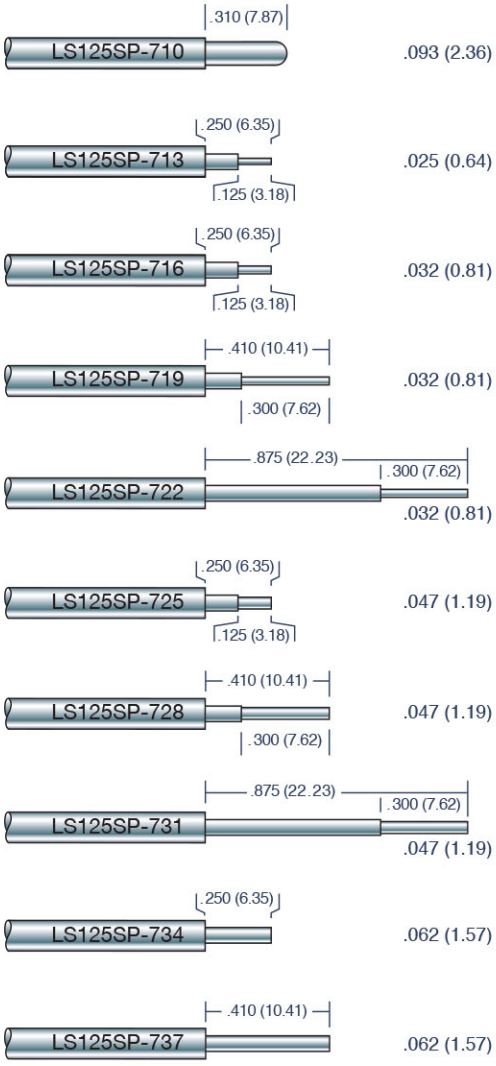
TRAVEL TO SWITCH POINT

.030 (0.76) ± .010 (0.25)

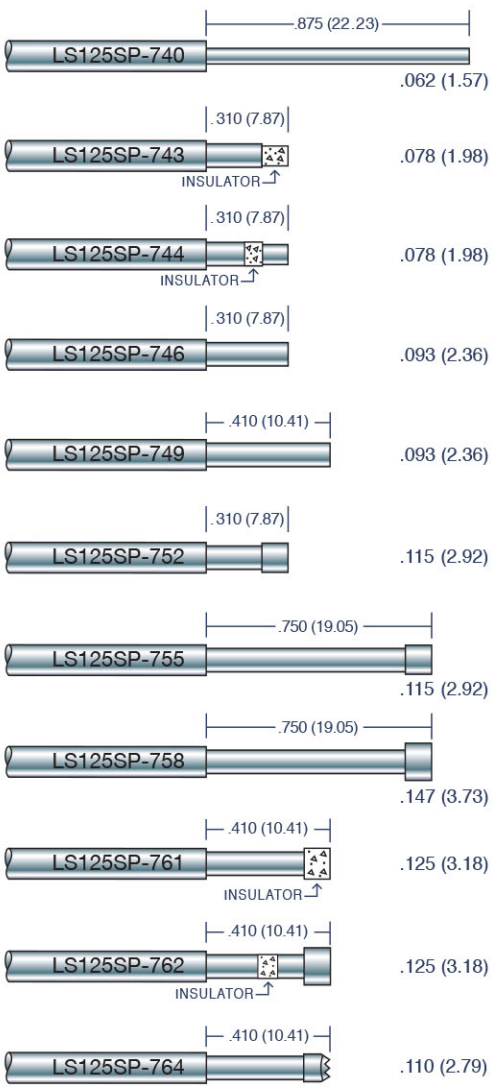
SPRING FORCES

Oz. (N)	At Switch Point.
4.0 (1.11)	Standard
2.0 (0.56)	Optional
24.0 (6.67)	Optional
48.0 (13.3)	Optional

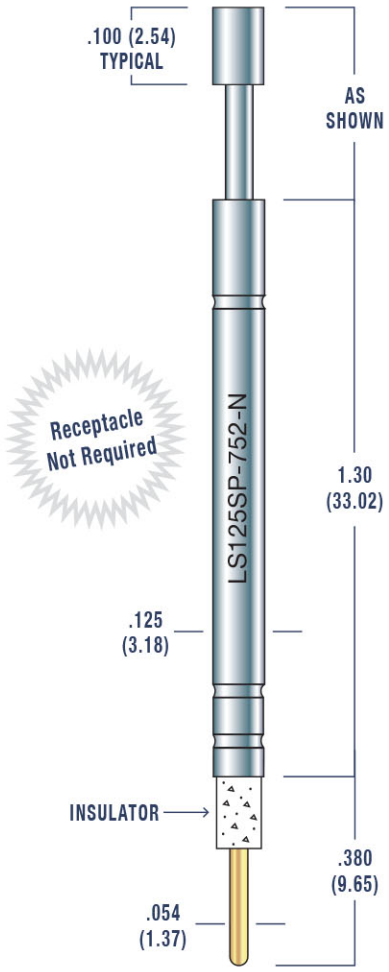
HEAD DIAMETER



HEAD DIAMETER



HEAVY DUTY SWITCH



Recommended Drill Size: .1235 (3.14)

Ordering Example: LS125SP-752-N-5.4

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.187 (4.75)
Working Travel:	.125 (3.18)
Current Rating:	5 Amps

MATERIALS

Plunger:	Steel, Nickel Plated, except for 713, 719 and 722 which are Heat Treated BeCu, Nickel Plated.
Barrel:	Brass, Nickel Plated.
Spring:	Stainless Steel or Music Wire.

TRAVEL TO SWITCH POINT

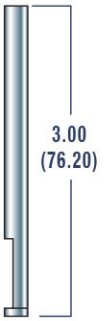
.060 (1.52) ± .010 (0.25)

SPRING FORCE

Oz. (N) At Switch Point.

Standard	5.4 (1.50)

Install Switch Pins Tail First.



LS125SP-IT
INSTALLATION TOOL

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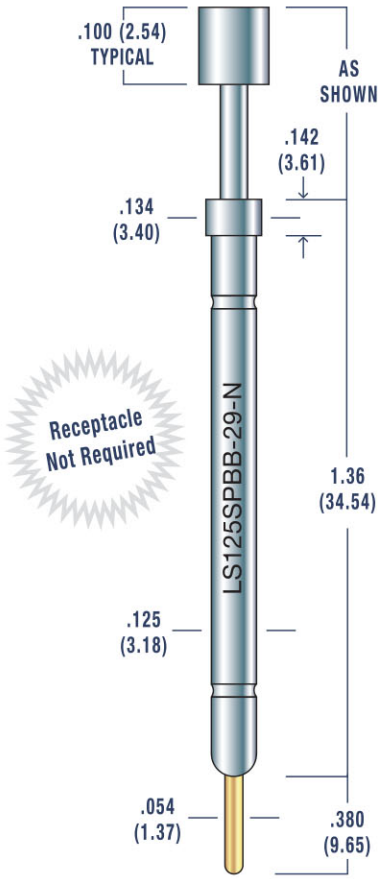
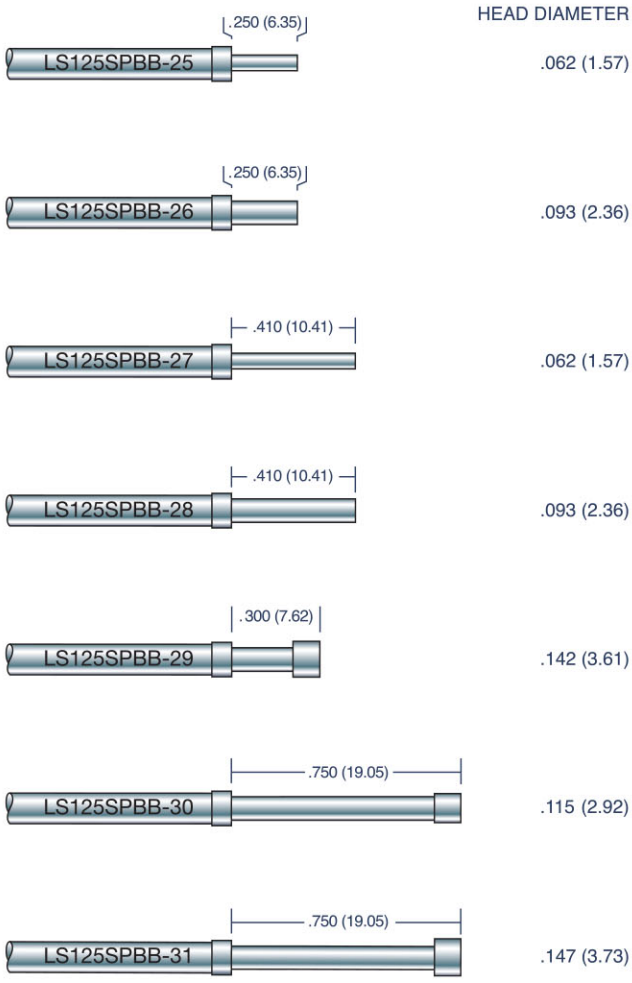
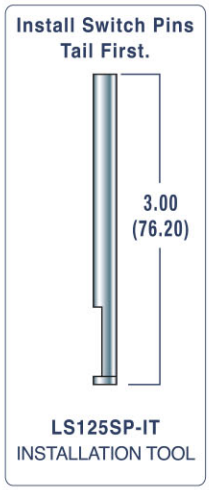
HIGH FORCE SWITCH





Recommended Drill Size: .1235 (3.14)



Ordering Example: LS125SPBB-29-N-16.0

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.187 (4.75)
Working Travel:	.125 (3.18)
Current Rating:	5 Amps

MATERIALS

Plunger:	Steel, Nickel Plated.
Barrel:	Brass, Nickel Plated.
Spring:	Stainless Steel or Music Wire.

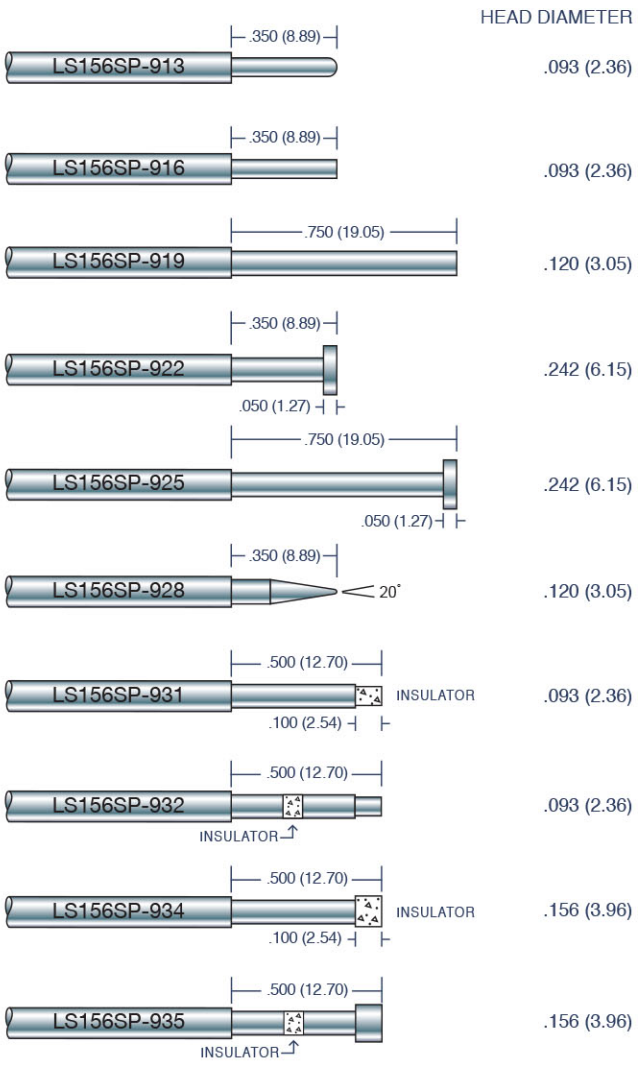
TRAVEL TO SWITCH POINT

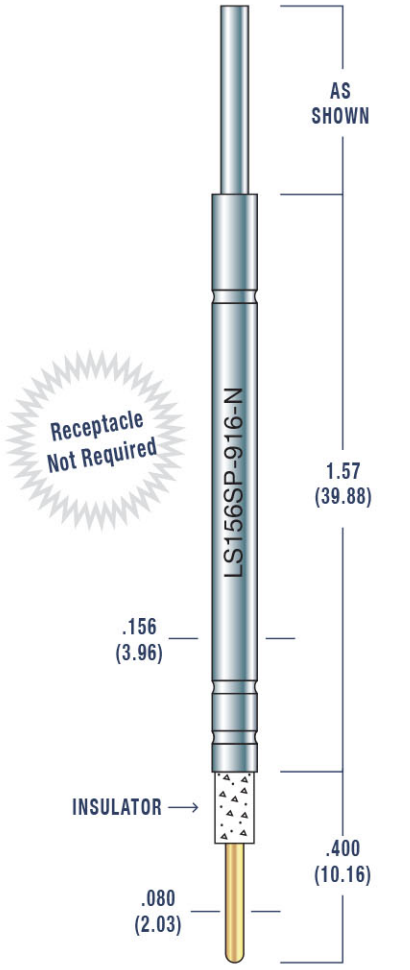
.060 (1.52) ± .010 (0.25)

SPRING FORCES

	Oz.	(N)	At Switch Point.
Standard	16.0	(4.45)	
Optional	3.0	(0.83)	
Optional	40.0	(11.1)	
Optional	56.0	(15.6)	
Optional	80.0	(22.2)	
Optional	110.0	(30.6)	

HEAVY DUTY SWITCH





Recommended Drill Size: .154 (3.91)

Ordering Example: LS156SP-916-N-9.5

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.187 (4.75) except for 922 and 925
Working Travel:	.200 (5.08)
Current Rating:	6 Amps

MATERIALS

Plunger:	Steel, Nickel Plated.
Barrel:	Brass, Nickel Plated.
Spring:	Stainless Steel or Music Wire.

TRAVEL TO SWITCH POINT

.100 (2.54) ± .010 (0.25)

SPRING FORCE

Oz. (N) At Switch Point.

Standard	9.5 (2.64)

Install Switch Pins Tail First.

LS156SP-IT
INSTALLATION TOOL

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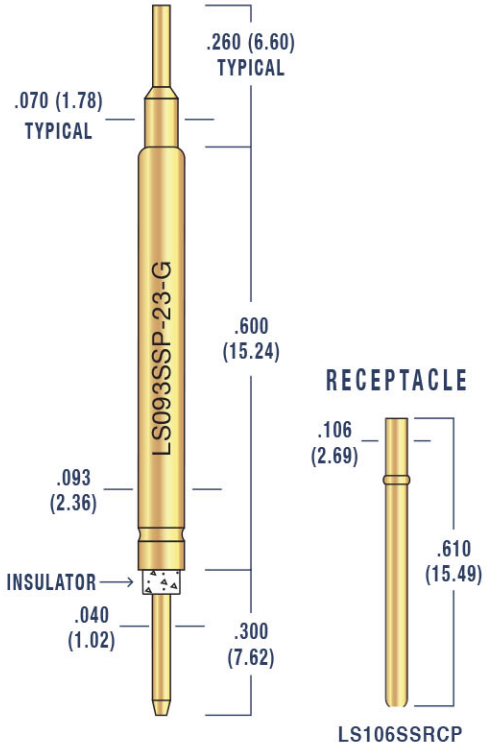
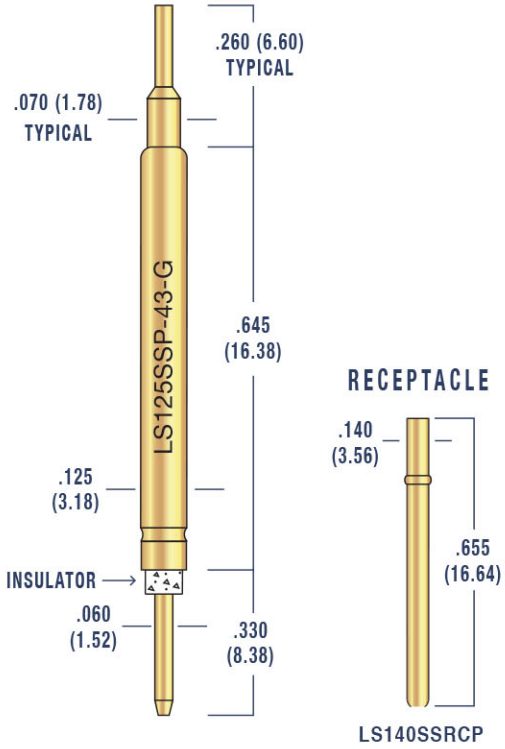
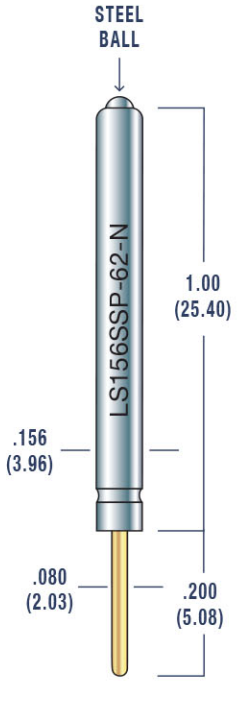




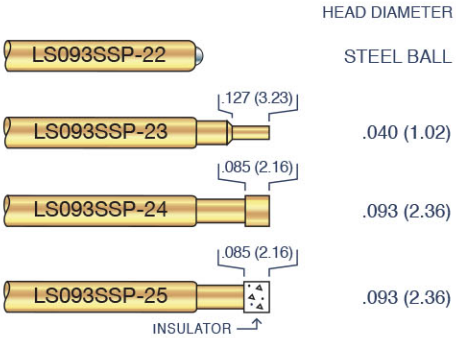


Receptacle Not Required

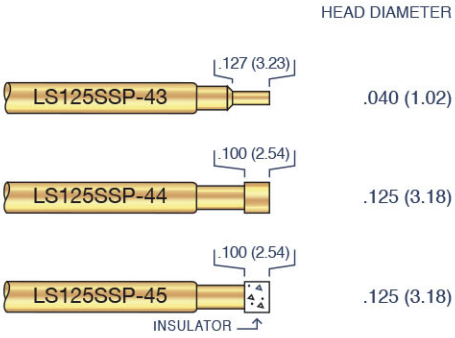
Install Switch Pins Tail First.

LS093SSP-IT
LS125SSP-IT
LS156SSP-IT
INSTALLATION TOOLS

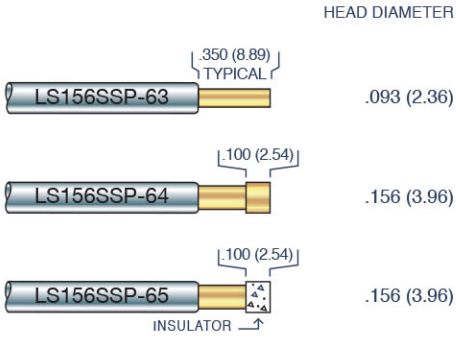
Recommended Drill Size: .107/.108 (2.72/2.74)



Recommended Drill Size: .141/.142 (3.58/3.61)



Recommended Drill Size: .154 (3.91)



Ordering Example: LS093SSP-23-G-3.0
Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers: .125 (3.18)
Working Travel: .093 (2.36) except for 22
Current Rating: 4 Amps

MATERIALS

Plunger:	Heat Treated BeCu, Gold Plated. Except LS093SSP-22-N-2.0
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Receptacle:	Nickel Silver, Gold Plated.

TRAVEL TO SWITCH POINT

.030 (0.76) ± .010 (0.25)
.014 (0.36) ± .003 (0.08)

SPRING FORCE Oz. (N) At Switch Point.

Standard	3.0 (0.83)
Steel Ball	2.0 (0.56)

Ordering Example: LS125SSP-43-G-4.0
Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers: .156 (3.96)
Working Travel: .093 (2.36)
Current Rating: 5 Amps

MATERIALS

Plunger:	Heat Treated BeCu, Gold Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Receptacle:	Nickel Silver, Gold Plated.

TRAVEL TO SWITCH POINT

.050 (1.27) ± .010 (0.25)

SPRING FORCE Oz. (N) At Switch Point.

Standard	4.0 (1.11)

Ordering Example: LS156SSP-62-N-2.0
Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers: .187 (4.75)
Working Travel: .200 (5.08) except for 62
Current Rating: 6 Amps

MATERIALS

Plunger:	Heat Treated BeCu, Gold Plated. Except LS156SSP-62-N-2.0
Barrel:	Brass, Nickel Plated.
Spring:	Stainless Steel or Music Wire.

TRAVEL TO SWITCH POINT

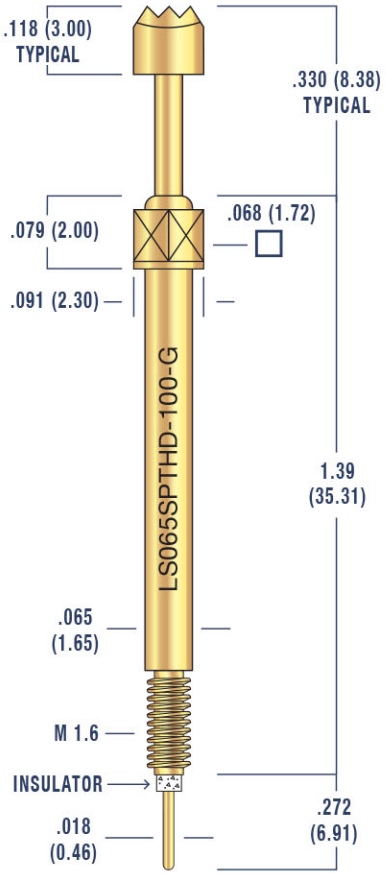
.100 (2.54) ± .010 (0.25)
.018 (0.46) ± .003 (0.08)

SPRING FORCE Oz. (N) At Switch Point.

Standard	10.0 (2.78)
Steel Ball	2.0 (0.56)

	HEAD DIAMETER
LS065SPTHD-70 (.197 (5.00))	.025 (0.64)
LS065SPTHD-73	.039 (1.00)
LS065SPTHD-76 (.197 (5.00))	.025 (0.64)
LS065SPTHD-79	.031 (0.80)
LS065SPTHD-82	.039 (1.00)
LS065SPTHD-85	.071 (1.80)
LS065SPTHD-87 (INSULATOR)	.071 (1.80)
LS065SPTHD-88 (INSULATOR)	.071 (1.80)
LS065SPTHD-91 (90°)	.091 (2.30)
LS065SPTHD-94	.039 (1.00)
LS065SPTHD-97	.059 (1.50)
LS065SPTHD-100	.071 (1.80)

THREADED SWITCH



Ordering Example: LS065SPTHD-100-G-4.6

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.100 (2.54)
Working Travel:	.141 (3.59)
Current Rating:	2 Amps

MATERIALS

Plunger:	Heat Treated BeCu, Gold Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Receptacle:	Brass, Gold Plated.

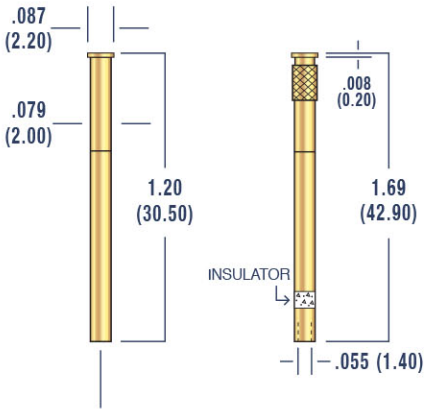
TRAVEL TO SWITCH POINT

.060 (1.52) ± .010 (0.25)

SPRING FORCES

Oz. (N)	At Switch Point.
4.6 (1.28)	Standard
3.5 (0.97)	Optional
10.0 (2.78)	Optional

RECEPTACLES



LS079THDRCP — LS079THDRCP-K-IN

LS065THD-WRCH
WRENCH

Recommended Drill Size: .079 (2.00)

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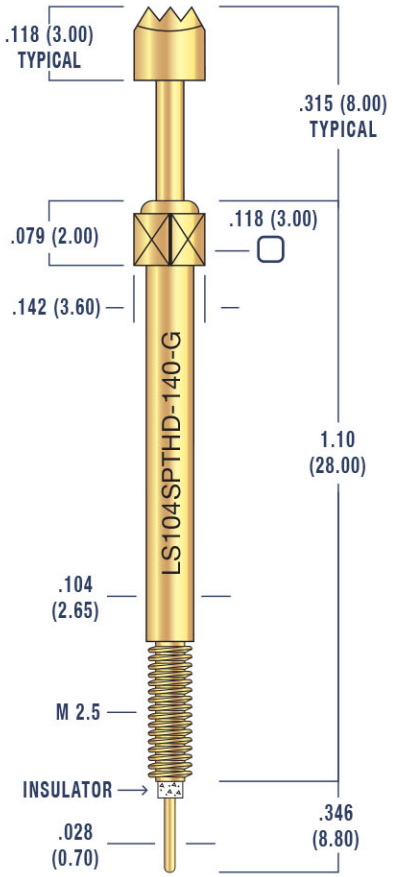
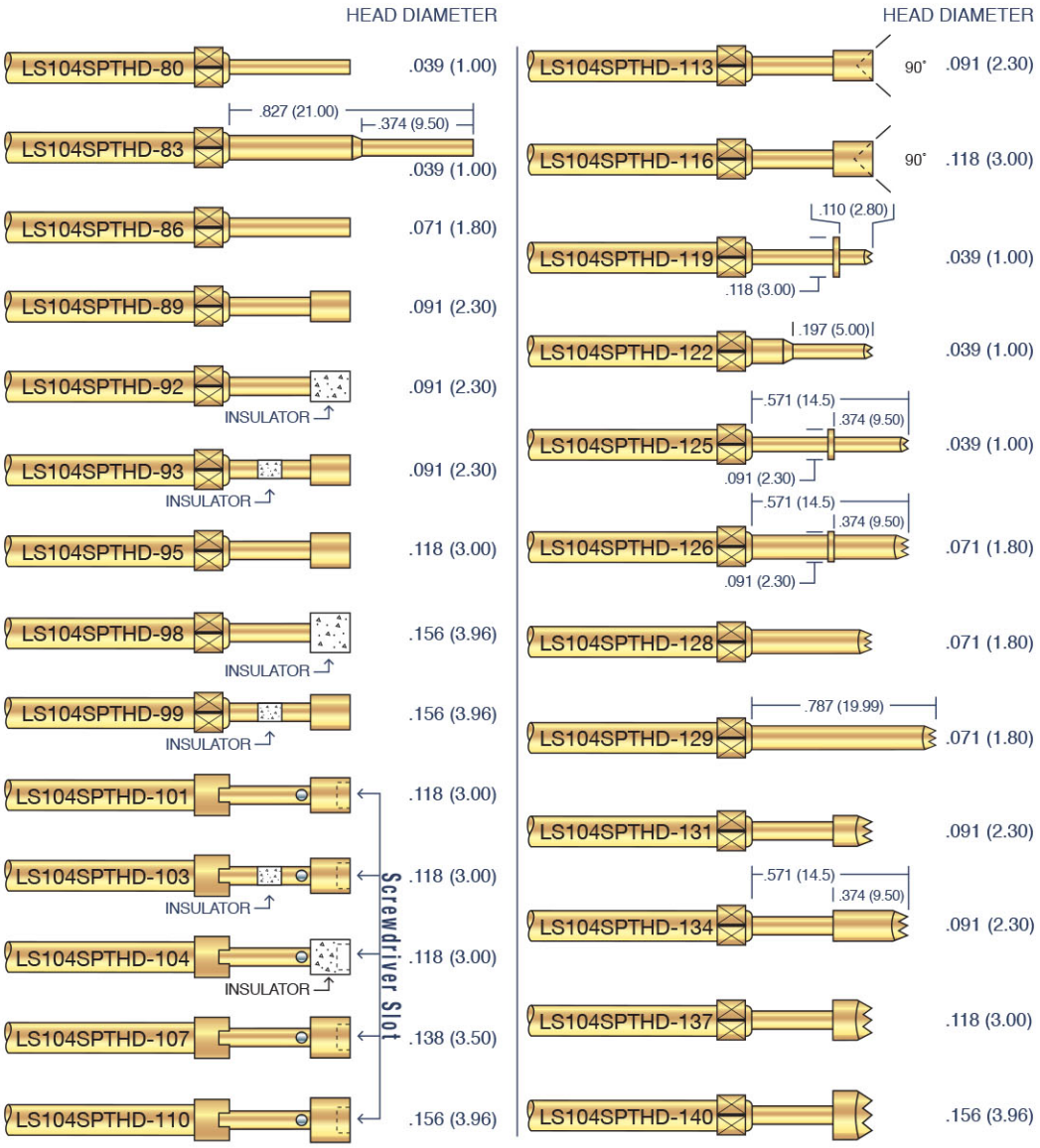
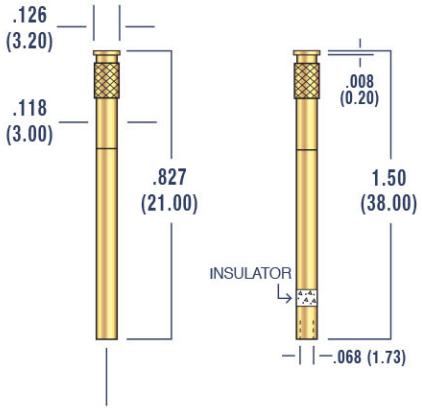
THREADED SWITCH

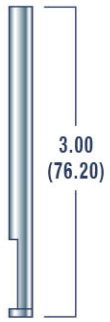




RECEPTACLES



LS118THDRCP-K LS118THDRCP-K-IN



LS104THD-WRCH
WRENCH

Recommended Drill Size: .118 (3.00)

Ordering Example: LS104SPTHD-140-G-5.4

Plunger Plating - Spring Force

TECHNICAL DATA

Minimum Centers:	.156 (3.96) except 98, 110 and 140
Working Travel:	.130 (3.30)
Current Rating:	4 Amps

MATERIALS

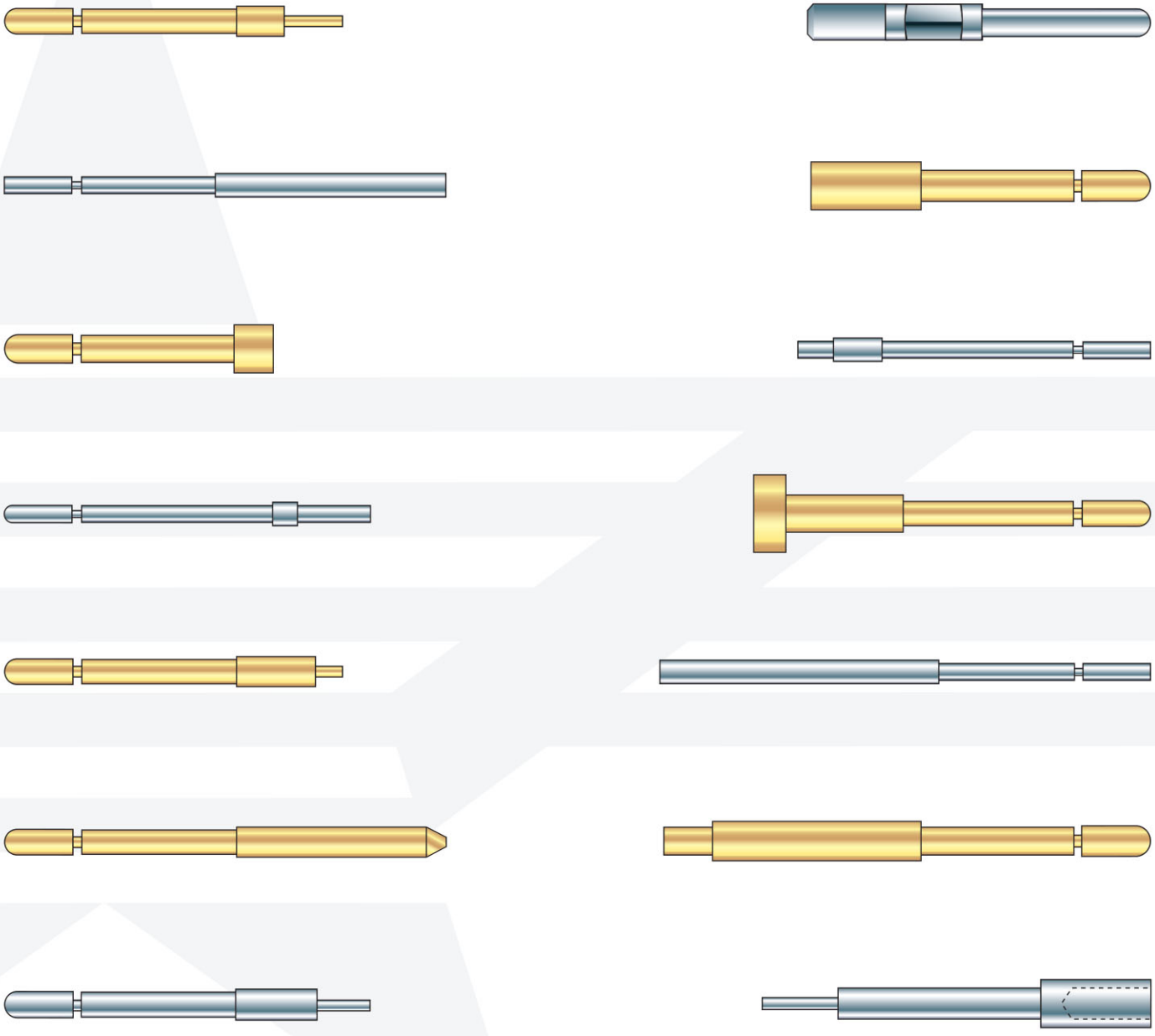
Plunger:	Heat Treated BeCu, Gold Plated.
Barrel:	Brass, Gold Plated.
Spring:	Stainless Steel or Music Wire.
Receptacle:	Brass, Gold Plated.

TRAVEL TO SWITCH POINT

.060 (1.52) ± .010 (0.25)

SPRING FORCES

Oz. (N)	At Switch Point.
5.4 (1.50)	Standard
7.0 (1.95)	Optional
10.0 (2.78)	Optional



MATERIALS: Brass, Stainless Steel, BeCu.

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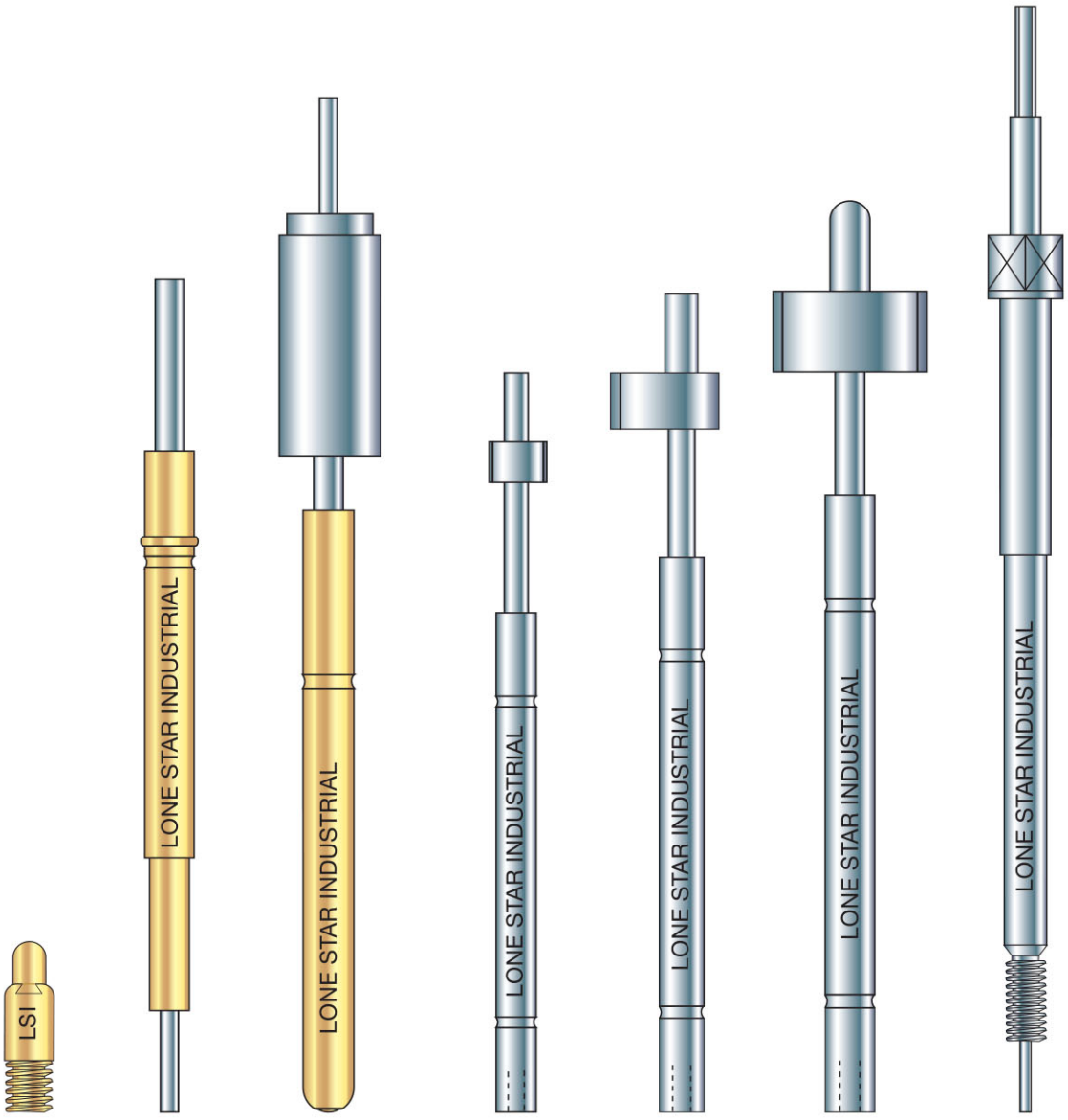
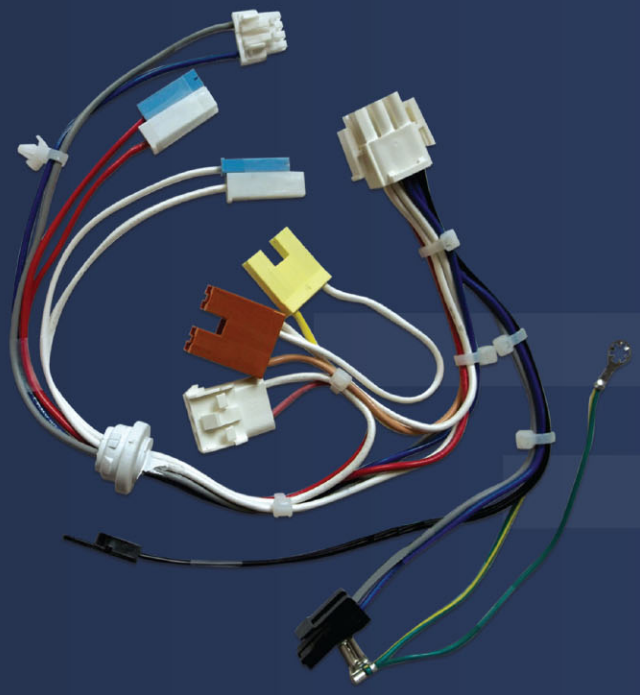
Lone Star Industrial is equipped with sophisticated CNC Swiss Type Automatic Lathes. Shown are a few of the custom pins that we manufacture using ferreous and non-ferreous metals, plastic, nylon, brass and aluminum.





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