

THE APEX ADVANTAGE

APEX quality begins with our **superior raw materials**. Only carefully chosen, mostly proprietary, industrial grade tool steel is used.

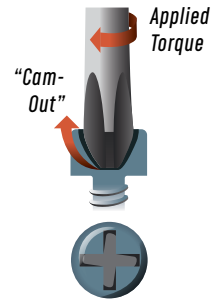
Each tool is **engineered to the highest specifications** in the industry. APEX bits are specified to meet the most stringent government and military specifications where applicable. Our sockets, nutsetters, and universal wrenches have hex tolerances that are on average 45% tighter than ASME (B107.17) and 42% tighter than DIN 475 standards.

Almost all APEX tools are **manufactured in our state-of-the-art facility in Dayton, Ohio**. Our tools are machined, not forged, which produces consistent, precision fit tools that have the tightest tolerances for straightness and concentricity in the industry.

APEX

VS

BRAND X



Precision fit of APEX tools eliminates "camout" and premature bit failure.

High grade alloy steel for improved tool life

Precision fit exceeds industry standards for extended tool and fastener life



Salt-bath Heat Treat process for improved consistency and strength

Advanced engineering specifications lead to tighter tolerances

Precision machined tools run true

TOOLS THAT RUN TRUE, PERFORM BETTER AND LAST LONGER.

THE APEX ADVANTAGE

Each APEX tool is tempered with *our proprietary salt-bath heat treat process*, the most advanced treatment available on the market. Salt bath process minimizes surface oxidation and carburization, and provides our tools with significantly improved consistency and strength. If needed, we have the capability to customize the heat treatment on a tool to meet the requirements of your particular application.

Our *Quality Management System is certified to ISO 9001*. All tools must pass our strict quality control standards. This ensures that we only provide you with the highquality tool that you have come to expect from APEX.



APEX ADVANTAGE

- Globally recognized leader in industrial-grade fastener drive tools
- Superior product durability and consistency because of proprietary materials and consistent manufacturing process
- Greater torque transfer to the fastener due to precision fit design and tighter tolerances
- Diverse offering of more than 10,000 parts available
- Custom solutions capability with quick turnaround times

SIGNIFICANTLY REDUCED TOTAL COST OF OWNERSHIP



SELECTING THE PROPER HEAT TREAT FOR BITS

Choosing the proper heat treat is important in achieving long tool life. Different applications, different operators, and different power tools require different heat treats. APEX offers a choice of three heat treat hardness levels in many of our screwdriver bits to match the particular customer's application. These heat treats are specified by a letter suffix as follows:

- X - The hardest heat treat in the industry
- I - Intermediate hardness
- R - Lowest hardness

Selecting the heat treat best suited for a particular application may require some trial and error. The proper heat treat depends on the failure mode. If the bit breaks or shatters, select a bit with less hardness. If the failure mode is wear, select a harder bit. Many times both breakage and wear may occur within the same application. This can be due to a number of factors such as a different operators, different torque values, and different power tool settings.

In general, high torque applications require "R" heat treats to withstand twisting and resist breakage. The "X" heat treat is most suitable for low torque applications, particularly if hardened screws are used.

If a failure occurs, a change in hardness may result in better service. The "X" heat treat is most common and should be selected unless the specifics of an application or an existing problem would suggest using "I" or "R" hardness. To specify a particular heat treat, add a letter suffix to the part number. For example, to specify "X" hardness in a #2 Phillips insert, the part number would be 440-2X. Not all APEX bits are available in all heat treats. Special heat treats can be supplied for a particular application. Contact your APEX representative for specific recommendations.

Since "X" hardness is the most popular with our customers, it is our default product where "X" designation may be omitted from the part number. For all other hardness designations, the product packaging will be marked with the appropriate hardness designation letter.

APEX



BRAND X



APEX bits and sockets last significantly longer than most of our competitors.

UNSURPASSED OFFERING

This catalog contains 5,000+ of the most frequently requested bits, sockets, universal wrenches, and fastening accessories. Our entire active offering approaches 10,000 sellable part numbers. If the tool you need does not appear in this catalog, please give us a call. The odds are, we may have what you need as a non-catalog item. If not, our experienced staff of tooling experts can design and manufacture custom solutions to meet the needs of your specific applications. You can even submit custom requests on-line at our website www.APEX-tools.com by completing a simple form. This flexibility has helped make APEX the only manufacturer which is a market and technology leader in all of the following industrial product categories: Bits & Bit Holders, Impact Sockets, Extensions and Universal Wrenches.

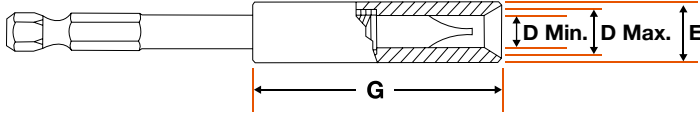
AVAILABILITY & SERVICE

APEX has approximately 2,000 authorized distributor locations globally to provide product off-the-shelf as well as knowledgeable service and support. APEX stocks over 1,000 part numbers and a multitude of blanks to manufacture several thousand more in order to support our strong global distribution network.



⊖ SLOTTED POWER BITS WITH FINDER SLEEVES

Each finder sleeve assembly part number begins with a letter prefix that denotes the particular sleeve used with that assembly. The chart below gives complete dimensional data for each finder sleeve.



Part Number	Screw Size	D Max IN.	D Max MM.	D Min IN.	D Min MM.	Sleeve Length G IN.	Sleeve Length G MM.	Sleeve Dia. E IN.	Sleeve Dia. E MM.
L	5F-6R	.260	6.60	.233	5.92	17/8	47.6	3/8	9.5
M	6F-6R	.309	7.85	.261	6.63	17/8	47.6	7/16	11.1
P	8F-6R	.368	9.35	.310	7.87	17/8	47.6	1/2	12.7
NP*	8F-10R	.368	9.35	.310	7.87	17/8	47.6	7/16	11.1
R	10F-12R	.415	10.54	.369	9.37	2	50.8	9/16	14.3
S	12F-14R	.478	12.14	.416	10.57	2	50.8	5/8	15.9
T	14F-16R	.522	13.26	.479	12.17	2 1/8	54.0	11/16	17.5
U	16F-20R	.621	15.77	.523	13.28	2 1/8	54.0	3/4	19.1
W	20F-22R	.665	16.89	.622	15.80	2 1/16	52.4	13/16	20.3
Y	24F-24R	.715	18.16	.666	16.92	2 1/32	51.6	15/16	23.8

* Sleeve NP is a cup type sleeve.

1/4" HEX POWER DRIVE



Part No. Complete Assembly	Part No. Bit Only	Screw Size	Bit Length IN.	Bit Length MM.	Blade Thickness IN.	Blade Thickness MM.	Bit Body Dia. IN.	Bit Body Dia. MM.
NOL-320X	320-LX	5F-6R	3 1/2	89	.036	.91	0.193	4.9
L-320X	320-LX	5F-6R	3 3/4	95	.036	.91	0.193	4.9
M-320X	320-MX	6F-8R	3 3/4	95	.038	.97	0.241	6.12
NM-320X	320-MX	6F-8R	3 1/2	89	.038	.97	0.241	6.12
P-320X	320-PX	8F-10R	3 3/4	95	.042	1.07	0.290	7.37
R-320X	320-RX	10F-12R	3 3/4	95	.046	1.17	0.350	8.89
S-320X	320-SX	12F-14R	3 7/8	98	.050	1.27	0.395	10.03
T-320X	320-TX	14F-16R	4 1/8	105	.055	1.40	0.457	11.61



ADVANTAGE OF USING FINDER SLEEVES



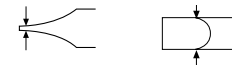
A finder sleeve makes it easy to engage slotted fasteners with the bit. It guides the bit so there is less "searching" for the proper alignment between blade and slot.

1/4" HEX POWER DRIVE – LONG SERIES



Part No. Complete Assembly	Part No. Bit Only	Screw Size	Bit Length IN.	Bit Length MM.	Blade Thickness IN.	Blade Thickness MM.	Bit Body Dia. IN.	Bit Body Dia. MM.
L-328X	328-LX	5F-6R	6 1/2	165	0.036	0.91	0.193	4.9
M-328X	328-MX	6F-8R	6 1/2	165	0.038	0.97	0.241	6.12
P-328X	328-PX	8F-10R	6 1/2	165	0.042	1.07	0.290	7.37
R-328X	328-RX	10F-12R	6 1/2	165	0.046	1.17	0.350	8.89
S-328X	328-SX	12F-14R	6 1/2	165	0.050	1.27	0.395	10.03

1/4" HEX POWER DRIVE – EXTRA SHORT SERIES



Part No. Complete Assembly	Part No. Bit Only	Screw Size	Bit Length IN.	Bit Length MM.	Blade Thickness IN.	Blade Thickness MM.	Bit Body Dia. IN.	Bit Body Dia. MM.
000L-322X	322-000LX	2F-3R	2 3/32	53	.026	0.66	0.138	3.50
00L-322X	322-00LX	3F-4R	2 3/32	53	.030	0.76	0.154	3.91
0L-322X	322-0LX	4F-5R	2 3/32	53	.034	0.86	0.185	4.70
L-322X	322-LX	5F-6R	2 3/32	53	.036	0.91	0.185	4.70
M-322X	322-MX	6F-8R	2 3/32	53	.040	1.02	0.248	6.30
P-322X	322-PX	8F-10R	2 3/32	53	.042	1.07	0.283	7.19
R-322X	322-RX	10F-12R	2 3/32	53	.046	1.17	0.283	7.19

7/16" HEX POWER DRIVE



Part Number	Screw Size	Bit Length IN.	Bit Length MM.	Blade Thickness IN.	Blade Thickness MM.	Bit Body Dia. IN.	Bit Body Dia. MM.
R-321X	10F-12R	3 7/8	98	.046	1.17	0.350	8.89
S-321X	12F-14R	3 7/8	98	.050	1.27	0.395	10.03
T-321X	14F-16R	4 1/8	105	.055	1.40	0.457	11.61
U-321X	16F-20R	4 1/8	105	.060	1.52	0.503	12.78
W-321X	20F-22R	4 1/8	105	.062	1.57	0.545	13.84
Y-321X	24F-24R	4 1/8	105	.065	1.65	0.595	15.11