

Training

Understanding National Aerospace Specification (NAS) for Drills

Brought to You by Precision Twist Drills | Apr 24, 2018

Contractors and subcontracts around the globe use the National Aerospace Specification when building aerospace systems and equipment. Since 1941, the National Aerospace Specification Committee (NAS) within the Aerospace Industries Association has been developing and maintaining the National Aerospace Specification (NAS) for compliance in the design and build of parts for aircraft, spacecraft, weapon systems and airborne electronics. Components used in the manufacturing of subsystems are also directed by NAS to ensure consistent delivery of design and usage that optimizes performance, efficiency and productivity.

The National Aerospace Specification for drills are covered by three (3) standards – NAS907, NAS937 and NAS965. Each of these specifications has “Types” within each standard to call out the specific size of the drill. The standards call out the material, surface treatment and point.

NAS 907 Type A	High Speed Steel Jobber Drills / MSC Styles: R40A, R18A, R15A
Size Range	Ø1/16” thru Ø1/2”
Material	HSS (M-2 or M-7)
Shank Options	Straight, straight with tri-flats, quick change, reduced shank, reduced shank with tri-flats, Tang
Surface Treatment	Bright finish standard, oxide or other customer specified finish optional
Web Construction	Thickness increases uniformly at a 0.017” ± 0.003” per inch taper
Back Taper	0.0002” to 0.0005” per inch for all diameters
Point Type	P-5 (118°) split point, general purpose
Lengths	Jobber Length - standard, 6” and 12” Aircraft Extension Lengths
NAS 907 Type B	High Speed Steel Jobber Drills and Aircraft Extension Drills / MSC Styles: R10B, R18B, R15B, 500-6, 501-6, 502-6, 500-12, 501-12, 502-12
Size Range	Ø1/16” thru Ø1/2”
Material	HSS (M-2 or M-7)
Shank Options	Straight, straight with tri-flats, quick change, reduced shank, reduced shank with tri-flats, Tang
Surface Treatment	Bright finish standard, oxide or other customer specified finish optional
Web Construction	Thickness increases uniformly at a 0.024” ± 0.003” per inch taper
Point Type	P-3 (135°) split point, heavy duty
Lengths	Jobber Length - standard, 6” and 12” Aircraft Extension Lengths - optional
NAS 907 Type C	High Speed Steel Screw Machine Drills / MSC Styles: R40C, R41C, R42C, R40C, R41C
Size Range	Ø1/16” thru Ø1/2”
Material	HSS (M-2 or M-7)
Shank Options	Straight, straight with tri-flats, quick change, reduced shank, reduced shank with tri-flats, Tang
Surface Treatment	Bright finish standard, oxide or other customer specified finish optional
Web Construction	Thickness increases uniformly at a 0.024” ± 0.003” per inch taper
Point Type	P-3 (135°) split point, heavy duty
Lengths	Screw Machine Length standard
NAS 907 Type D	Cobalt Heavy-Duty Jobber Drills / MSC Styles: R88CO, R89CO
Size Range	Ø1/16” thru Ø1/2”
Material	HSCo (M-33 or M-42)
Shank Options	Straight, straight with tri-flats, quick change, reduced shank, reduced shank with tri-flats, Tang
Surface Treatment	Bronze oxide finish standard, optional finishes may be specified by the customer
Web Construction	Thickness increases uniformly at a 0.027” ± 0.003” per inch taper
Point Type	P-9 (135°) split point, heavy duty
Lengths	Jobber Length - standard, 6” and 12” Aircraft Extension Lengths - optional

NAS 907 Type J	Cobalt Aircraft Extension Drills / MSC Styles: R10CO, R18CO, R15CO, 2ACO, CO500-6, CO501-6, CO500-12, CO501-12
Size Range	Ø1/16" thru Ø1/2"
Material	HSCo (M-33 or M-42)
Shank Options	Straight, straight with tri-flats, quick change, reduced shank, reduced shank with tri-flats, Tang
Surface Treatment	Bronze oxide finish standard, optional finishes may be specified by the customer
Web Construction	Thickness increases uniformly at a 0.006" ± 0.002" per inch taper
Point Type	P-3 (135°) split point, heavy duty
Lengths	Jobber Length - standard, 6" and 12" Aircraft Extension Lengths - optional
NAS 937 Type B	Double Margin Step Drill, HSS
Size Range	Ø1/8" thru Ø1/2"
Material	HSS (M2 or M7)
Shank Options	Straight, straight w/ tri flats, quick change, reduced shank, reduced shank with tri flats, Tang
Surface Treatment	Bright Finish standard, other customer specified finish optional
Web construction	Thickness increases uniformly at a 0.017" ± 0.003" per inch taper
Back Taper	0.0002" to 0.0005" per inch for all diameters
Point Type	P-3 (135°) split point, general purpose
Lengths	Jobber length standard, optional 6" and 12" Aircraft extension lengths
NAS 937 Type D	Double Margin Step Drill, HSCo - Offered as a special
Size Range	Ø1/8" thru Ø1/2"
Material	HSCo (M-33 or M-42)
Shank Options	Straight, straight w/ tri flats, quick change, reduced shank, reduced shank with tri flats, Tang
Surface Treatment	Oxide finish standard, other customer specified finish optional
Web construction	Thickness increases uniformly at a 0.017" ± 0.003" per inch taper
Back Taper	0.0002" to 0.0005" per inch for all diameters
Point Type	P-3 (135°) split point, general purpose, standard
Lengths	Jobber length standard, optional 6" and 12" Aircraft extension lengths
NAS 965 Type B	High Speed Steel Threaded Hex Shank Drills / MSC Styles: TS10, TS18, TS15, TS40, TS41, TS51, TS52, TS55
Size Range	Ø1/16" thru ØF
Material	HSS (M2 or M7)
Shank Options	1/4-28 UNF Threaded Hexagonal (5/16" Wrenching Flats)
Surface Treatment	Oxide finish standard, other customer specified finish optional
Web construction	Thickness increases uniformly at a 0.024" ± 0.003" per inch taper
Point Type	P-3 (135°) split point, general purpose
Lengths	Stub, short and long (2-1/8" O.A.L.) series available
NAS 965 Type D	Square or Hex Threaded Shank
Size Range	Ø1/16" thru ØF
Material	HSCo (M33 or M42)
Shank Options	1/4-28 UNF Threaded Square or Hexagonal (5/16" Wrenching Flats)
Surface Treatment	Oxide finish standard, other customer specified finish optional
Web construction	Thickness increases uniformly at a 0.027" ± 0.003" per inch taper
back taper	0.0002" to 0.0005" per inch for all diameters
Point Type	P-9 (135°) split point, heavy duty
Lengths	Stub, short and long (2-1/8" O.A.L.) series available

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