



Rotary Drag Bits - Section 6

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Overview

Mills Machine Company has been manufacturing Drag Bits for over 50 years and has established industry standards for Quality and Custom Design.

In 1976, we introduced our W6R line of drag bits featuring weld-on field-replaceable blades (this particular style of drag bit is still available as well as the individual weld-on blades). After the W6R line had been out in the field for a while, we soon realized that our customers were starting to experience problems in welding the blades back onto the shanks properly. One of the problems was that the old weld was not being removed from the shank and some blades stuck out further than the others. The other problem was that the proper cutting pitch was not being added, so the bits did not cut efficiently.

In 1990, we introduced our new NW6R line of bits featuring a two-piece design. The first piece is an NW6R connector, made from heat-treated alloy steel with the thread connection of your choice on one end and our special tapered NW6R box thread on the other end. The second piece is the NW6R Bit Head with carbide-inserted blades and our tapered NW6R pin.

The NW6R System is versatile and economical. This system offers the option of merely unscrewing the NW6R Head and throwing it away when it is worn out or increasing and/or decreasing the size by screwing on a larger or smaller NW6R Head. You may also change the bit style to a heavy duty design with thicker steel blades and carbide inserts, or change it to a different blade configuration like a Chevron or Apex style for tougher formations.

The NW6R System is economical because it saves you the cost of the alloy heat-treated shank each time a new bit is needed and eliminates the reworking process of a one-piece bit where the blades would have to be torched off and new ones welded on.

NW6R Reamers and Stabilizers may be added between the connector and bit head to ream out the hole or stabilize the bit--both of these options are inexpensive alternatives to buying a one-piece design.

We also have one-piece forged design drag bits available in step or chevron type with standard pin or box threads.

For larger size holes we offer our D6R Drag Bit line featuring heavy-duty bolt-on teeth with carbide inserts. Sizes range from 12 1/4" - 110" in diameter and can be manufactured for regular or reverse circulation.

Whether your application is in Water Well, Mining, Construction, or Exploration Drilling, Mills Machine has the custom designed bit to meet your requirements.

Please call for custom options and other accessories.

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Toll-Free: 800-654-2703
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NW6R Step Drag Bits - 3 Wing - Standard Duty

NW6R Standard Duty Step Drag Bits have 3/4" thick blades and 3/16" thick carbide inserts. This bit is designed for rapid penetration in soft to medium formations (clay, sand rock or shale).

The NW6R heads and connectors listed below are what we consider to be stock standard sizes, but we can custom manufacture any size that you need! The heads can be furnished with a stopper ring to provide a shouldered thread connection.

Head Only			Weight		Diagram
Description	Part #	NW6R Pin Connection	Lbs.	Kg.	
5 1/2" (139.7mm)	NW6R512S3	3 1/2" NW6R	14.0	6.4	 <p>Standard</p>  <p>Stopper Ring</p>
5 5/8" (142.9mm)	NW6R558S3	3 1/2" NW6R	14.0	6.4	
5 7/8" (149.2mm)	NW6R578S3	3 1/2" NW6R	14.0	6.4	
6" (152.4mm)	NW6R600S3	3 1/2" NW6R	15.0	6.8	
6 1/8" (155.6mm)	NW6R618S3	3 1/2" NW6R	15.0	6.8	
6 1/4" (158.8mm)	NW6R614S3	3 1/2" NW6R	15.0	6.8	
6 1/2" (165.1mm)	NW6R612S3	3 1/2" NW6R	16.0	7.3	
6 3/4" (171.4mm)	NW6R634S3	3 1/2" NW6R	16.0	7.3	
7" (177.8mm)	NW6R700S3	3 1/2" NW6R	16.0	7.3	
7 7/8" (200.0mm)	NW6R778S3	3 1/2" NW6R	20.0	9.1	
8 1/2" (208.3mm)	NW6R812S3	3 1/2" NW6R	25.0	11.3	
8 3/4" (222.2mm)	NW6R834S3	3 1/2" NW6R	26.0	11.8	
9 7/8" (250.8mm)	NW6R978S3	3 1/2" NW6R	27.0	12.2	
10 5/8" (269.9mm)	NW6R1058S3	3 1/2" NW6R	28.0	12.7	
12 1/4" (311.1mm)	NW6R1214S3	3 1/2" NW6R	43.0	19.5	
14 3/4" (374.7mm)	NW6R1434S3	4 1/2" NW6R	48.0	21.8	
17 1/2" (444.5mm)	NW6R1712S3	4 1/2" NW6R	75.0	34	
Connector Only			Weight		Diagram
Description	Part #	NW6R Box	Lbs.	Kg.	
3 1/2" Reg. Pin	NW3-312RP	3 1/2" NW6R	15.0	6.8	 <p>Box to Pin</p>  <p>Box to Box</p>
4 1/2" Reg. Pin	NW3-412RP	3 1/2" NW6R	22.0	10.0	
6 5/8" Reg. Pin	NW3-658RP	3 1/2" NW6R	55.0	24.9	
MJR Box	NW3-MJRB	3 1/2" NW6R	12.0	5.4	
MR Box	NW3-MRB	3 1/2" NW6R	15.0	6.8	
2 3/8" IF Box	NW3-238IFB	3 1/2" NW6R	20.0	9.1	
2 7/8" IF Box	NW3-278IFB	3 1/2" NW6R	22.0	10.0	
3 1/2" Reg. Pin	NW4-312RP	4 1/2" NW6R	20.0	9.1	
4 1/2" Reg. Pin	NW4-412RP	4 1/2" NW6R	22.0	10.0	
6 5/8" Reg. Pin	NW4-658RP	4 1/2" NW6R	55.0	24.9	

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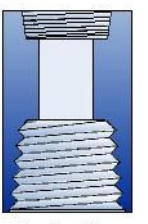
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NW6R Step Drag Bits - 4 Wing - Standard Duty

NW6R Standard Duty Step Drag Bits have 3/4" thick blades and 3/16" thick carbide inserts. This bit is designed for rapid penetration in soft to medium formations (clay, sand rock or shale).

The NW6R heads and connectors listed below are what we consider to be stock standard sizes but we can custom manufacture any size that you need! The heads can be furnished with a stopper ring to provide a shouldered thread connection.





Head Only			Weight		Diagram
Description	Part #	NW6R Pin Connection	Lbs.	Kg.	
5 1/2" (139.7mm)	NW6R512S4	3 1/2" NW6R	15.0	6.8	 <p>Standard</p>  <p>Stopper Ring</p>
5 5/8" (142.9mm)	NW6R558S4	3 1/2" NW6R	15.0	6.8	
5 7/8" (149.2mm)	NW6R578S4	3 1/2" NW6R	15.0	6.84	
6" (152.4mm)	NW6R600S4	3 1/2" NW6R	16.0	7.3	
6 1/8" (155.6mm)	NW6R618S4	3 1/2" NW6R	16.0	7.3	
6 1/4" (158.8mm)	NW6R614S4	3 1/2" NW6R	17.0	7.7	
6 1/2" (165.1mm)	NW6R612S4	3 1/2" NW6R	17.0	7.7	
6 3/4" (171.4mm)	NW6R634S4	3 1/2" NW6R	17.0	7.7	
7" (177.8mm)	NW6R700S4	3 1/2" NW6R	17.0	7.7	
7 7/8" (200.0mm)	NW6R778S4	3 1/2" NW6R	22.0	10.0	
8 1/2" (208.3mm)	NW6R812S4	3 1/2" NW6R	26.0	11.8	
8 3/4" (222.2mm)	NW6R834S4	3 1/2" NW6R	28.0	11.8	
9 7/8" (250.8mm)	NW6R978S4	3 1/2" NW6R	31.0	12.7	
10 5/8" (269.9mm)	NW6R1058S4	3 1/2" NW6R	31.0	14.1	
12 1/4" (311.1mm)	NW6R1214S4	3 1/2" NW6R	48.0	21.8	
14 3/4" (374.7mm)	NW6R1434S4	4 1/2" NW6R	54.0	24.4	
17 1/2" (444.5mm)	NW6R1712S4	4 1/2" NW6R	82.0	37.2	
Connector Only			Weight		Diagram
Description	Part #	NW6R Box	Lbs.	Kg.	
3 1/2" Reg. Pin	NW3-312RP	3 1/2" NW6R	15.0	6.8	 <p>Box to Pin</p>  <p>Box to Box</p>
4 1/2" Reg. Pin	NW3-412RP	3 1/2" NW6R	22.0	10.0	
6 5/8" Reg. Pin	NW3-658RP	3 1/2" NW6R	55.0	24.9	
MJR Box	NW3-MJRB	3 1/2" NW6R	12.0	5.4	
MR Box	NW3-MRB	3 1/2" NW6R	15.0	6.8	
2 3/8" IF Box	NW3-238IFB	3 1/2" NW6R	20.0	9.1	
2 7/8" IF Box	NW3-278IFB	3 1/2" NW6R	22.0	10.0	
3 1/2" Reg. Pin	NW4-312RP	4 1/2" NW6R	20.0	9.1	
4 1/2" Reg. Pin	NW4-412RP	4 1/2" NW6R	22.0	10.0	
6 5/8" Reg Pin	NW4-658RP	4 1/2" NW6R	55.0	24.9	

Please call for custom options and other accessories.

NW6R Step Drag Bits - 3 Wing - Heavy Duty

NW6R Heavy Duty Step Drag Bits have 1" thick blades and 1/4" thick carbide inserts. This bit is designed for rapid penetration in soft to medium formations (clay, sand rock or shale). The thicker blades and carbide inserts extend the life of the bit.

The NW6R heads and connectors listed below are what we consider to be standard sizes but we can custom manufacture any size that you need! The heads can be furnished with a stopper ring to provide a shouldered thread connection

Head Only			Weight		Diagram
*Other sizes available upon request. Stopper Ring is standard for 14 3/4" and 17 1/2" bits.			Lbs.	Kg.	
Description	Part #	NW6R Pin Connection	Lbs.	Kg.	Diagram
5 1/2" (139.7mm)	NW6R512S3HD	3 1/2" NW6R	31.0	14.1	 <p>Standard</p>
5 5/8" (142.9mm)	NW6R558S3HD	3 1/2" NW6R	31.0	14.1	
5 7/8" (149.2mm)	NW6R578S3HD	3 1/2" NW6R	32.0	14.5	
6" (152.4mm)	NW6R600S3HD	3 1/2" NW6R	32.0	14.5	
6 1/8" (155.6mm)	NW6R618S3HD	3 1/2" NW6R	32.0	14.5	
6 1/4" (158.8mm)	NW6R614S3HD	3 1/2" NW6R	32.0	14.5	
6 1/2" (165.1mm)	NW6R612S3HD	3 1/2" NW6R	33.0	15.0	
6 3/4" (171.4mm)	NW6R634S3HD	3 1/2" NW6R	33.0	15.0	
7" (177.8mm)	NW6R700S3HD	3 1/2" NW6R	33.0	15.0	
7 7/8" (200.0mm)	NW6R778S3HD	3 1/2" NW6R	33.0	15	
8 1/2" (208.3mm)	NW6R812S3HD	3 1/2" NW6R	43.0	19.5	
8 3/4" (222.2mm)	NW6R834S3HD	3 1/2" NW6R	44.0	20.0	
9 7/8" (250.8mm)	NW6R978S3HD	3 1/2" NW6R	45.0	20.4	
10 5/8" (269.9mm)	NW6R1058S3HD	3 1/2" NW6R	48.0	21.8	
12 1/4" (311.1mm)	NW6R1214S3HD	3 1/2" NW6R	52.0	23.8	 <p>Stopper Ring</p>
14 3/4" (374.7mm)	NW6R1434S3HD	4 1/2" NW6R	74.0	33.6	
17 1/2" (444.5mm)	NW6R1712S3HD	4 1/2" NW6R	112.0	50.8	
Connector Only			Weight		Diagram
Description	Part #	NW6R Box	Lbs.	Kg.	
3 1/2" Reg. Pin	NW3-312RP	3 1/2" NW6R	15.0	6.8	 <p>Box to Pin</p>
4 1/2" Reg. Pin	NW3-412RP	3 1/2" NW6R	22.0	10.0	
6 5/8" Reg. Pin	NW3-658RP	3 1/2" NW6R	55.0	24.9	
MJR Box	NW3-MJRB	3 1/2" NW6R	12.0	5.4	
MR Box	NW3-MRB	3 1/2" NW6R	15.0	6.8	
2 3/8" IF Box	NW3-238IFB	3 1/2" NW6R	20.0	9.1	
2 7/8" IF Box	NW3-278IFB	3 1/2" NW6R	22.0	10.0	
3 1/2" Reg. Pin	NW4-312RP	4 1/2" NW6R	20.0	9.1	
4 1/2" Reg. Pin	NW4-412RP	4 1/2" NW6R	22.0	10.0	
6 5/8" Reg. Pin	NW4-658RP	4 1/2" NW6R	55.0	24.9	
					 <p>Box to Box</p>

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6-5

NW6R Step Drag Bits - 4 Wing - Heavy Duty

NW6R Heavy Duty Step Drag Bits have 1" thick blades and 1/4" thick carbide inserts. This bit is designed for rapid penetration in soft to medium formations (clay, sand rock or shale). The thicker blades and carbide inserts extend the life of the bit.

The NW6R heads and connectors listed below are what we consider to be standard sizes but we can custom manufacture any size that you need! The heads can be furnished with a stopper ring to provide a shouldered thread connection.

Head Only			Weight		Diagram
*Other sizes available upon request. Stopper Ring is standard for 14 3/4" and 17 1/2" bits.			Lbs.	Kg.	
Description	Part #	NW6R Pin Connection	Lbs.	Kg.	Diagram
5 1/2" (139.7mm)	NW6R512S4HD	3 1/2" NW6R	32.0	14.5	 <p>Standard</p>
5 5/8" (142.9mm)	NW6R558S4HD	3 1/2" NW6R	32.0	14.5	
5 7/8" (149.2mm)	NW6R578S4HD	3 1/2" NW6R	33.0	15.0	
6" (152.4mm)	NW6R600S4HD	3 1/2" NW6R	33.0	15.0	
6 1/8" (155.6mm)	NW6R618S4HD	3 1/2" NW6R	33.0	15.0	
6 1/4" (158.8mm)	NW6R614S4HD	3 1/2" NW6R	33.0	15.0	
6 1/2" (165.1mm)	NW6R612S4HD	3 1/2" NW6R	34.0	15.4	
6 3/4" (171.4mm)	NW6R634S4HD	3 1/2" NW6R	34.0	15.4	
7" (177.8mm)	NW6R700S4HD	3 1/2" NW6R	34.0	15.4	
7 7/8" (200.0mm)	NW6R778S4HD	3 1/2" NW6R	34.0	15.4	
8 1/2" (208.3mm)	NW6R812S4HD	3 1/2" NW6R	45.0	20.4	
8 3/4" (222.2mm)	NW6R834S4HD	3 1/2" NW6R	46.0	20.8	
9 7/8" (250.8mm)	NW6R978S4HD	3 1/2" NW6R	47.0	21.3	
10 5/8" (269.9mm)	NW6R1058S4HD	3 1/2" NW6R	50.0	22.7	
12 1/4" (311.1mm)	NW6R1214S4HD	3 1/2" NW6R	55.0	24.9	 <p>Stopper Ring</p>
14 3/4" (374.7mm)	NW6R1434S4HD	4 1/2" NW6R	78.0	35.4	
17 1/2" (444.5mm)	NW6R1712S4HD	4 1/2" NW6R	116.0	52.6	
Connector Only			Weight		Diagram
Description	Part #	NW6R Box	Lbs.	Kg.	
3 1/2" Reg. Pin	NW3-312RP	3 1/2" NW6R	15.0	6.8	 <p>Box to Pin</p>
4 1/2" Reg. Pin	NW3-412RP	3 1/2" NW6R	22.0	10.0	
6 5/8" Reg. Pin	NW3-658RP	3 1/2" NW6R	55.0	24.9	
MJR Box	NW3-MJRB	3 1/2" NW6R	12.0	5.4	
MR Box	NW3-MRB	3 1/2" NW6R	15.0	6.8	
2 3/8" IF Box	NW3-238IFB	3 1/2" NW6R	20.0	9.1	
2 7/8" IF Box	NW3-278IFB	3 1/2" NW6R	22.0	10.0	
3 1/2" Reg. Pin	NW4-312RP	4 1/2" NW6R	20.0	9.1	
4 1/2" Reg. Pin	NW4-412RP	4 1/2" NW6R	22.0	10.0	
6 5/8" Reg. Pin	NW4-658RP	4 1/2" NW6R	55.0	24.9	

Please call for custom options and other accessories.

6-6

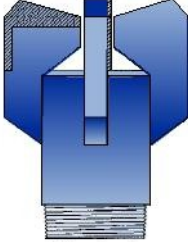



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NW6R Chevron Drag Bits - 3 Wing - Heavy Duty

NW6R Chevron drag bits are heavy duty with 1" thick blades and 1/4" carbide. The Chevron (Apex) style drag bit does not penetrate as fast as the step type, however it will cut harder formations such as medium soft to medium hard sand rock and shale.

NW6R Chevron - Head Only - 3 Wing - Heavy Duty			Weight		Diagram
<p>The NW6R heads and connectors listed below are what we consider to be standard sizes but we can custom manufacture any size that you need! The heads can be furnished with a stopper ring to provide a shouldered thread connection.</p> <p>*Other sizes available upon request.</p>					
Description	Part #	Connection	Lbs.	Kg.	
5 1/2" (139.7mm)	NW6R512C3	3 1/2" NW6R	18.0	8.2	 <p>Standard</p>  <p>Stopper Ring</p>
5 5/8" (142.9mm)	NW6R558C3	3 1/2" NW6R	18.0	8.2	
5 7/8" (149.2mm)	NW6R578C3	3 1/2" NW6R	19.0	8.6	
6" (152.4mm)	NW6R600C3	3 1/2" NW6R	19.0	8.6	
6 1/8" (155.6mm)	NW6R618C3	3 1/2" NW6R	19.0	8.6	
6 1/4" (158.8mm)	NW6R614C3	3 1/2" NW6R	20.0	9.1	
6 1/2" (165.1mm)	NW6R612C3	3 1/2" NW6R	20.0	9.1	
6 3/4" (171.4mm)	NW6R634C3	3 1/2" NW6R	21.0	8.5	
7" (177.8mm)	NW6R700C3	3 1/2" NW6R	21.0	9.5	
7 7/8" (200.0mm)	NW6R778C3	3 1/2" NW6R	24.0	10.9	
8 1/2" (208.3mm)	NW6R812C3	3 1/2" NW6R	27.0	12.2	
8 3/4" (222.2mm)	NW6R834C3	3 1/2" NW6R	28.0	12.7	
9 7/8" (250.8mm)	NW6R978C3	3 1/2" NW6R	31.0	14.1	
10 5/8" (269.9mm)	NW6R1058C3	3 1/2" NW6R	38.0	17.2	
12 1/4" (311.1mm)	NW6R1214C3	3 1/2" NW6R	57.0	25.9	
14 3/4" (374.7mm)	NW6R1434C3	4 1/2" NW6R	71.0	32.2	
Connector Only			Weight		Diagram
<p>S-Stock item *Other threads available upon request.</p> <p>NW6R Connectors are manufactured from 4142 heat treated alloy steel and are offered in any thread you need.</p>					
Description	Part #	Connection	Lbs.	Kg.	
3 1/2" Reg. Pin	NW3-312RP	3 1/2" NW6R	15.0	6.8	 <p>Box to Pin</p>  <p>Box to Box</p>
4 1/2" Reg. Pin	NW3-412RP	3 1/2" NW6R	22.0	10.0	
6 5/8" Reg. Pin	NW3-658RP	3 1/2" NW6R	55.0	24.9	
MR Box	NW3-MRB	3 1/2" NW6R	15.0	6.8	
2 3/8" IF Box	NW3-238IFB	3 1/2" NW6R	20.0	9.1	
2 7/8" IF Box	NW3-278IFB	3 1/2" NW6R	22.0	10.0	
3 1/2" Reg. Pin	NW4-312RP	4 1/2" NW6R	20.0	9.1	
4 1/2" Reg. Pin	NW4-412RP	4 1/2" NW6R	22.0	10.0	
6 5/8" Reg Pin	NW4-658RP	4 1/2" NW6R	55.0	24.9	

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W6R Step Drag Bits - Standard Duty - One Piece

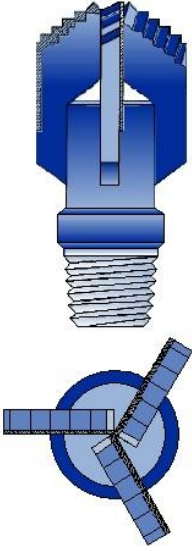
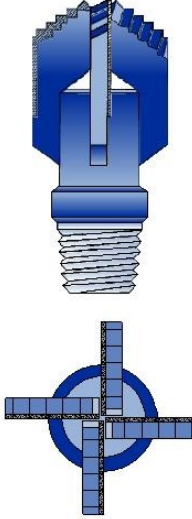
W6R Standard Duty Step Drag Bits use 3/4" thick blades and 3/16" thick carbide inserts. This bit is designed for rapid penetration in soft to medium formations (clay, sand rock or shale).

Standard Pin or Box

We can supply these bits with the following standard connections:

Mayhew Reg., Mayhew Jr., 2 3/8" IF, 2 7/8" IF, 2 3/8" Reg., 2 7/8" Reg., 3 1/2" Reg., 4 1/2" Reg., 6 5/8" Reg.

Other pin and box connections are available on request.

Description	Part #	Weight		Diagram
		Lbs.	Kg.	
W6R Drag Bit - 3 Wing				
5 1/2" (139.7mm)	W6R512S3	-		
5 5/8" (142.9mm)	W6R558S3	-		
5 7/8" (149.2mm)	W6R578S3	-		
6" (152.4mm)	W6R600S3	-		
6 1/8" (155.6mm)	W6R618S3	-		
6 1/4" (158.8mm)	W6R614S3	-		
6 1/2" (165.1mm)	W6R612S3	-		
6 3/4" (171.4mm)	W6R634S3	-		
7" (177.8mm)	W6R700S3	-		
7 7/8" (200.0mm)	W6R778S3	-		
8 1/2" (208.3mm)	W6R812S3	-		
8 3/4" (222.2mm)	W6R834S3	-		
9 7/8" (250.8mm)	W6R978S3	-		
10 5/8" (269.9mm)	W6R1058S3	-		
12 1/4" (311.1mm)	W6R1214S3	-		
14 3/4" (374.7mm)	W6R1434S3	-		
17 1/2" (444.5mm) - Stabilizer Band (yes)	W6R1712S3	-		
W6R Drag Bit - 4 Wing				
5 1/2" (139.7mm)	W6R512S4	-		
5 5/8" (142.9mm)	W6R558S4	-		
5 7/8" (149.2mm)	W6R578S4	-		
6" (152.4mm)	W6R600S4	-		
6 1/8" (155.6mm)	W6R618S4	-		
6 1/4" (158.8mm)	W6R614S4	-		
6 1/2" (165.1mm)	W6R612S4	-		
6 3/4" (171.4mm)	W6R634S4	-		
7" (177.8mm)	W6R700S4	-		
7 7/8" (200.0mm)	W6R778S4	-		
8 1/2" (208.3mm)	W6R812S4	-		
8 3/4" (222.2mm)	W6R834S4	-		
9 7/8" (250.8mm)	W6R978S4	-		
10 5/8" (269.9mm)	W6R1058S4	-		
12 1/4" (311.1mm)	W6R1214S4	-		
14 3/4" (374.7mm)	W6R1434S4	-		
17 1/2" (444.5mm) - Stabilizer Band (yes)	W6R1712S4	-		

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W6R Step Drag Bits - Heavy Duty - One Piece


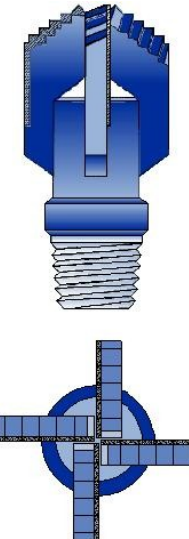
Heavy Duty drag bits have 1" thick blades and 1/4" thick carbide inserts. This bit is designed for rapid penetration in soft to medium formations (clay, sand rock or shale) while the thicker blades and carbide extend the life of the bit. Listed below is our standard three and four blade but we also offer 5 or 6 blades in a variety of custom shapes and styles.

Standard Pin or Box

We can supply these bits with the following standard connections:

Mayhew Reg., Mayhew Jr., 2 3/8" IF, 2 7/8" IF, 2 3/8" Reg., 2 7/8" Reg., 3 1/2" Reg., 4 1/2" Reg., 6 5/8" Reg.

Other pin and box connections are available on request.

Description	Part #	Weight		Diagram
		Lbs.	Kg.	
W6R Heavy Duty 3 Wing				
5 1/2" (139.7mm)	W6R512S3HD	-		
5 5/8" (142.9mm)	W6R558S3HD	-		
5 7/8" (149.2mm)	W6R578S3HD	-		
6" (152.4mm)	W6R600S3HD	-		
6 1/8" (155.6mm)	W6R618S3HD	-		
6 1/4" (158.8mm)	W6R614S3HD	-		
6 1/2" (165.1mm)	W6R612S3HD	-		
6 3/4" (171.4mm)	W6R634S3HD	-		
7" (177.8mm)	W6R700S3HD	-		
7 7/8" (200.0mm)	W6R778S3HD	-		
8 1/2" (208.3mm)	W6R812S3HD	-		
8 3/4" (222.2mm)	W6R834S3HD	-		
9 7/8" (250.8mm)	W6R978S3HD	-		
10 5/8" (269.9mm)	W6R1058S3HD	-		
12 1/4" (311.1mm)	W6R1214S3HD	-		
14 3/4" (374.7mm)	W6R1434S3HD	-		
17 1/2" (444.5mm) - Stabilizer Band (yes)	W6R1712S3HD	-		
W6R Heavy Duty 4 Wing				
5 1/2" (139.7mm)	W6R512S4HD	-		
5 5/8" (142.9mm)	W6R558S4HD	-		
5 7/8" (149.2mm)	W6R578S4HD	-		
6" (152.4mm)	W6R600S4HD	-		
6 1/8" (155.6mm)	W6R618S4HD	-		
6 1/4" (158.8mm)	W6R614S4HD	-		
6 1/2" (165.1mm)	W6R612S4HD	-		
6 3/4" (171.4mm)	W6R634S4HD	-		
7" (177.8mm)	W6R700S4HD	-		
7 7/8" (200.0mm)	W6R778S4HD	-		
8 1/2" (208.3mm)	W6R812S4HD	-		
8 3/4" (222.2mm)	W6R834S4HD	-		
9 7/8" (250.8mm)	W6R978S4HD	-		
10 5/8" (269.9mm)	W6R1058S4HD	-		
12 1/4" (311.1mm)	W6R1214S4HD	-		
14 3/4" (374.7mm)	W6R1434S4HD	-		
17 1/2" (444.5mm) - Stabilizer Band (yes)	W6R1712S4HD	-		

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6-9

Drag Bit Blades - Step Type for NW6R and W6R

Description	Part #	Weight		Diagram
		Lbs.	Kg.	
Standard Duty 3/4" Thick				
Weld-on replacement blades for NW6R and W6R Step Type Drag Bits are made with 3/4" Steel Plate and 3/16" Carbide. Other shapes and styles are available.				
*5 1/2" - 12 1/4" Inserted Wings fit 3 1/2" O.D. shanks; 14 3/4" and larger fit 4 1/2" O.D. shanks.				
5 1/2" (140mm) Inserted Wing	NW6RIW512S	2.0	0.9	
5 5/8" (143mm) Inserted Wing	NW6RIW558S	2.0	0.9	
5 7/8" (149mm) Inserted Wing	NW6RIW578S	2.0	0.9	
6" (152mm) Inserted Wing	NW6RIW600S	2.0	0.9	
6 1/8" (156mm) Inserted Wing	NW6RIW618S	2.7	1.2	
6 1/4" (159mm)	NW6RIW614S	2.7	1.2	
6 1/2" (165mm) Inserted Wing	NW6RIW612S	2.7	1.2	
6 3/4" (171mm) Inserted Wing	NW6RIW634S	3.0	1.4	
7" (178mm) Inserted Wing	NW6RIW700S	3.0	1.4	
7 7/8" (200mm) Inserted Wing	NW6RIW778S	3.4	1.5	
8 1/2" (208mm) Inserted Wing	NW6RIW812S	4.4	2.9	
8 3/4" (222mm) Inserted Wing	NW6RIW834S	4.4	2.0	
9 7/8" (251mm) Inserted Wing	NW6RIW978S	5.0	2.3	
10 5/8" (270mm) Inserted Wing	NW6RIW1058S	5.4	2.3	
12 1/4" (311mm) Inserted Wing	NW6RIW1214S	5.7	2.6	
14 3/4" (375mm) Inserted Wing	NW6RIW1434S	10.0	4.5	
17 1/2" (445mm) Inserted Wing	NW6RIW1712S	12.7	5.8	
Heavy Duty 1" Thick				
Weld-on Replacement Blades for Heavy Duty NW6R and W6R Step Type Drag Bits are made with 1" Steel Plate and 1/4" carbide. Other shapes and styles are available.				
*5 1/2" - 12 1/4" Inserted Wings fit 3 1/2" O.D. shanks; 14 3/4" and larger fit 4 1/2" O.D. shanks.				
5 1/2" (140mm) HD Inserted Wing	NW6RIW512HD	-		
5 5/8" (143mm) HD Inserted Wing	NW6RIW558HD	-		
5 7/8" (149mm) HD Inserted Wing	NW6RIW578HD	-		
6" (152mm) HD Inserted Wing	NW6RIW600HD	-		
6 1/8" (156mm) HD Inserted Wing	NW6RIW618HD	-		
6 1/4" (159mm) HD Inserted Wing	NW6RIW614HD	-		
6 1/2" (165mm) HD Inserted Wing	NW6RIW612HD	-		
6 3/4" (171mm) HD Inserted Wing	NW6RIW634HD	-		
7" (178mm) HD Inserted Wing	NW6RIW700HD	-		
7 7/8" (200mm) HD Inserted Wing	NW6RIW778HD	-		
8 1/2" (208mm) HD Inserted Wing	NW6RIW812HD	-		
8 3/4" (222mm) HD Inserted Wing	NW6RIW834HD	-		
9 7/8" (251mm) HD Inserted Wing	NW6RIW978HD	-		
10 5/8" (270mm) HD Inserted Wing	NW6RIW1058HD	-		
12 1/4" (311mm) HD Inserted Wing	NW6RIW1214HD	-		
14 3/4" (378mm) HD Inserted Wing	NW6RIW1434HD	-		
17 1/2" (445mm) HD Inserted Wing	NW6RIW1712HD	-		

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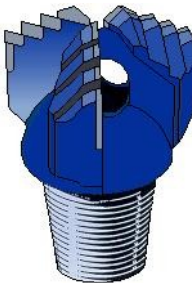

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Forged Step Drag Bits -3 Wing - Pin

Description	Part #	Weight		Diagram
		Lbs.	Kg.	
4 Thd N Rod Pin				
2 3/4" (70mm) Step Drag Bit, 4 Thd N Rod Pin	DB234S4N	-		
2 7/8" (73mm) Step Drag Bit, 4 Thd N Rod Pin	DB278S4N	-		
3" (76mm) Step Drag Bit, 4 Thd N Rod Pin	DB300S4N	-		
3 1/8" (79mm) Step Drag Bit, 4 Thd N Rod Pin	DB318S4N	-		
3 1/2" (89mm) Step Drag Bit, 4 Thd N Rod Pin	DB312S4N	-		
3 3/4" (95mm) Step Drag Bit, 4 Thd N Rod Pin	DB334S4N	-		
2 3/8" API Reg. Pin				
3 5/8" (92mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB358S238RP	-		
3 7/8" (98mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB378S238RP	5.0		
4 1/4" (108mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB414S238RP	5.0		
4 1/2" (114mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB412S238RP	5.0		
4 3/4" (121mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB434S238RP	5.0		
5" (127mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB500S238RP	6.0	2.7	
5 1/8" (130mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB518S238RP	-		
5 1/4" (133mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB514S238RP	7.0		
5 1/2" (140mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB512S238RP	7.5		
5 5/8" (144mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB558S238	8.0		
6" (152mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB600S238RP	8.0		
6 1/4" (159mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB614S238RP	8.5		
6 1/2" (165mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB612S238RP	9.0		
6 3/4" (172mm) Step Drag Bit, 2 3/8" API Reg. Pin	DB634S238RP	9.0		
3 1/2" API Reg. Pin				
5 1/2" (140mm) Step Drag Bit, 3 1/2" API Reg. Pin	DB512S312RP	20.0		
5 5/8" (144mm) Step Drag Bit, 3 1/2" API Reg. Pin	DB558S312RP	20.0		
6" (152mm) Step Drag Bit, 3 1/2" API Reg. Pin	DB600S312RP	20.0		
6 1/4" (159mm) Step Drag Bit, 3 1/2" API Reg. Pin	DB614S312RP	20.0		
6 1/2" (165mm) Step Drag Bit, 3 1/2" API Reg. Pin	DB612S312RP	20.0		
6 3/4" (172mm) Step Drag Bit, 3 1/2" API Reg. Pin	DB634S312RP	20.0		
6 7/8" (175mm) Step Drag Bit, 3 1/2" API Reg. Pin	DB678S312RP	24.0		
7" (178mm) Step Drag Bit, 3 1/2" API Reg. Pin	DB700S312RP	25.0		
8" (203mm) Step Drag Bit, 3 1/2" API Reg. Pin	DB800S312RP	28.0		
9" (229mm) Step Drag Bit, 3 1/2" API Reg. Pin	DB900S312RP	30.0		
10" (254mm) Step Drag Bit, 3 1/2" API Reg. Pin	DB1000S312RP	34.0		
11" (279mm) Step Drag Bit, 3 1/2" API Reg. Pin	DB1100S312RP	43.0		
12 1/4" (311mm) Step Drag Bit, 3 1/2" API Reg. Pin	DB1214S312RP	45.0		
4 1/2" API Reg. Pin				
7 7/8" (200mm) Step Drag Bit, 4 1/2" API Reg. Pin	DB778S412RP	38.0		
8" (203mm) Step Drag Bit, 4 1/2" API Reg. Pin	DB800S412RP	38.0		
9" (229mm) Step Drag Bit, 4 1/2" API Reg. Pin	DB900S412RP	40.0		
9 7/8" (251mm) Step Drag Bit, 4 1/2" API Reg. Pin	DB978S412RP	40.0		
10" (254mm) Step Drag Bit, 4 1/2" API Reg. Pin	DB1000S412RP	42.0		
10 5/8" (270mm) Step Drag Bit, 4 1/2" API Reg. Pin	DB1058S412RP	42.0		
11" (279mm) Step Drag Bit, 4 1/2" API Reg. Pin	DB1100S412RP	45.0		
12 1/4" (311mm) Step Drag Bit, 4 1/2" API Reg. Pin	DB1214S412RP	47.0		

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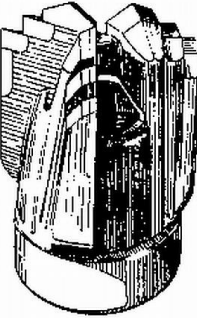
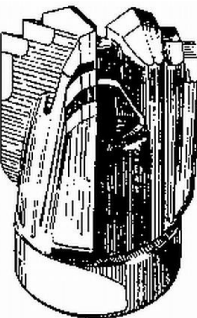
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6-11

Forged Step Drag Bits - 3 Wing - Box

Description	Part #	Weight		Diagram	
		Lbs.	Kg.		
ACRO Box					
3 7/8" (98mm) Step Drag Bit, ACRO	DB378SACROB	5.5	2.5		
MJR Box					
3 7/8" (98mm) Step Drag Bit, MJR Box	DB378SMJRB	5.5	2.5		
4 3/4" (121mm) Step Drag Bit, MJR Box	DB434SMJRB	10.0	4.6		
5 1/4" (133mm) Step Drag Bit, MJR Box	DB514SMJRB	10.0	4.6		
5 1/2" (140mm) Step Drag Bit, MJR Box	DB512SMJRB	12.0	5.6		
5 5/8" (130mm) Step Drag Bit, MJR Box	DB558SMJRB	12.0	5.6		
5 7/8" (149mm) Step Drag Bit, MJR Box	DB578SMJRB	12.0	5.6		
6" (152mm) Step Drag Bit, MJR Box	DB600SMJRB	12.0	5.6		
6 1/8" (156mm) Step Drag Bit, MJR Box	DB618SMJRB	12.0	5.6		
6 1/4" (159mm) Step Drag Bit, MJR Box	DB614SMJRB	12.0	5.6		
6 1/2" (165mm) Step Drag Bit, MJR Box	DB612SMJRB	12.0	5.6		
6 3/4" (172mm) Step Drag Bit, MJR Box	DB634SMJRB	12.0	5.6		
7" (178mm) Step Drag Bit, MJR Box	DB700SMJRB	14.0	6.5		
7 1/2" (191mm) Step Drag Bit, MJR Box	DB712SMJRB	14.0	6.5		
7 7/8" (200mm) Step Drag Bit, MJR Box	DB778SMJRB	14.0	6.5		
8 1/2" (216mm) Step Drag Bit, MJR Box	DB812SMJRB	16.0	7.4		
8 3/4" (222mm) Step Drag Bit, MJR Box	DB834SMJRB	16.0	7.4		
9" (229mm) Step Drag Bit, MJR Box	DB900SMJRB	16.0	7.4		
9 1/2" (241mm) Step Drag Bit, MJR Box	DB912SMJRB	18.0	8.3		
9 7/8" (251mm) Step Drag Bit, MJR Box	DB978SMJRB	18.0	8.3		
10" (254mm) Step Drag Bit, MJR Box	DB1000SMJRB	18.0	8.3		
FEDP Box					
4 3/4" (121mm) Step Drag Bit, FEDP Box	DB434SFEDPB	10.0	4.6		
5 1/4" (133mm) Step Drag Bit, FEDP Box	DB514SFEDPB	10.0	4.6		
5 1/2" (140mm) Step Drag Bit, FEDP Box	DB512SFEDPB	12.0	5.6		
5 5/8" (130mm) Step Drag Bit, FEDP Box	DB558SFEDPB	12.0	5.6		
5 7/8" (149mm) Step Drag Bit, FEDP Box	DB578SFEDPB	12.0	5.6		
6" (152mm) Step Drag Bit, FEDP Box	DB600SFEDPB	12.0	5.6		
6 1/8" (156mm) Step Drag Bit, FEDP Box	DB618SFEDPB	12.0	5.6		
6 1/4" (159mm) Step Drag Bit, FEDP Box	DB614SFEDPB	12.0	5.6		
6 1/2" (165mm) Step Drag Bit, FEDP Box	DB612SFEDPB	12.0	5.6		
6 3/4" (172mm) Step Drag Bit, FEDP Box	DB634SFEDPB	12.0	5.6		
7" (178mm) Step Drag Bit, FEDP Box	DB700SFEDPB	14.0	6.5		
7 1/2" (191mm) Step Drag Bit, FEDP Box	DB712SFEDPB	14.0	6.5		
7 7/8" (200mm) Step Drag Bit, FEDP Box	DB778SFEDPB	14.0	6.5		
8 1/2" (216mm) Step Drag Bit, FEDP Box	DB812SFEDPB	16.0	7.4		
8 3/4" (222mm) Step Drag Bit, FEDP Box	DB834SFEDPB	16.0	7.4		
9" (229mm) Step Drag Bit, FEDP Box	DB900SFEDPB	16.0	7.4		
9 1/2" (241mm) Step Drag Bit, FEDP Box	DB912SFEDPB	18.0	8.3		
9 7/8" (251mm) Step Drag Bit, FEDP Box	DB978SFEDPB	18.0	8.3		
10" (254mm) Step Drag Bit, FEDP Box	DB1000SFEDPB	18.0	8.3		

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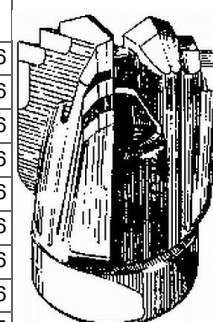
MR Box

4 3/4" (121mm) Step Drag Bit, MR Box	DB434SMRB	10.0	4.6
5 1/4" (133mm) Step Drag Bit, MR Box	DB514SMRB	10.0	4.6
5 1/2" (140mm) Step Drag Bit, MR Box	DB512SMRB	12.0	5.6
5 5/8" (130mm) Step Drag Bit, MR Box	DB558SMRB	12.0	5.6
5 7/8" (149mm) Step Drag Bit, MR Box	DB578SMRB	12.0	5.6
6" (152mm) Step Drag Bit, MR Box	DB600SMRB	12.0	5.6
6 1/8" (156mm) Step Drag Bit, MR Box	DB618SMRB	12.0	5.6
6 1/4" (159mm) Step Drag Bit, MR Box	DB614SMRB	12.0	5.6
6 1/2" (165mm) Step Drag Bit, MR Box	DB612SMRB	12.0	5.6
6 3/4" (172mm) Step Drag Bit, MR Box	DB634SMRB	12.0	5.6
7" (178mm) Step Drag Bit, MR Box	DB700SMRB	14.0	6.5
7 1/2" (191mm) Step Drag Bit, MR Box	DB712SMRB	14.0	6.5
7 7/8" (200mm) Step Drag Bit, MR Box	DB778SMRB	14.0	6.5
8 1/2" (216mm) Step Drag Bit, MR Box	DB812SMRB	16.0	7.4
8 3/4" (222mm) Step Drag Bit, MR Box	DB834SMRB	16.0	7.4
9" (229mm) Step Drag Bit, MR Box	DB900SMRB	16.0	7.4
9 1/2" (241mm) Step Drag Bit, MR Box	DB912SMRB	18.0	8.3
9 7/8" (251mm) Step Drag Bit, MR Box	DB978SMRB	18.0	8.3
10" (254mm) Step Drag Bit, MR Box	DB1000SMRB	18.0	8.3



2 3/8" IF Box

4 3/4" (121mm) Step Drag Bit, 2 3/8" IF Box	DB434S238IFB	10.0	4.6
5 1/4" (133mm) Step Drag Bit, 2 3/8" IF Box	DB514S238IFB	10.0	4.6
5 1/2" (140mm) Step Drag Bit, 2 3/8" IF Box	DB512S238IFB	12.0	5.6
5 5/8" (130mm) Step Drag Bit, 2 3/8" IF Box	DB558S238IFB	12.0	5.6
5 7/8" (149mm) Step Drag Bit, 2 3/8" IF Box	DB578S238IFB	12.0	5.6
6" (152mm) Step Drag Bit, 2 3/8" IF Box	DB600S238IFB	12.0	5.6
6 1/8" (156mm) Step Drag Bit, 2 3/8" IF Box	DB618S238IFB	12.0	5.6
6 1/4" (159mm) Step Drag Bit, 2 3/8" IF Box	DB614S238IFB	12.0	5.6
6 1/2" (165mm) Step Drag Bit, 2 3/8" IF Box	DB612S238IFB	12.0	6.5
6 3/4" (172mm) Step Drag Bit, 2 3/8" IF Box	DB634S238IFB	12.0	5.6
7" (178mm) Step Drag Bit, 2 3/8" IF Box	DB700S238IFB	14.0	6.5
7 1/2" (191mm) Step Drag Bit, 2 3/8" IF Box	DB712S238IFB	14.0	6.5
7 7/8" (200mm) Step Drag Bit, 2 3/8" IF Box	DB778S238IFB	14.0	6.5
8 1/2" (216mm) Step Drag Bit, 2 3/8" IF Box	DB812S238IFB	16.0	7.4
8 3/4" (222mm) Step Drag Bit, 2 3/8" IF Box	DB834S238IFB	16.0	7.4
9" (229mm) Step Drag Bit, 2 3/8" IF Box	DB900S238IFB	16.0	7.4
9 1/2" (241mm) Step Drag Bit, 2 3/8" IF Box	DB912S238IFB	18.0	8.3
9 7/8" (251mm) Step Drag Bit, 2 3/8" IF Box	DB978S238IFB	18.0	8.3
10" (254mm) Step Drag Bit, 2 3/8" IF Box	DB1000S238IFB	18.0	8.3



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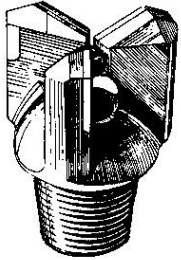
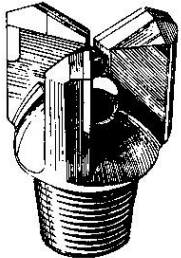
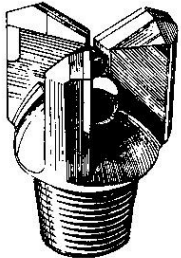
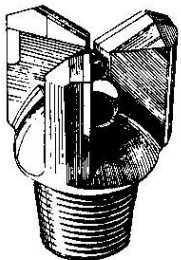
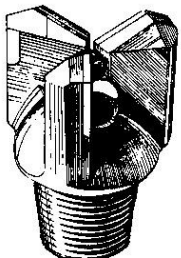
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Forged Chevron Drag Bits - 3 Wing

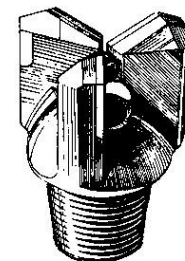
Description	Part #	Weight		Diagram
		Lbs.	Kg.	
AW Pin				
1 7/8" (48mm) Chevron Drag Bit, AW Pin	DB178CAWP	2.0	0.9	
2" (51mm) Chevron Drag Bit, AW Pin	DB200CAWP	2.0	0.9	
2 1/8" (54mm) Chevron Drag Bit, AW Pin	DB218CAWP	2.0	0.9	
2 1/4" (57mm) Chevron Drag Bit, AW Pin	DB214CAWP	2.0	0.9	
2 1/2" (64mm) Chevron Drag Bit, AW Pin	DB212CAWP	2.0	0.9	
2 3/4" (70mm) Chevron Drag Bit, AW Pin	DB234CAWP	2.5	1.1	
2 7/8" (73mm) Chevron Drag Bit, AW Pin	DB278CAWP	2.5	1.1	
A-Rod Pin				
1 7/8" (48mm) Chevron Drag Bit, A-Rod Pin	DB178CARP	2.0	0.9	
2" (51mm) Chevron Drag Bit, A-Rod Pin	DB200CARP	2.0	0.9	
2 1/8" (54mm) Chevron Drag Bit, A-Rod Pin	DB218CARP	2.0	0.9	
2 1/4" (57mm) Chevron Drag Bit, A-Rod Pin	DB214CARP	2.0	0.9	
2 1/2" (64mm) Chevron Drag Bit, A-Rod Pin	DB212CARP	2.0	0.9	
2 3/4" (70mm) Chevron Drag Bit, A-Rod Pin	DB234CARP	2.5	1.1	
2 7/8" (73mm) Chevron Drag Bit, A-Rod Pin	DB278CARP	2.5	1.1	
3 Thd N-Rod Pin				
2 3/4" (70mm) Chevron Drag Bit, 3 Thd N-Rod Pin	DB234C3NP	3.0	1.4	
2 7/8" (73mm) Chevron Drag Bits, 3 Thd N-Rod Pin	DB278C3NP	3.0	1.4	
3" (76mm) Chevron Drag Bit, 3 Thd N-Rod Pin	DB300C3NP	3.0	1.4	
3 1/8" (79mm) Chevron Drag Bit, 3 Thd N-Rod Pin	DB318C3NP	3.0	1.4	
3 1/4" (83mm) Chevron Drag Bit, 3 Thd N-Rod Pin	DB314C3NP	3.5	1.6	
3 1/2" (89mm) Chevron Drag Bit, 3 Thd N-Rod Pin	DB312C3NP	4.0	1.8	
3 3/4" (95mm) Chevron Drag Bit, 3 Thd N-Rod Pin	DB334C3NP	4.0	1.8	
4 Thd N-Rod Pin				
2 3/4" (70mm) Chevron Drag Bit, 4 Thd N-Rod Pin	DB234C4NP	3.0	1.4	
2 7/8" (73mm) Chevron Drag Bit, 4 Thd N-Rod Pin	DB278C4NP	3.0	1.4	
3" (73mm) Chevron Drag Bit, 4 Thd N-Rod Pin	DB300C4NP	3.0	1.4	
3 1/8" (79mm) Chevron Drag Bit, 4 Thd N-Rod Pin	DB318C4NP	3.0	1.4	
3 1/4" (83mm) Chevron Drag Bit, 4 Thd N-Rod Pin	DB314C4NP	3.5	1.6	
3 1/2" (89mm) Chevron Drag Bit, 4 Thd N-Rod Pin	DB312C4NP	4.0	1.8	
3 3/4" (95mm) Chevron Drag Bit, 4 Thd N-Rod Pin	DB334C4NP	4.0	1.8	
2" IF Pin				
2 3/4" (70mm) Chevron Drag Bit, 2" IF Pin	DB234C2IFP	3.0	1.4	
2 7/8" (73mm) Chevron Drag Bit, 2" IF Pin	DB278C2IFP	3.0	1.4	
3" (76mm) Chevron Drag Bit, 2" IF Pin	DB300C2IFP	3.0	1.4	
3 1/8" (79mm) Chevron Drag Bit, 2" IF Pin	DB318C2IFP	3.0	1.4	
3 1/4" (83mm) Chevron Drag Bit, 2" IF Pin	DB314C2IFP	3.5	4.6	
3 1/2" (89mm) Chevron Drag Bit, 2" IF Pin	DB312C2IFP	4.0	1.8	
3 3/4" (95mm) Chevron Drag Bit, 2" IF Pin	DB334C2IFP	4.0	1.8	

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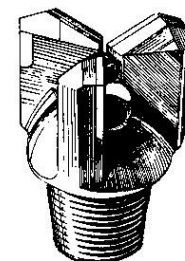
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2 3/8" API Reg. Pin

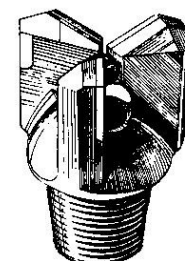
3 5/8" (92mm) Chevron Drag Bit, 2 3/8" API Reg. Pin	DB358C238RP	6.0	2.7
3 3/4" (95mm) Chevron Drag Bit, 2 3/8" API Reg. Pin	DB334C238RP	6.0	2.7
3 7/8" (98mm) Chevron Drag Bit, 2 3/8" API Reg. Pin	DB378C238RP	6.0	2.7
4" (102mm) Chevron Drag Bit, 2 3/8" API Reg. Pin	DB400C238RP	6.0	2.7
4 1/4" (108mm) Chevron Drag Bit, 2 3/8" API Reg. Pin	DB414C238RP	6.0	2.7
4 1/2" (114mm) Chevron Drag Bit, 2 3/8" API Reg. Pin	DB412C238RP	6.0	2.7
4 5/8" (117mm) Chevron Drag Bit, 2 3/8" API Reg. Pin	DB458C238RP	6.0	2.7
4 3/4" (121mm) Chevron Drag Bit, 2 3/8" API Reg. Pin	DB434C238RP	6.0	2.7
4 7/8" (124mm) Chevron Drag Bit, 2 3/8" API Reg. Pin	DB478C238RP	7.0	3.2
5" (127mm) Chevron Drag Bit, 2 3/8" API Reg. Pin	DB500C238RP	7.0	3.2
5 1/8" (130mm) Chevron Drag Bit, 2 3/8" API Reg. Pin	DB518C238RP	7.0	3.2
5 1/4" (133mm) Chevron Drag Bit, 2 3/8" API Reg. Pin	DB514C238RP	7.0	3.2
5 1/2" (140mm) Chevron Drag Bit, 2 3/8" API Reg. Pin	DB512C238RP	7.0	3.2

**2 7/8" API Reg. Pin**

4 5/8" (117mm) Chevron Drag Bit, 2 7/8" API Reg. Pin	DB458C278RP	9.0	4.1
4 3/4" (121mm) Chevron Drag Bit, 2 7/8" API Reg. Pin	DB434C278RP	9.0	4.1
4 7/8" (124mm) Chevron Drag Bit, 2 7/8" API Reg. Pin	DB478C278RP	9.0	4.1
5" (127mm) Chevron Drag Bit, 2 7/8" API Reg. Pin	DB500C278RP	10.0	4.5
5 1/8" (130mm) Chevron Drag Bit, 2 7/8" API Reg. Pin	DB518C278RP	12.0	5.4
5 1/4" (133mm) Chevron Drag Bit, 2 7/8" API Reg. Pin	DB514C278RP	12.0	5.4
5 1/2" (140mm) Chevron Drag Bit, 2 7/8" API Reg. Pin	DB512C278RP	12.0	5.4

**3 1/2" API Reg. Pin**

5 1/2" (140mm) Chevron Drag Bit, 3 1/2" API Reg. Pin	DB512C312RP	16.0	7.3
5 5/8" (143mm) Chevron Drag Bit, 3 1/2" API Reg. Pin	DB558C312RP	16.0	7.3
6" (152mm) Chevron Drag Bit, 3 1/2" API Reg. Pin	DB600C312RP	17.0	7.7
6 1/8" (156mm) Chevron Drag Bit, 3 1/2" API Reg. Pin	DB618C312RP	17.0	7.7
6 1/4" (159mm) Chevron Drag Bit, 3 1/2" API Reg. Pin	DB614C312RP	18.0	8.2
6 1/2" (165mm) Chevron Drag Bit, 3 1/2" API Reg. Pin	DB612C312RP	19.0	8.6
6 3/4" (172mm) Chevron Drag Bit, 3 1/2" API Reg. Pin	DB634C312RP	20.0	9.1
7" (178mm) Chevron Drag Bit, 3 1/2" API Reg. Pin	DB700C312RP	20.0	9.1
7 1/4" (184mm) Chevron Drag Bit, 3 1/2" API Reg. Pin	DB714C312RP	21.0	9.5
7 1/2" (191mm) Chevron Drag Bit, 3 1/2" API Reg. Pin	DB712C312RP	22.0	10
7 3/4" (197mm) Chevron Drag Bit, 3 1/2" API Reg. Pin	DB734C312RP	23.0	10.4
7 7/8" (200mm) Chevron Drag Bit, 3 1/2" API Reg. Pin	DB778C312RP	23.0	10.4
8" (203mm) Chevron Drag Bit, 3 1/2" API Reg. Pin	DB800C312RP	24.0	10.9



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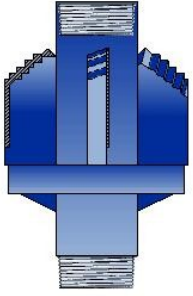
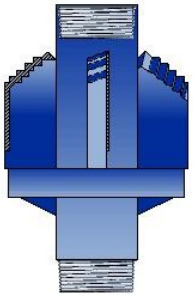
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NW6R Drag Reamer - Standard Duty

The NW6R Drag Reamer (Holeopener) is designed to fit between an NW6R Connector and an NW6R Drag Bit Head. The NW6R Drag Reamer can be used with any size NW6R Head and is available with 3 or 4 blades. The Standard Duty Reamer has 3/4" thick blades with 3/16" carbide inserts. Other shapes and sizes are available.

Description	Part #	Weight		Diagram
		Lbs.	Kg.	
3 Wing Drag Reamer				
8 1/2" (208mm)	NW6RREAM812-3	26.0	11.8	
8 3/4" (222mm)	NW6RREAM834-3	26.0	11.8	
9 7/8" (251mm)	NW6RREAM978-3	28.0	12.7	
10 5/8" (270mm)	NW6RREAM1058-3	34.0	15.5	
12 1/4" (311mm)	NW6RREAM1214-3	42.0	19.1	
14 3/4" (375mm)	NW6RREAM1434-3	49.0	22.2	
17 1/2" (445mm)	NW6RREAM1712-3	71.0	32.2	
20" (508mm)	NW6RREAM2000-3	-	-	
22" (559mm)	NW6RREAM2200-3	-	-	
24" (610mm)	NW6RREAM2400-3	-	-	
4 Wing Drag Reamer				
7 7/8" (200mm)	NW6RREAM778-4	30.0	13.6	
8 1/2" (208mm)	NW6RREAM812-4	30.0	13.6	
9 7/8" (251mm)	NW6RREAM978-4	38.0	17.2	
10 5/8" (270mm)	NW6RREAM1058-4	40.0	18.1	
12 1/4" (311mm)	NW6RREAM1214-4	50.0	22.7	
14 3/4" (375mm)	NW6RREAM1434-4	57.0	25.9	
17 1/2" (445mm)	NW6RREAM1712-4	81.0	36.7	
8 3/4" (222mm)	NW6RREAM834-4	30.0	13.6	
20" (508mm)	NW6RREAM2000-4	-	-	
22" (559mm)	NW6RREAM2200-4	-	-	
24" (610mm)	NW6RREAM2400-4	-	-	

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NW6R Drag Reamer - Heavy Duty

The NW6R Drag Reamer (Holeopener) is designed to fit between an NW6R Connector and an NW6R Drag Bit Head. The NW6R Drag Reamer can be used with any size NW6R Head and is available with 3 or 4 blades. The Heavy Duty Reamer has 1" thick blades with 1/4" carbide inserts. Other shapes and sizes are available.

Description	Part #	Weight		Diagram
		Lbs.	Kg.	
3 Wing Drag Reamer - Heavy Duty				
5 1/2" (140mm)	NW6RREAM512-3HD	18.0	8.2	
5 5/8" (143mm)	NW6RREAM558-3HD	18.0	8.2	
5 7/8" (149mm)	NW6RREAM578-3HD	18.0	8.2	
6" (152mm)	NW6RREAM600-3HD	18.0	8.2	
6 1/8" (156mm)	NW6RREAM618-3HD	19.0	8.6	
6 1/4" (159mm)	NW6RREAM614-3HD	19.0	8.6	
6 1/2" (165mm)	NW6RREAM612-3HD	19.0	8.6	
6 3/4" (171mm)	NW6RREAM634-3HD	21.0	9.5	
7" (178mm)	NW6RREAM700-3HD	21.0	9.5	
7 7/8" (200mm)	NW6RREAM778-3HD	21.0	9.5	
8 1/2" (208mm)	NW6RREAM812-3HD	26.0	11.8	
8 3/4" (222mm)	NW6RREAM834-3HD	26.0	11.8	
9 7/8" (251mm)	NW6RREAM978-3HD	28.0	12.7	
10 5/8" (270mm)	NW6RREAM1058-3HD	34.0	15.5	
12 1/4" (311mm)	NW6RREAM1214-3HD	42.0	19.1	
14 3/4" (375mm)	NW6RREAM1434-3HD	49.0	22.2	
17 1/2" (445mm)	NW6RREAM1712-3HD	71.0	32.2	
4 Wing Drag Reamer - Heavy Duty				
5 1/2" (140mm)	NW6RREAM512-4HD	19.0	8.6	
5 5/8" (143mm)	NW6RREAM558-4HD	19.0	8.6	
5 7/8" (149mm)	NW6RREAM578-4HD	19.0	8.6	
6" (152mm)	NW6RREAM600-4HD	19.0	8.6	
6 1/8" (156mm)	NW6RREAM618-4HD	20.0	9.1	
6 1/4" (159mm)	NW6RREAM614-4HD	20.0	9.1	
6 1/2" (165mm)	NW6RREAM612-4HD	20.0	9.1	
6 3/4" (171mm)	NW6RREAM634-4HD	27.0	12.2	
7" (178mm)	NW6RREAM700-4HD	27.0	12.2	
7 7/8" (200mm)	NW6RREAM778-4HD	30.0	13.6	
8 1/2" (208mm)	NW6RREAM812-4HD	30.0	13.6	
8 3/4" (222mm)	NW6RREAM834-4HD	30.0	13.6	
9 7/8" (251mm)	NW6RREAM978-4HD	38.0	17.2	
10 5/8" (270mm)	NW6RREAM1058-4HD	40.0	18.1	
12 1/4" (311mm)	NW6RREAM1214-4HD	50.0	22.7	
14 3/4" (375mm)	NW6RREAM1434-4HD	57.0	25.9	
17 1/2" (445mm)	NW6RREAM1712-4HD	81.0	36.7	

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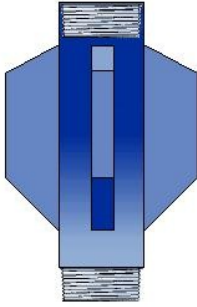
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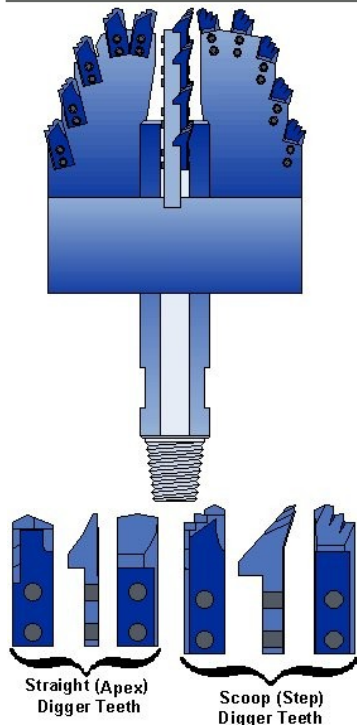
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NW6R Drag Stabilizers

The NW6R Drag Stabilizer is designed to fit between a NW6R Connector (top) and a NW6R Drag Bit Head (bottom). The NW6R Drag Stabilizer can be used with any size NW6R Head and is available with 3 or 4 blades. The standard configuration has 3 - 3/4 inch thick blades with tungsten carbide hard faced blades. Other shapes and sizes are available.

Description	Part #	Weight		Diagram
		Lbs.	Kg.	
3 Wing Stabilizer Other sizes and styles available upon request.				
5 1/2" (139.7mm)	NW6RSTAB512-3	39.0	17.7	
5 5/8" (142.9mm)	NW6RSTAB558-3	39.0	17.7	
5 7/8" (149.2mm)	MW6RSTAB578-3	39.0	17.7	
6" (152.4mm)	NW5RSTAB600-3	39.0	17.7	
6 1/8" (155.6mm)	NW6RSTAB618-3	40.0	18.1	
6 1/4" (158.8mm)	NW6RSTAB614-3	40.0	18.1	
6 1/2" (165.1mm)	NW6RSTAB612-3	40.0	18.1	
6 3/4" (171.4mm)	NW6RSTAB634-3	41.0	18.6	
7" (177.8mm)	NW6RSTAB700-3	41.0	18.6	
7 7/8" (200.0mm)	NW6RSTAB778-3	44.0	20.0	
8 1/2" (208.3mm)	NW6RSTAB812-3	46.0	20.9	
8 3/4" (222.2mm)	NW6RSTAB834-3	47.0	21.3	
9 7/8" (250.8mm)	NW6RSTAB978-3	48.0	21.8	
10 5/8" (269.9mm)	NW6RSTAB1058-3	49.0	22.2	
12 1/4" (311.1mm)	NW6RSTAB1214-3	53.0	24.0	
14 3/4" (374.7mm)	NW6RSTAB1434-3	83.0	37.6	
17 1/2" (444.5mm) - Stabilizer Band (yes)	NW6RSTAB1712-3	112.0	50.8	

D6R Drag Bits



Mills Machine manufactures an extensive line of D6R bolt-on tooth drag bits that can be made for a specific hole size or can be enlarged with bolt on reamer blades (see example below). These bits start at 12 1/4" diameter and can be made as large as you need. The basic bit is designed for the specific diameter of the hole desired or as a Reamer (Holeopener). Bits are available for standard or reverse circulation (flanged or threaded).

The bolt-on digger teeth are heavy duty castings with carbide inserts, the outside teeth have additional carbide on the outer edge for gage protection. The teeth are available in Straight (chevron or apex) type for medium soft to medium hard formation or Scoop (step) type for soft to medium formation.

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