

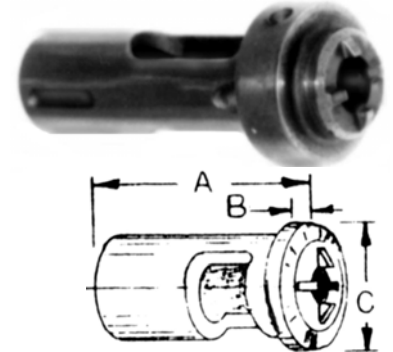
Jo-Bolt & Hi-Shear Drill Out Pressure Foot Quick Change Drill Out Guides



DGDO-0 thru 4 DRILL OUT GUIDES

These **UNITED** Drill Out Guides have four prongs to locate on the head of the Jo-Bolt that prevents the Jo-Bolt turning while drilling. A simple and inexpensive process.

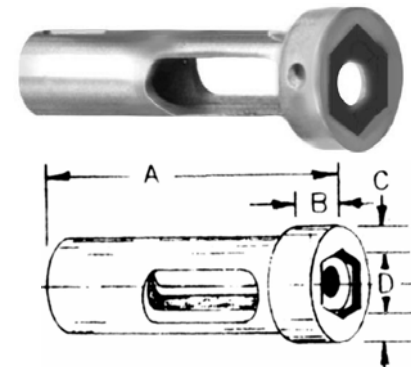
UNITED PART NO.	JO BOLT 'F' TYPE	I.D. DRILL SIZE	A LEN	B FLANGE	C FLANGE DIA	D HEX
DGDO-00F 164 #40	#8 F 164	#40	1-1/8			
DGDO-01F 200 28	#10 F 200	#28	1-1/8			
DGDO-02F 260 3/16	1/4 F 260	3/16	1-3/4			
DGDO-03F 312 7/32	5/16 F 312	7/32	2-1/4	1-7/16	5/8	
DGDO-04F 375 17/64	3/8 F 375	17/64	2-3/8	1-7/8	11/16	



DGDO-10 thru 14 DRILL OUT GUIDES

Drill Guides have a socket to locate on the head of the Jo-Bolt that prevents the Jo-Bolt turning while drilling. Quick change adapters are easy and economical.

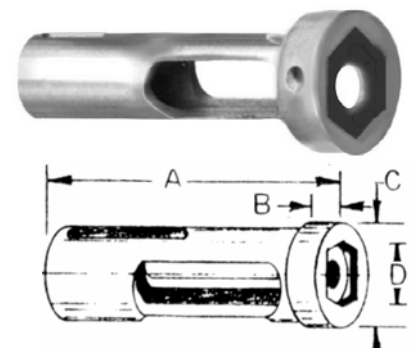
UNITED PART NO.	JO BOLT 'P' TYPE	I.D. DRILL SIZE	A LEN	B FLANGE	C FLANGE DIA	D HEX
DGDO-10P 164 #40	#8 P 164	#40	1-1/8			.251
DGDO-11P 200 28	#10 P 200	#28	1-1/8			.313
DGDO-12P 260 3/16	1/4 P 260	3/16	1-3/4			.378
DGDO-13P 312 7/32	5/16 P 312	7/32	2-1/4	5/16	5/8	.440
DGDO-14P 375 17/64	3/8 P 375	17/64	2-3/8	3/8	3/4	.503



DGDO-20 thru 22 DRILL OUT GUIDES

Use Pressure Foot Assemblies consistent with travel required for drilling out length of Jo-Bolts. PFA-32-9 has 9/16 travel; PFA-32-20 has 1-1/4 travel and PFA-32-32 has 2" travel.

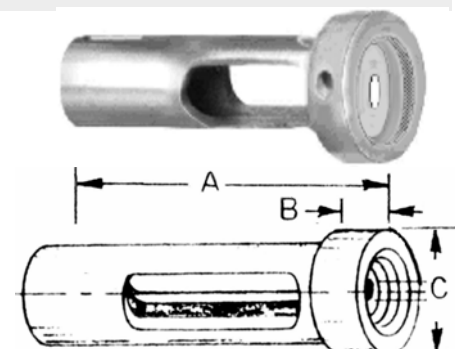
UNITED PART NO.	JO BOLT 'FA' & 'PA' TYPE	I.D. DRILL SIZE	A LEN	B FLANGE	C FLANGE DIA	D HEX
DGDO-20FA&PA 164 #40	#8	#40	1-1/8	—	—	.284
DGDO-21FA&PA 200 28	#10	#28	1-1/8	—	—	.347
DGDO-22FA&PA 260 3/16	1/4	3/16	1-3/4	1/4	3/4	.473



DGDO-31 thru 34 DRILL OUT GUIDES

Refer to PFA and Nose Piece specs and dimensions on Nose Piece and Pressure Foot Assemblies.

UNITED PART NO.	HI-SHEAR SIZE	I.D. DRILL SIZE	A LEN	B FLANGE	C FLANGE DIA	D HEX
DGDO-31	3/16	#30	1-1/8	—	—	—
DGDO-32	1/4	#21	1-1/8	—	—	—
DGDO-33	5/16	#11	2-1/4	5/16	5/8	—
DGDO-34	3/8	15/64	2-3/8	3/8	3/4	—

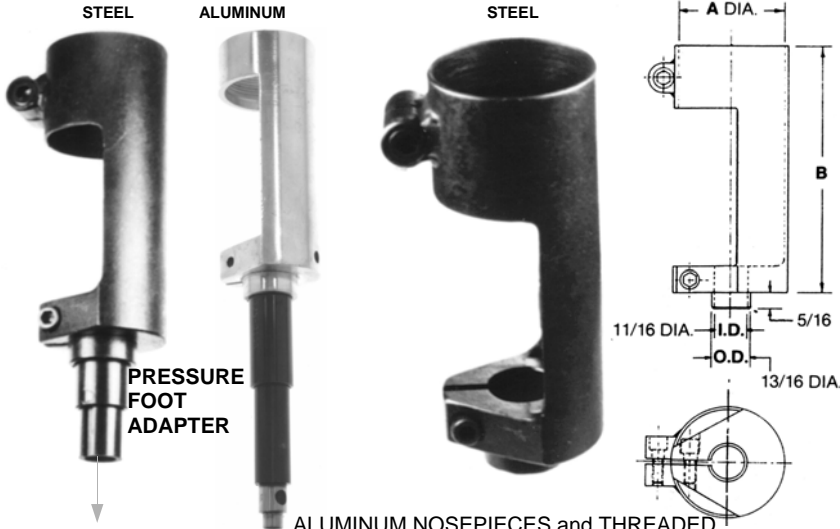


**Drill Guide Systems
Collapsible Type**

Light, Fast and Accurate Drill Guide Systems

EASY TO INSTALL — SIMPLE TO USE — RIGID and ACCURATE

NOSEPIECE ASSEMBLY



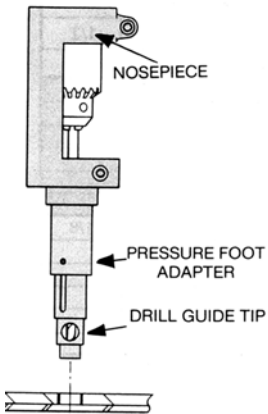
ALUMINUM NOSEPIECES and THREADED NOSEPIECES are AVAILABLE AS SPECIALS

NOSEPIECE

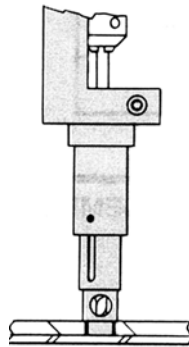
UNITED PART NO.	A I.D.	B LENGTH
DGNP-24-44	1-1/2	4-1/4
DGNP-25-44	1-9/16	4-1/4
DGNP-26-44	1-5/8	4-1/4
DGNP-27-44	1-11/16	4-1/4
DGNP-36-44	2-1/4	5"

TO USE an AIR MOTOR, slip over housing or chuck guard and simply tighten socket screw to hold nosepiece to air motor for a strong and firm assembly.

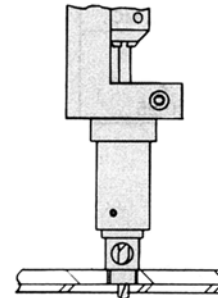
SIMPLE STEPS FOR INSTALLATION and USE



1. The Drill Guide is shown in extended position ready to insert into template hole. Point of the drill is kept protected by the guide.

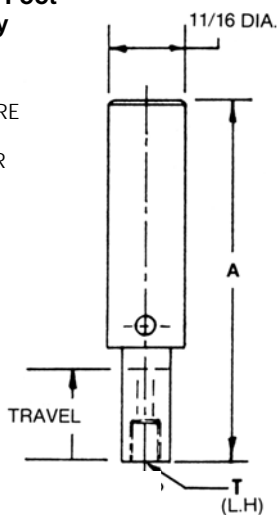
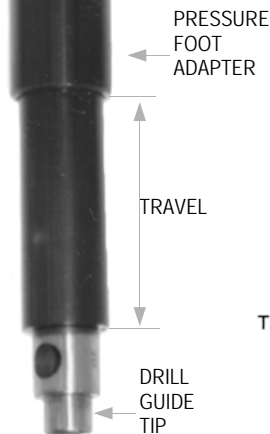


2. The Drill Guide Tip is seated in template. Rotating drill will not mar template or work.



3. Apply pressure and the Drill Guide retracts as the hole is drilled. Drill centers automatically. Chips are discharged easily through ports in tip.

Pressure Foot Assembly



SELECT OVERALL LENGTH and THREAD REQUIRED.

PRESSURE FOOT ADAPTER

UNITED PART NO.	A LENGTH	TRAVEL	T L.H. THREAD
PFA-44-9	1-15/16	9/16	3/8-24
PFA-44-16	2-13/16	1"	3/8-24
PFA-44-16A	2-13/16	1"	7/16-20
PFA-44-24	3-13/16	1-1/2	3/8-24

TO ATTACH, INSERT INTO NOSEPIECE AND TIGHTEN SOCKET HEAD SCREW.

ADAPTERS ARE SPRING LOADED.

ALLOY STEEL - HEAT TREATED BLACK OXIDE FINISH

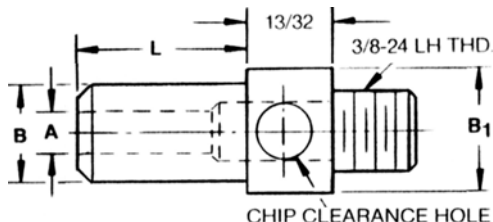
For DRILL GUIDE TIPS, see this Section.

Threaded Drill Guide Tips Bushings

Threaded Drill Guide Tips accept both the Handles below and the Pressure Foot Adapters.



TYPE DGT – DRILL GUIDE TIP



3/8 – 24
LH Thread



DRILL GUIDE TIP



PRESSURE FOOT ADAPTER



DRILL GUIDE TIP

HANDLE

FOR USE WITH MOST PRESSURE FOOT ADAPTERS ON PAGE C24 EXCEPT PFA-44-16A. See below.

To order specify Part No. and I. D. size. Example: DGT-20-8 #10

For Reamer Tolerances add R to Part No. Example: DGT-32-4 1/4R

A* I.D. RANGE	B PILOT DIA. NOM.	B ⁺⁰⁰⁰ -002 PILOT DIA.	B ₁ BODY DIA.	L PILOT LENGTH									
				3/16	1/4	3/8	1/2	5/8	3/4	1	1-1/4	1-1/2	
#50 - #30	3/16	.186	7/16		DGT 12-4	DGT 12-6	DGT 12-8	DGT 12-10					
#50 - .1615	1/4	.249	7/16	DGT 16-3	DGT 16-4	DGT 16-6	DGT 16-8	DGT 16-10	DGT 16-12				
#50 - .1995	5/16	.311	7/16	DGT 20-3	DGT 20-4	DGT 20-6	DGT 20-8	DGT 20-10	DGT 20-12	DGT 20-16	DGT 20-20	DGT 20-24	
#50 - 9/32	3/8	.374	1/2	DGT 24-3	DGT 24-4	DGT 24-6	DGT 24-8	DGT 24-10	DGT 24-12				
#50 - 19/64	1/2	.499	5/8	DGT 32-3	DGT 32-4	DGT 32-6	DGT 32-8	DGT 32-10	DGT 32-12				
#50 - 19/64	5/8	.623	3/4	DGT 40-3	DGT 40-4	DGT 40-6	DGT 40-8	DGT 40-10	DGT 40-12	DGT 40-16			

FOR USE WITH PFA-44-16A ONLY

To order specify Part No. and I. D. size.

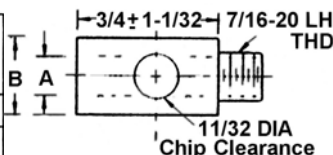
Example: DGTA-40-12 1/4

For Reamer Tolerances add 'R' to Part No.

Example: DGTA-32-12 7/32R

TYPE DGTA – DRILL GUIDE TIP

A* I.D. RANGE	B ⁺⁰⁰⁰ -002 BODY DIA.	PART NO.
.1985-.3125	.499	DGTA 32-12
.1985-.3125	.623	DGTA 40-12



7/16 – 20
LH Thread

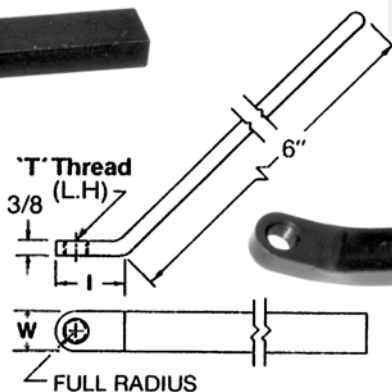


Typical Application with
Handle and Drill Guide Tip

HANDLE — DRILL GUIDE TIP

HANDLE TYPE DRILL JIG FOR
USE WITH DRILL GUIDE TIPS.

PART NO.	T (L.H) Thread	W
UDB-DGTH-1	3/8-24	5/8
UDB-DGTH-2	7/16-20	3/4

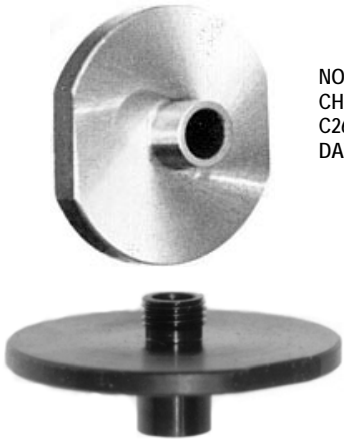


TAPPED HOLE

Router Collar Guides

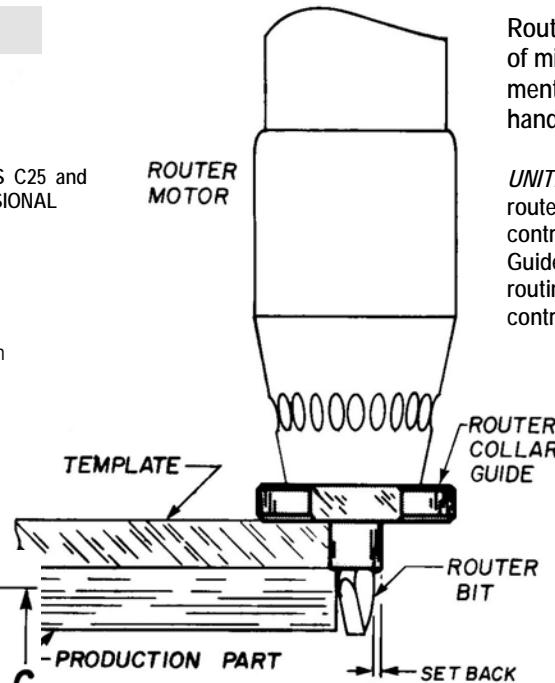
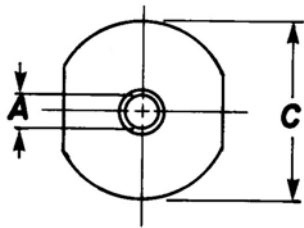
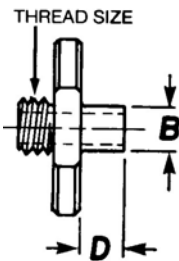
Router Collar Guides for Clean Controlled Milling

ROUTER COLLAR GUIDES



NOTE:
CHARTS on PAGES C25 and
C26 HAVE DIMENSIONAL
DATA.

Special Guides
are available on
request.



Routing is a name given the operation of milling when the feeding movements of the work are controlled hand.

UNITED's Router Collar Guides relate the router template to the router bit and control the setback. Our Router Collar Guides assure you of perpendicular routing, uniform depths and clean controlled milled edges.

See Next Page →

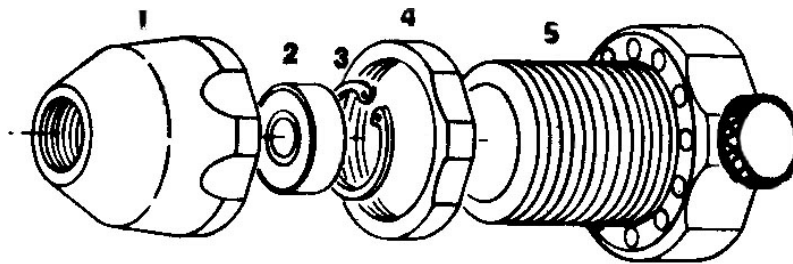
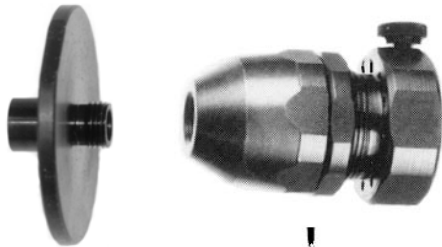
The Setback is the distance from the pilot outside diameter to the router bit.

To determine the setback, subtract the bit diameter from the pilot outside diameter and divide by two. The router will only be cutting from one guided side at a time, therefore the setback is measured for one side only.

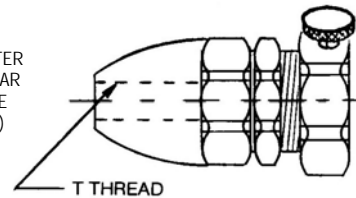
UNITED SETBACK FORMULA:

$$\frac{B(\text{Pilot O.D.}) - \text{Bit Diameter}}{2} = \text{SETBACK}$$

ROUTER NOSEPIECE ASSEMBLY



ROUTER
COLLAR
GUIDE
(REF.)

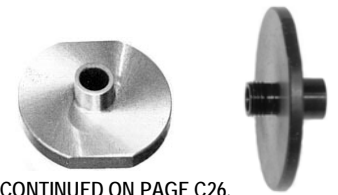
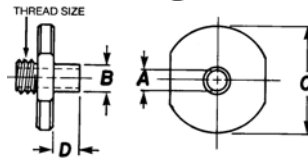


COMPLETE ASSEMBLY	CUTTER SHANK	T THD	1 NOSE	2 BEARING	3 RING	4 LOCK	5 ROUTER	FITS DOTCO TYPE
UDB-142187A	1/4	1/2 — 20	UDB-142176	UDB-140508	UDB-141098	UDB-142082	UDB-141180	10-10
UDB-142180	1/4	1/2 — 20	UDB-142176	UDB-140508	UDB-141098	UDB-142082	UDB-142080	10-20 AND 10-25
UDB-142381	5/16	1/2 — 20	UDB-142379	UDB-140538	UDB-141068	UDB-142082	UDB-142080	
UDB-142429	3/8	5/8 — 18	UDB-142426	UDB-140533	UDB-141068	UDB-142082	UDB-142080	

Router Collar Guides for Clean Controlled Milling

Router Collar Guides

For router bits up to 5/16 diameter 1/2—20 thread on the Router Guide is adequate. Router bits up to 3/8 require Guides with a thread of at least 5/8—18. For 1/2 routers use an 11/16—16 thread. CHART CONTINUED ON PAGE C26.



NOTE:

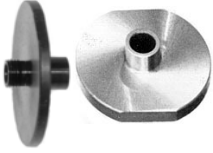
CHART BELOW IS CONTINUED ON PAGE C26.

UNITED'S ROUTER COLLAR GUIDE BUSHINGS are manufactured from tough heavy duty material.

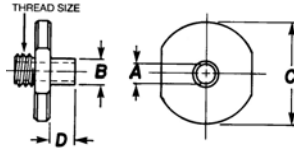
PART NO.	A I.D.	B PILOT O.D.	C FLANGE O.D.	D PILOT LENGTH	ROUTER BIT DIAMETER											
					1/8	3/16	1/4	5/16	3/8	1/2						
					SETBACK											
UDB-100002	17/64	5/16	3/4	5/16	3/32	1/16	1/32	1/2—20 THREAD								
UDB-100004			3/4	5/8												
UDB-100006			3/4	3/4												
UDB-100008			1-1/2	5/16												
UDB-100010	9/32	3/8	3/4	1/8	1/8	3/32	1/16	1/2—20 THREAD								
UDB-100012			3/4	1/4												
UDB-100014			3/4	3/8												
UDB-100016			3/4	1/2												
UDB-100018			3/4	3/4												
UDB-100020			3/4	1"												
UDB-100022			1-1/2	1/8												
UDB-100024			1-1/2	1/4												
UDB-100026			1-1/2	3/8												
UDB-100028			1-1/2	1/2												
UDB-100030			2-1/2	1/8												
UDB-100032			2-1/2	1/4												
UDB-100034			2-1/2	3/8												
UDB-100036			2-1/2	1/2												
UDB-100038	21/64	7/16	3/4	1/8	1/8	3/32	1/16	1/2—20 THREAD								
UDB-100040			3/4	1/4												
UDB-100042			3/4	3/8												
UDB-100044			1-1/2	1/2												
UDB-100046			1-1/2	1/8												
UDB-100048			1-1/2	1/4												
UDB-100050			1-1/2	3/8												
UDB-100052			1-1/2	1/2												
UDB-100054			2-1/2	1/8												
UDB-100056			2-1/2	1/4												
UDB-100058			2-1/2	3/8												
UDB-100060			2-1/2	1/2												
UDB-100062			11/32	1/2						1-1/2	1/4	5/32	1/8	3/32	1/2—20 THREAD	
UDB-100064										1-1/2	3/8					
UDB-100066	1-1/2	1/2														
UDB-100068	2-1/2	1/4														
UDB-100070	2-1/2	3/8														
UDB-100072	2-1/2	1/2														
UDB-100074	11/32	9/16	1-1/2	1/4	5/32	1/8	1/2 — 20 THREAD									
UDB-100076			1-1/2	3/8												
UDB-100078			1-1/2	1/2												
UDB-100080			2-1/2	1/4												
UDB-100082			2-1/2	3/8												
UDB-100084			2-1/2	1/2												
UDB-100086	11/32	5/8	1-1/2	1/4	3/16	5/32	1/2 — 20 THREAD									
UDB-100088			1-1/2	3/8												
UDB-100090			1-1/2	1/2												
UDB-100092			2-1/2	1/4												
UDB-100094			2-1/2	3/8												
UDB-100096			2-1/2	1/2												
UDB-100098	11/32	11/16	1-1/2	1/4	7/32	3/16	1/2 — 20 THREAD									
UDB-100100			1-1/2	3/8												
UDB-100102			1-1/2	1/2												
UDB-100104			2-1/2	1/4												
UDB-100106			2-1/2	3/8												
UDB-100108			2-1/2	1/2												

Router Collar Guides

Router Collar Guides for Clean Controlled



For router bits up to 5/16 diameter 1/2—20 thread on the Router Guide is adequate. Router bits up to 3/8 require Guides with a thread of at least 5/8—18. For 1/2 routers use an 11/16—16 thread.
CHART BEGINS on PREVIOUS PAGE C25.

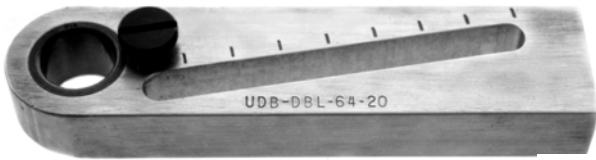


UNITED'S ROUTER COLLAR GUIDE BUSHINGS are manufactured from tough heavy duty material.

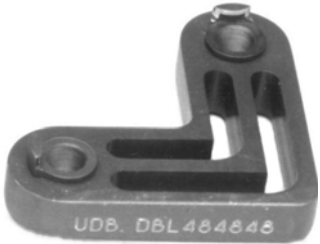
PART NO.	A I.D.	B PILOT O.D.	C FLANGE O.D.	D PILOT LENGTH	ROUTER BIT DIAMETER					
					1/8	3/16	1/4	5/16	3/8	1/2
					SETBACK					
UDB-100110	11/32	3/4	1-1/2	1/4			1/4	7/32	1/2 — 20 THREAD	
UDB-100112			1-1/2	3/8						
UDB-100114			1-1/2	1/2						
UDB-100116			2-1/2	1/4						
UDB-100118			2-1/2	3/8						
UDB-100120			2-1/2	1/2						
UDB-100122	11/32	7/8	1-1/2	1/4			5/16	9/32	1/2 — 20 THREAD	
UDB-100124			1-1/2	3/8						
UDB-100126			1-1/2	1/2						
UDB-100128			2-1/2	1/4						
UDB-100130			2-1/2	3/8						
UDB-100132			2-1/2	1/2						
UDB-100134	11/32	1"	1-1/2	1/4			3/8	11/32	1/2 — 20 THREAD	
UDB-100136			1-1/2	3/8						
UDB-100138			1-1/2	1/2						
UDB-100140			2-1/2	1/4						
UDB-100142			2-1/2	3/8						
UDB-100144			2-1/2	1/2						
UDB-100146	13/32	9/16	1-1/2	1/4	5/8 — 18 THREAD		1/8	3/32		
UDB-100148			1-1/2	3/8						
UDB-100150			1-1/2	1/2						
UDB-100152			2-1/2	1/4						
UDB-100154			2-1/2	3/8						
UDB-100156			2-1/2	1/2						
UDB-100158	17/32	5/8	1-1/2	1/4	11/16 — 16 THREAD		5/32	1/8	1/16	
UDB-100160			1-1/2	3/8						
UDB-100162			1-1/2	1/2						
UDB-100164			2-1/2	1/4						
UDB-100166			2-1/2	3/8						
UDB-100168			2-1/2	1/2						
UDB-100170	17/32	11/16	1-1/2	1/4	11/16—16 THREAD		3/16	5/32	3/32	
UDB-100172			1-1/2	3/8						
UDB-100174			1-1/2	1/2						
UDB-100176			2-1/2	1/4						
UDB-100178			2-1/2	3/8						
UDB-100180			2-1/2	1/2						
UDB-100182	17/32	3/4	1-1/2	1/4	11/16—16 THREAD		7/32	3/16	1/8	
UDB-100184			1-1/2	3/8						
UDB-100186			1-1/2	1/2						
UDB-100188			2-1/2	1/4						
UDB-100190			2-1/2	3/8						
UDB-100192			2-1/2	1/2						
UDB-100194	17/32	7/8	1-1/2	1/4	11/16—16 THREAD		9/32	1/4	3/16	
UDB-100196			1-1/2	3/8						
UDB-100198			1-1/2	1/2						
UDB-100100			2-1/2	1/4						
UDB-100202			2-1/2	3/8						
UDB-100204			2-1/2	1/2						
UDB-100206	17/32	1"	1-1/2	1/4	11/16—16 THREAD		11/32	5/16	1/4	
UDB-100208			1-1/2	3/8						
UDB-100210			1-1/2	1/2						
UDB-100212			2-1/2	1/4						
UDB-100214			2-1/2	3/8						
UDB-100216			2-1/2	1/2						

Drill Bars, Drill Stands, Kits Spotters, Threaded Bushings

*Drill Bars, Guides,
Stands, Spotters & Kits*



ADJUSTABLE DRILL BARS Page C30



RIGHT ANGLE DRILL BARS
Page C35



DRILL BAR & SPOTTER KITS
Page C31



PRODUCTION/REPAIR KITS Page C32



ADJUSTABLE UNI-SWIVEL DRILL BARS Page C34



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