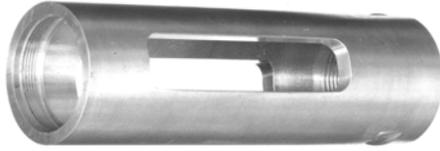
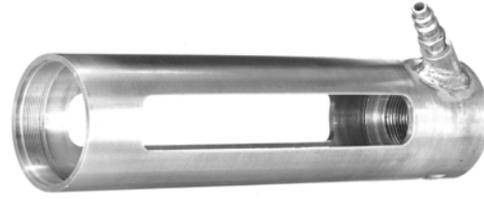


**Aluminum
Nosepiece Index**

Precision Aluminum Nosepieces Index



TYPE II REGULAR STYLE



TYPE II COOLANT STYLE

REGULAR STYLES...FOR MOST MAKES AND MODELS OF POSITIVE FEED DRILL MOTORS

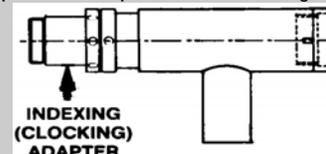
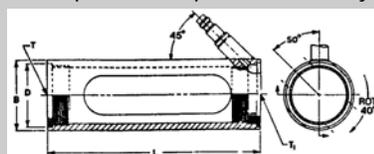
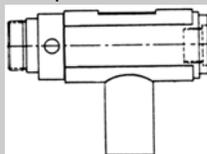
<p>TYPE I</p>	<p>QUACKENBUSH TYPE</p>	<p>PAGE O-12</p>	<p>Aluminum Nosepieces will be supplied unless otherwise specified.</p>
<p>TYPE II</p>	<p>QUACKENBUSH TYPE</p>	<p>PAGES O-12 O-13</p>	<p>If Steel Nosepieces are required, add suffix 'S' to Part No.</p>
<p>TYPE III</p>	<p>QUACKENBUSH TYPE</p>	<p>PAGE O-13</p>	<p>Add 'C' to Part No. for Coolant Style.</p>
<p>TYPE IV</p>	<p>QUACKENBUSH TYPE</p>	<p>PAGE O-13</p>	<p>Add 'V' to Part No. for Vacuum Style.</p>
<p>TYPE V</p>	<p>QUACKENBUSH TYPE</p>	<p>PAGE O-14</p>	<p>Add 'I' to Part No. for Indexing Adapter.</p>
<p>TYPE VI</p>	<p>ARO TYPE</p>	<p>PAGE O-15</p>	<p>Nosepieces work with Nurlock Adapters.</p>

All Nosepieces can be provided with Vacuum Pick-up.

All Nosepieces can be provided Coolant Style.

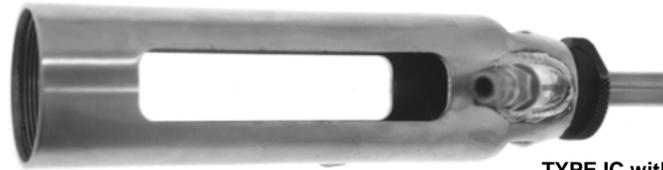
All Nosepieces can be provided with Indexing Adapter.

See Pages
O-8 thru O-10.



Precision Regular & Coolant Nosepieces

Aluminum
Nosepiece Index



TYPE IC with Nurlock Adapter

REGULAR STYLES...FOR MOST MAKES AND MODELS OF POSITIVE FEED DRILL MOTORS

<p>Aluminum Nosepieces will be supplied unless otherwise specified.</p>	<p>PAGES 0-15 0-18</p>	<p>GARDNER-DENVER & ARO TYPE</p>	<p>TYPE VII</p>		
<p>If Steel Nosepieces are required, add suffix 'S' to Part No.</p>	<p>PAGE 0-16</p>	<p>ZEPHYR TYPE</p>	<p>TYPE VIII</p>		
<p>Add 'C' to Part No. for Coolant Style.</p>	<p>PAGE 0-16</p>	<p>ZEPHYR TYPE</p>	<p>TYPE IX</p>		
<p>Add 'V' to Part No. for Vacuum Style.</p>	<p>PAGE 0-16</p>	<p>ZEPHYR TYPE</p>	<p>TYPE X</p>		
<p>Add 'I' to Part No. for Indexing Adapter.</p>	<p>PAGE 0-18</p>	<p>GARDNER-DENVER TYPE</p>	<p>TYPE XI</p>		
<p>Nosepieces work with Nurlock Adapters.</p>	<p>PAGE 0-17</p>	<p>ZEPHYR TYPE</p>	<p>TYPE XII</p>		
<p>All Nosepieces can be provided with Vacuum Pick-up.</p>		<p>All Nosepieces can be provided Coolant Style.</p>		<p>All Nosepieces can be provided with Indexing Adapter.</p>	
				<p>INDEXING (CLOCKING) ADAPTER</p>	

See Pages
0-8 thru 0-10.



Mr. Ray Culver (Lockheed-Georgia) shown setting up a right angle motor with Portable Gun Drilling Accessories.

You can achieve these results with **UNITED PORTABLE GUN DRILLING ACCESSORIES:**

- **DEEP HOLE DRILLING**
- **CLOSE TOLERANCE HOLES**
- **CHIP COLLECTION**
- **SINGLE OPERATION, FINISHED HOLES**
- **FULL BEARING FASTENERS**
- **CRITICAL SURFACE FINISHES**

If you would like more information about portable gun drilling, please call **UNITED**. We can provide related precision tooling products.

- ❶ Deep small diameter holes can now be gun drilled using portable positive-feed drill units.
- ❷ Concentric close tolerance holes with mirror-like finishes are attainable with a 'one-shot' operation.
- ❸ Gun drilling replaces conventional fastener hole preparation operations, such as pre-drilling, core drilling, reaming, honing and lapping, while consistently producing quality holes.
- ❹ With the newly developed tooling shown on the following pages, **UNITED** has helped make portable gun drilling a successful system.
- ❺ **UNITED** has worked closely with Mr. Ray Culver, Senior Tool Engineer at Lockheed-Georgia in the development of portable gun drilling. In addition, **UNITED** has assisted Boeing and others in their gun drilling development programs.

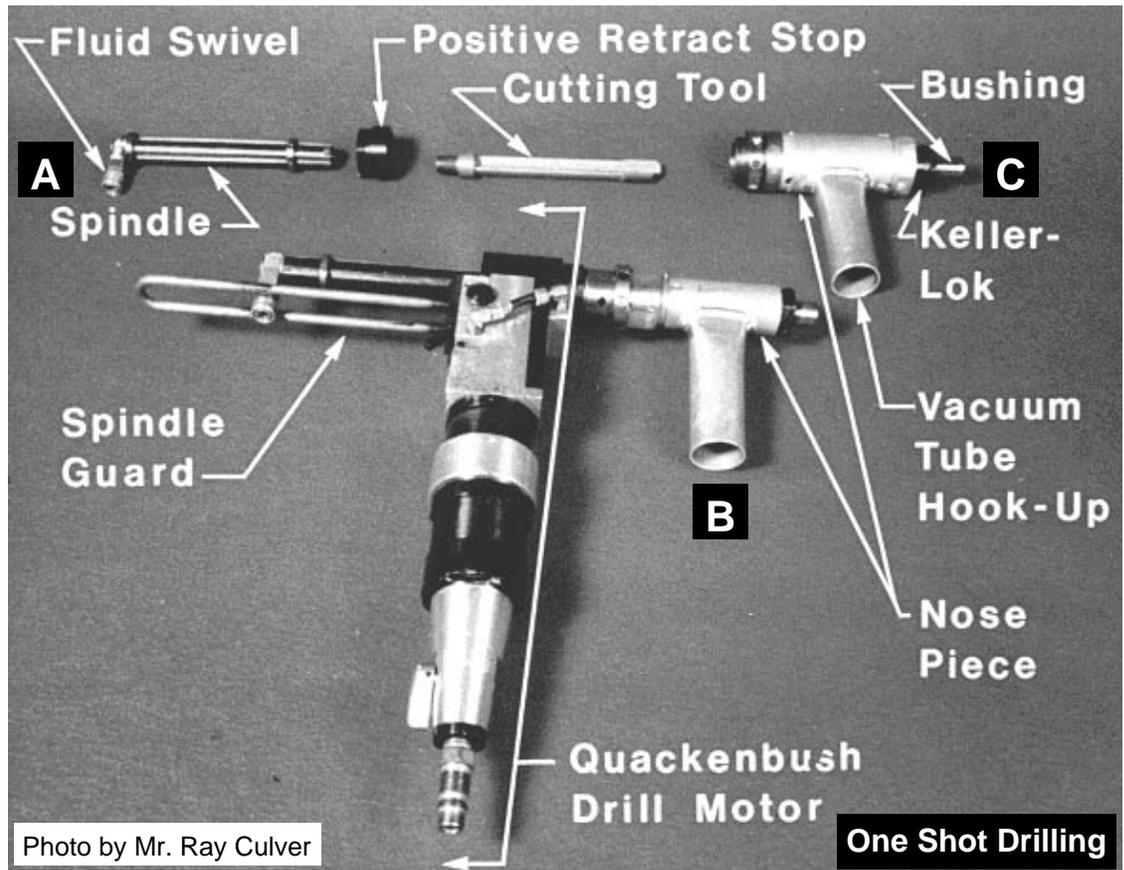
UNITED Gun Drilling

One-Shot
Gun Drilling

● **A**
Illustrates one of the many styles of Air-Fluid Chucks and Fluid Swivel Inducers manufactured by UNITED.

● **B**
Shows one style of UNITED's Vacuum Nosepieces.

● **C**
Displays the Telescopic Bushing concept. UNITED manufactures three styles: Two Nurlock variations plus the Helox Telescopic series.



“One Shot Drilling” Concept Explains How Gun Drills Work

❶ Coolant and Air mixture enters the chuck or swivel inducer at 100 PSI and is directed through the gun drill's coolant port. The high pressure forces the chips and coolant up the single flute of the gun drill into the nose piece, where they are vacuumed away into the collection device.

Popular coolants/lubricants include Freon, Boelube, Acrolube LPS or various mixtures of same. Air by itself has also proven feasible. UNITED's chucks are designed to maintain pressure and avoid leaks.

❷ Vacuum type nosepieces are available in many configurations. These include styles for both straight and right-angle drill motors, with Indexing (clocking) devices, viewing ports, fluid chuck guides and multi-position vacuum hose hook-up positions.

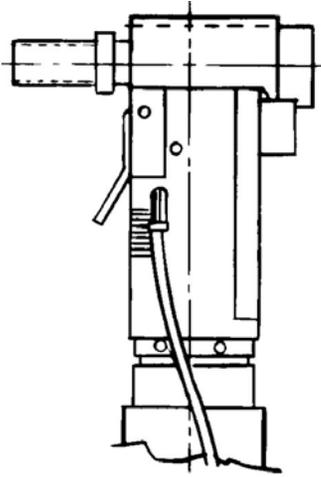
❸ One of the most essential requirements for successful portable gun drilling is bushing contact with the workpiece. Without this positive contact, coolant pressure is lost, and chip entrapment can occur.

UNITED's Telescoping Bushings insure that the necessary positive sealing contact is present. All items in the three series manufactured are rated at 1/2" travel, with 1/8" spring pressure pre-load. Actual travel on larger sizes is greater than 1/2."

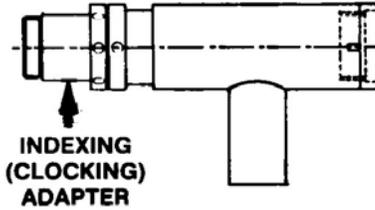
Vacuum Nosepieces for Right Angle Motors

For Right Angle Motors

RIGHT ANGLE POSITIVE FEED DRILL MOTOR

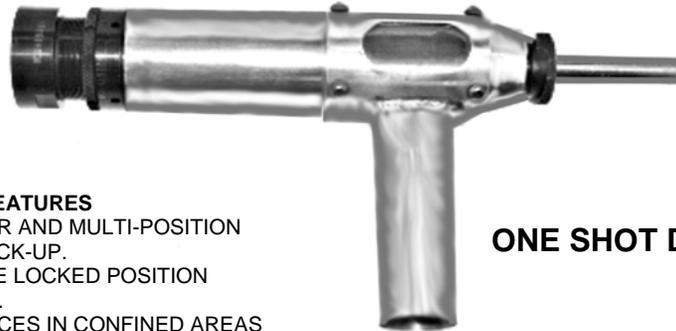
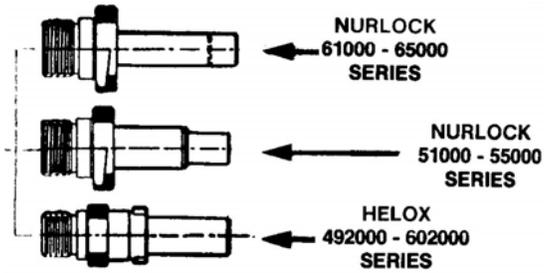


NOSEPIECE



INDEXING (CLOCKING) ADAPTER

TELESCOPING BUSHINGS

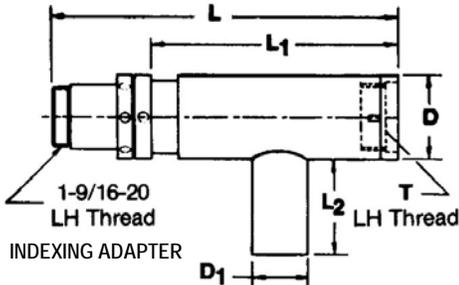


ONE SHOT DRILLING!

FEATURES

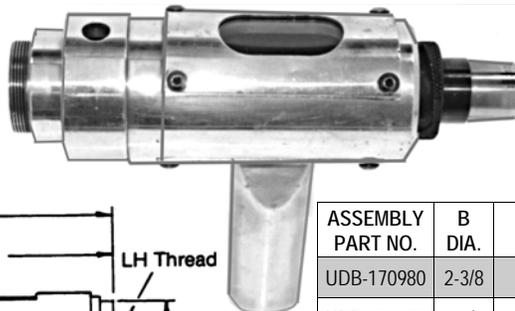
- INDEXING ADAPTER AND MULTI-POSITION VACUUM PICK-UP.
- PROVIDES INFINITE LOCKED POSITION SELECTION.
- INDEXES NOSEPIECES IN CONFINED AREAS WITHOUT ROTATING DRILL MOTOR.

STYLE II



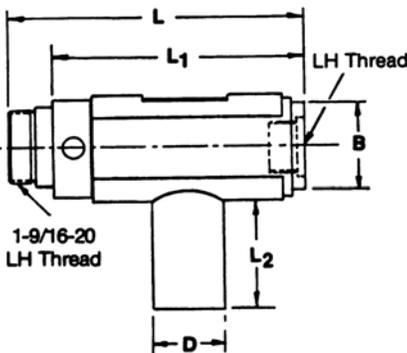
ASSEMBLY PART NO.	D DIA.	T LH THREAD	L OAL	L ₁ LENGTH	D ₁ DIA.	L ₂ LENGTH	ADAPTER TIP SERIES	INDEXING ADAPTER	FOR DRILL MOTORS
UDB-172301	2	1-1/4 - 12	6.55	4.75	1-1/2	4	23000	UDB-172310	ZEPHYR #AT 837 QUACKENBUSH QCO-C2AA (158 QDA-RA-SU)
UDB-172302	2	1-1/2 - 12	6.55	4.75	1-1/2	4	24000	UDB-172310	
UDB-172303	2	1-1/4 - 12	6.93	4.75	1-1/2	4	23000	UDB-172311	
UDB-172304	2	1-1/2 - 12	6.93	4.75	1-1/2	4	24000	UDB-172311	
UDB-172305	2	1-1/4 - 12	5.19	4.12	1-1/2	4	23000	UDB-172312	
UDB-172306	2	1-1/2 - 12	5.19	4.12	1-1/2	4	24000	UDB-172312	

STYLE V



DESIGNED TO FIT ZEPHYR AND QUACKENBUSH TYPES WITH BUILT-IN CHIP VIEW WINDOW.

FOR INDEXING ADAPTER, ADD 'I' TO PART NO.

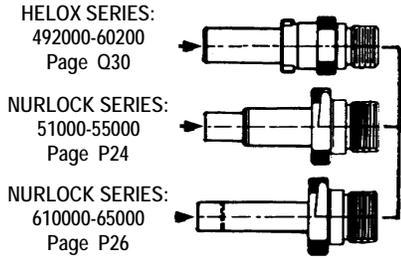


ASSEMBLY PART NO.	B DIA.	L OAL	L ₁ LENGTH	T LH THREAD	D DIA.	L ₂ LENGTH	ADAPTER TIP SERIES	FOR DRILL MOTORS
UDB-170980	2-3/8	6	5.13	1-1/2-12	1-1/2	4	24000	158 QDA-RA-SU
UDB-170982	2-3/8	6.87	6.00	1-14	1-1/2	4	22000	
UDB-170988	2-3/8	6.87	6.00	1-1/4-12	1-1/2	4	23000	
UDB-170989	2-3/8	6.87	6.00	1-1/2-12	1-1/2	4	24000	
UDB-170990	2-3/8	6.5	5.63	1-1/2-12	1-1/2	4	24000	
UDB-170991	2-3/8	6.5	5.63	1-1/4-12	1-1/2	4	23000	
UDB-170992	2-3/8	6.5	5.63	1-14	1-1/2	4	22000	

For Straight Drill Motors

Vacuum Nosepieces
for In-Line Motors

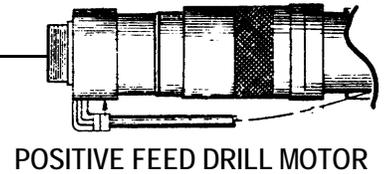
TELESCOPING BUSHINGS



VACUUM NOSEPIECE



IN-LINE OR PIGGY BACK



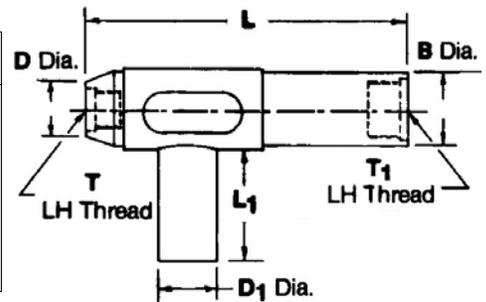
PATENTS APPLIED FOR

“One Shot Drilling”

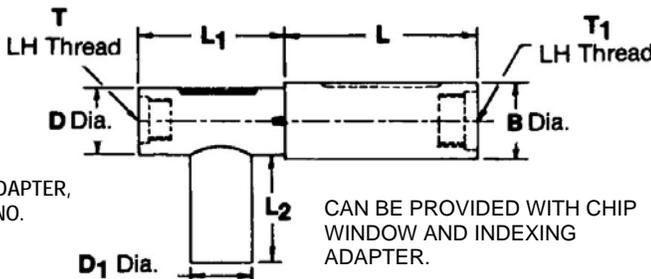
FOR INDEXING ADAPTER,
ADD 'I' TO PART NO.

DESIGNED TO FIT ARO, ROCKWELL AND QUACKENBUSH TYPES

ASSEMBLY PART NO.	B DIA.	T ₁ LH THREAD	D DIA.	T LH THREAD	L OAL	L ₁ LENGTH	D ₁ DIA.	ADAPTER TIP SERIES	FOR DRILL MOTORS
UDB-170935	2	1.825-18	1.69	1-14	7.37	4	1.5	22000	QDP-27/27 APB ROCKWELL 61-PA-PD ARO FP08 & 2
UDB-170937	2	1.825-18	2	1-1/4-12	7.37	4	1.5	23000	
UDB-170938	2	1.825-18	2	1-1/4-12	7.37	4	1.5	24000	
UDB-170943	2	1.825-18	1.69	1-14	6.87	4	1.5	22000	



STYLE I



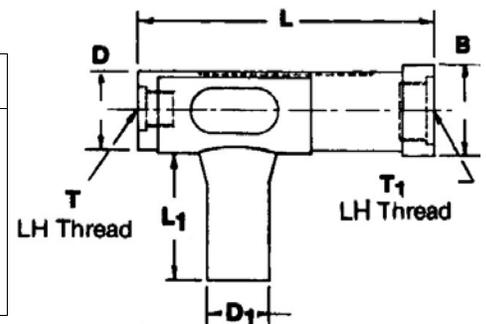
STYLE III

ASSEMBLY PART NO.	B DIA.	T ₁ LH THREAD	D DIA.	T LH THREAD	L OAL	L ₁ LENGTH	D ₁ DIA.	L ₂ LENGTH	ADAPTER TIP SERIES	FOR DRILL MOTORS
UDB-170950	2	1.825-18	1.42	1-14	6	3-1/2	1-1/2	4	22000	QDP-27 QDP-27A QDP-15 ROCKWELL

IN-LINE VACUUM FOR MOTOR

FOR INDEXING ADAPTER,
ADD 'I' TO PART NO.

ASSEMBLY PART NO.	B DIA.	T ₁ LH THREAD	D DIA.	T LH THREAD	L OAL	L ₁ LENGTH	D ₁ DIA.	ADAPTER TIP SERIES	FOR DRILL MOTORS
UDB-170963	2-1/2	2-1/4 - 20	2-3/8	1-14	9-3/8	4	1-1/2	22000	ODA-11 ODA-12 QCQ-C2AA ROCKWELL ARO
UDB-170964	2-1/2	2-1/4 - 20	2-3/8	1-1/4-12	9-3/8	4	1-1/2	23000	
UDB-170965	2-1/2	2-1/4 - 20	2-3/8	1-1/4-12	9-3/8	4	1-1/2	24000	
UDB-170967	2-1/2	2-1/4 - 20	2-3/8	1-14	9-3/8	4	1-1/2	25000	



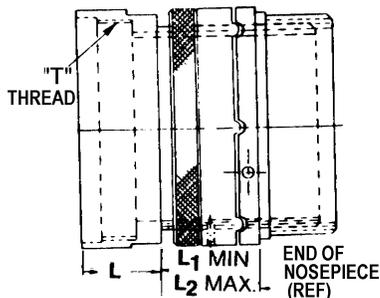
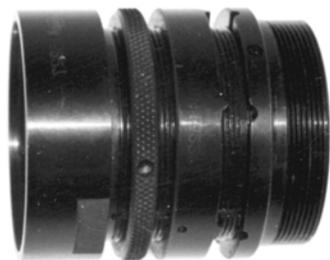
STYLE IV

Nosepieces Indexing Adapters

Indexing Adapters

ESSENTIAL FOR EVERY NOSEPIECE IN USE!

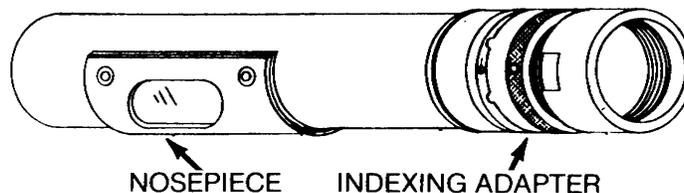
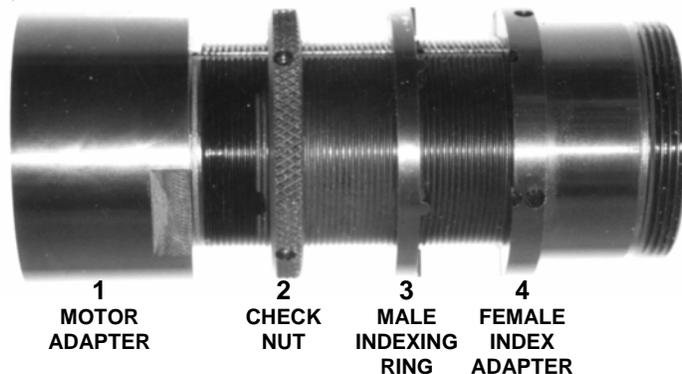
INDEXING ADAPTERS



REPLACEMENT PARTS USE BASE NUMBERS PLUS DETAIL NUMBER REQUIRED.

PATENTED

ADD SUFFIX 'I' TO ANY NOSEPIECE IN OUR CATALOG, AND MATCHING INDEXING ADAPTER WILL BE INCLUDED.



COOLANT AND AIR LINES ARE NO LONGER A PROBLEM!

Male and Female Threads are Same.
Adjust to desired direction and set Jam Nut. Indexes at 60°, 120°, 180°, 240°, 300° and 360°.

WRENCH FLATS AND KNURLED O.D. FOR EASE OF ATTACHMENT AND ADJUSTMENT. JAM NUT FURNISHED.

PART NO.	T LH THREAD	L	L ₁ MIN	L ₂ MAX	USED ON MOTOR NO.
UDB-415216	3/4 - 16	.62	.87	1.12	(Z) # ZT801 ZT802
UDB-415217	1 - 20	.62	.87	1.12	(Q) # OCQ-B2
UDB-415218	1-1/8 - 16	.62	.87	1.12	(Z) # ZT811 ZT812
UDB-415219	1-7/16 - 18	.62	.87	1.12	ARO # 8245 8345
UDB-415220	1-9/16 - 20	.62	.87	1.12	(Q) # QC-C2AA 158QGA-RA
UDB-415221	1-9/16 - 18	.62	.87	1.12	(GD) # MM-6
UDB-415222	1-37/64 - 18	.62	.87	1.12	(Q) # OCA-10
UDB-415223	1-3/4 - 16	.75	1.0	1.25	(GD) # MM-8
UDB-415224	1.825 - 18	.75	1.0	1.25	(Q) # ODP-27 ODP-15

PART NO.	T LH THREAD	L	L ₁ MIN	L ₂ MAX	USED ON MOTOR NO.
UDB-415225	1-29/32 - 20	.75	1.0	1.25	(Z) # ZT822 ZT831 ZT832
UDB-415226	2 - 16	.75	1.0	1.25	ARO # 8255 8355
UDB-415227	2-1/4 - 20	.75	1.0	1.25	(Q) # ODP-11 ODP-12
UDB-415228	2-3/8 - 16	.75	1.0	1.25	ARO # 8660
UDB-415229	2-1/2 - 16	.75	1.0	1.25	ARO # 8265 8365
UDB-415230	2-11/16 - 16	.75	1.0	1.25	(Q) # ODA-13 ODA-14 ODA-16
UDB-415231	2-3/4 - 16	1.0	1.25	1.50	(GD) # MM-13
UDB-415232	2-7/8 - 16	1.0	1.25	1.50	ARO # 8670
UDB-415233	3-5/8 - 16	1.0	1.25	1.50	(GD) # D10

ALLOY STEEL— HEAT TREATED — BLACK OXIDE FINISH

DESIGNED BY BRUCE SCHLIESMAYER AND JOHN CERECEDES

Adjust and Save

NEARLY 5 INCHES OF TRAVEL!

Adjustable
Nosepiece

OTHER NOSEPIECES can be MANUFACTURED in a SIMILAR MANNER.

ADJUSTABLE NOSE PIECES

Designed to reduce nosepiece inventory and add versatility to set up of air motors.

The UDB-619607 Adjustable Nosepiece fits the QDA-27 drill motor.

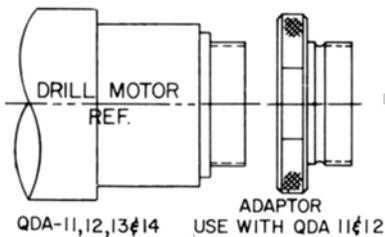
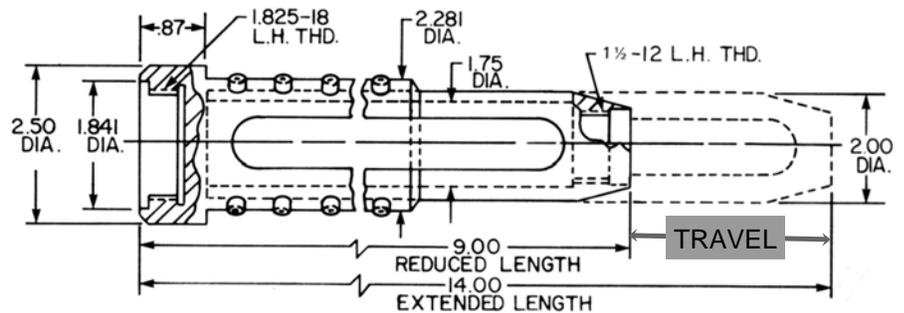
Use UDB-619689 Adjustable Nosepiece Adapter when using a QCQ-C2AA motor.

The UDB-619607 Adjustable Nosepiece also fits Rockwell 61PA-PP and ARO FP08 and 2.

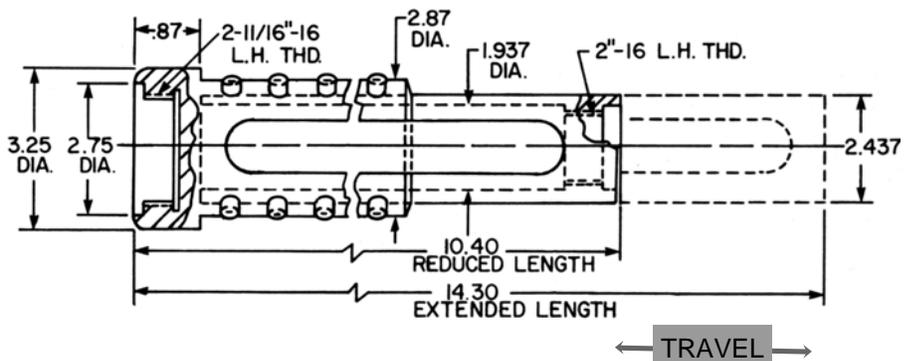
Actual adjustment is from 9" to 14".

The Nosepiece is manufactured from a durable Alloy Ground and Heat Treated with Black Oxide finish.

PART NO.
UDB-619607



PART NO.
UDB-619513



UNITED's Adjustable Nosepieces are designed to fit QDA 27, QCQ-C2AA, QDA 11, QDA 12 and QDA 13.

The UDB-619513 Adjustable Nosepiece adapts directly to the QDA-13, QDA-14 and QDA-16 motors.

Use UDB-619513 Adjustable Nosepiece Adapter when using a QDA-11 motor.

Actual adjustment is from 10-1/2" to 14-1/2".

The Nosepiece is manufactured from a durable Alloy Ground and Heat Treated with Black Oxide finish.