

**ZEPHYR®**  
TOOL  
GROUP



TOOLS ENGINEERED TO PERFORM

**ZEPHYR®**  
SCREWDRIVING TOOLS

**KWIK-LOK™**  
TEMPORARY FASTENERS

**ZEPHYR®**  
AEROSPACE HAND & PNEUMATIC TOOLS

**LOK-FAST™**  
AEROSPACE FASTENER TOOLS

**Martin™**  
AIRCRAFT TOOL

# Angle Drill Attachments & Accessories



## ZEPHYR TOOL GROUP

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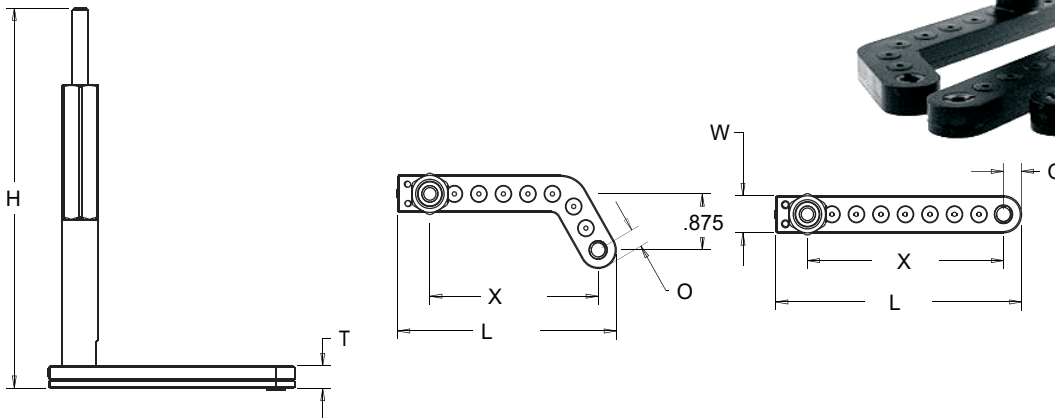


## ZT556/ZT557/ZT558 Angle Drill Attachment

The ZT556/ZT557/ZT558 series flat offset angle drill attachments have been designed to run at any speed up to 3,000 rpm in the tightest and most demanding applications. This angle drill is well suited for all metallic, graphite and composite materials used in the aircraft industry today.

Features include:

- Standard duty.
- Drive shaft and idler gear shafts are all supported by ball bearings.
- Drive shafts are available with 1/4" round (no suffix), 1/4" round with three flats (TF) and quick change (QC) drive shafts.
- Spindle gears are available with standard 10-32 (D) and 1/4-28 (C) internal threads.



Model Number	Spindle Thread	Spindle Offset O	Drill Offset X	Overall Length L	Overall Height H	Body Thickness T	Body Width W	Angle	Drill Capacity
ZT556-D	#10-32	.280	.305	3.82	5.75	.343	.562	Straight	1/4" Alum.
ZT556-D-QC	#10-32	.280	.305	3.82	5.75	.343	.562	Straight	1/4" Alum.
ZT556-D-TF	#10-32	.280	.305	3.82	5.75	.343	.562	Straight	1/4" Alum.
ZT556-C	1/4-28	.280	.305	3.82	5.75	.343	.562	Straight	1/4" Alum.
ZT556-C-QC	1/4-28	.280	.305	3.82	5.75	.343	.562	Straight	1/4" Alum.
ZT556-C-TF	1/4-28	.280	.305	3.82	5.75	.343	.562	Straight	1/4" Alum.
ZT557-D	#10-32	.280	.262	3.40	5.75	.343	.562	30° L.H.	1/4" Alum.
ZT557-D-QC	#10-32	.280	.262	3.40	5.75	.343	.562	30° L.H.	1/4" Alum.
ZT557-D-TF	#10-32	.280	.262	3.40	5.75	.343	.562	30° L.H.	1/4" Alum.
ZT557-C	1/4-28	.280	.262	3.40	5.75	.343	.562	30° L.H.	1/4" Alum.
ZT557-C-QC	1/4-28	.280	.262	3.40	5.75	.343	.562	30° L.H.	1/4" Alum.
ZT557-C-TF	1/4-28	.280	.262	3.40	5.75	.343	.562	30° L.H.	1/4" Alum.
ZT558-D	#10-32	.280	.262	3.40	5.75	.343	.562	30° R.H.	1/4" Alum.
ZT558-D-QC	#10-32	.280	.262	3.40	5.75	.343	.562	30° R.H.	1/4" Alum.
ZT558-D-TF	#10-32	.280	.262	3.40	5.75	.343	.562	30° R.H.	1/4" Alum.
ZT558-C	1/4-28	.280	.262	3.40	5.75	.343	.562	30° R.H.	1/4" Alum.
ZT558-C-QC	1/4-28	.280	.262	3.40	5.75	.343	.562	30° R.H.	1/4" Alum.
ZT558-C-TF	1/4-28	.280	.262	3.40	5.75	.343	.562	30° R.H.	1/4" Alum.

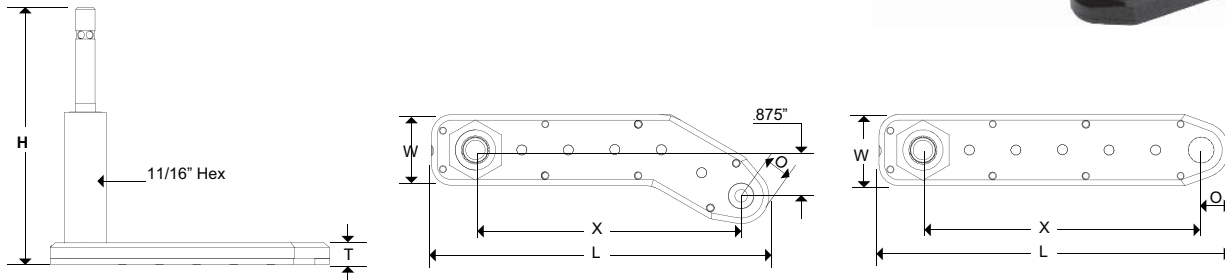


## ZT627/ZT628/ZT629 High Speed Angle Drill Attachments

The ZT627/ZT628/ZT629 series flat offset angle drill attachments have been designed run at any speed up to 6,000 rpm in the tightest and most demanding applications. This full bearing angle drill is well suited for all metallic, graphite and composite materials used in the airframe industry today.

Features include:

- Standard duty-Full Bearing Design.
- Spindle gear is supported by both radial and thrust ball bearings designed to run at speeds up to 6,000 rpm.
- Improved spindle gear ball bearing system, significantly reduces spindle run out, run temperature and extends the product life.
- Drive shaft and idler gear shafts are all supported by ball bearings.
- Spindle gears are available with standard 10-32 (D) and 1/4-28 (C) internal threads.
- Drive shafts are available with 1/4" round (no suffix), 1/4" round with three flats (TF) and quick change (QC) drive shafts.
- These angle drills feature a 1:1.5 drive shaft to spindle gear ratio. This means you will net more speed from your existing drill motors.



Model Number	Spindle Thread	Spindle Offset O	Drill Offset X	Overall Length L	Overall Height H	Body Thickness T	Body Width W	Angle	Drill Capacity
ZT627-D	10-32	.345	3.381	4.227	4.00	.335	.880	Straight	1/4" Alum.
ZT627-D-QC	10-32	.345	3.381	4.227	4.00	.335	.880	Straight	1/4" Alum.
ZT627-D-TF	10-32	.345	3.381	4.227	4.00	.335	.880	Straight	1/4" Alum.
ZT627-C	1/4-28	.345	3.381	4.227	4.00	.335	.880	Straight	1/4" Alum.
ZT627-C-QC	1/4-28	.345	3.381	4.227	4.00	.335	.880	Straight	1/4" Alum.
ZT627-C-TF	1/4-28	.345	3.381	4.227	4.00	.335	.880	Straight	1/4" Alum.
ZT628-D	10-32	.345	3.239	4.083	4.00	.335	.880	30° L.H.	1/4" Alum.
ZT628-D-QC	10-32	.345	3.239	4.083	4.00	.335	.880	30° L.H.	1/4" Alum.
ZT628-D-TF	10-32	.345	3.239	4.083	4.00	.335	.880	30° L.H.	1/4" Alum.
ZT628-C	1/4-28	.345	3.239	4.083	4.00	.335	.880	30° L.H.	1/4" Alum.
ZT628-C-QC	1/4-28	.345	3.239	4.083	4.00	.335	.880	30° L.H.	1/4" Alum.
ZT628-C-TF	1/4-28	.345	3.239	4.083	4.00	.335	.880	30° L.H.	1/4" Alum.
ZT629-D	10-32	.345	3.239	4.083	4.00	.335	.880	30° R.H.	1/4" Alum.
ZT629-D-QC	10-32	.345	3.239	4.083	4.00	.335	.880	30° R.H.	1/4" Alum.
ZT629-D-TF	10-32	.345	3.239	4.083	4.00	.335	.880	30° R.H.	1/4" Alum.
ZT629-C	1/4-28	.345	3.239	4.083	4.00	.335	.880	30° R.H.	1/4" Alum.
ZT629-C-QC	1/4-28	.345	3.239	4.083	4.00	.335	.880	30° R.H.	1/4" Alum.
ZT629-C-TF	1/4-28	.345	3.239	4.083	4.00	.335	.880	30° R.H.	1/4" Alum.

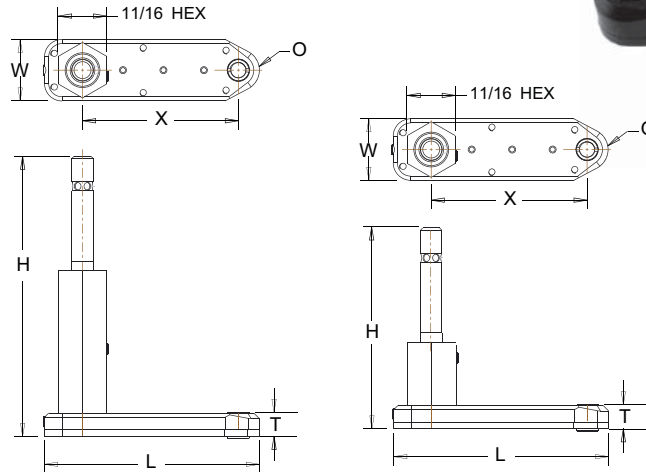


## ZT677/ZT777 High Speed Angle Drill Attachments

The ZT677/ZT777 series flat offset angle drill attachments have been designed to run at any speed up to 6,000 rpm in the tightest and most demanding applications. This full bearing angle drill is well suited for all metallic, graphite and composite materials used in the airframe industry today.

Features include:

- Standard duty-Full Bearing Design.
- Spindle gear is supported by both radial and thrust ball bearings designed to run at speeds up to 6,000 rpm.
- Improved spindle gear ball bearing system, significantly reduces spindle run out, run temperature and extends the product life.
- Drive shaft and idler gear shafts are all supported by ball bearings.
- Spindle gears are available with standard 10-32 (D) and 1/4-28 (C) internal threads.
- Drive shafts are available with 1/4" round (no suffix), 1/4" round with three flats (TF) and quick change (QC) drive shafts.
- These angle drills feature a 1:1.5 drive shaft to spindle gear ratio. This means you will net more spindle gear speed from your existing drill motors.



Model Number	Spindle Thread	Spindle Offset O	Drill Offset X	Overall Length L	Overall Height H	Body Thickness T	Body Width W	Angle	Drill Capacity
ZT677-D	10-32	.300	2.230	3.07	4.00	.335	.880	Straight	1/4" Alum.
ZT677-D-QC	10-32	.300	2.230	3.07	4.00	.335	.880	Straight	1/4" Alum.
ZT677-D-TF	10-32	.300	2.230	3.07	4.00	.335	.880	Straight	1/4" Alum.
ZT677-C	1/4-28	.300	2.230	3.07	4.00	.335	.880	Straight	1/4" Alum.
ZT677-C-QC	1/4-28	.300	2.230	3.07	4.00	.335	.880	Straight	1/4" Alum.
ZT677-C-TF	1/4-28	.300	2.230	3.07	4.00	.335	.880	Straight	1/4" Alum.
ZT777-D	10-32	.300	2.230	3.07	2.34	.335	.880	Straight	1/4" Alum.
ZT777-D-QC	10-32	.300	2.230	3.07	2.34	.335	.880	Straight	1/4" Alum.
ZT777-D-TF	10-32	.300	2.230	3.07	2.34	.335	.880	Straight	1/4" Alum.
ZT777-C	1/4-28	.300	2.230	3.07	2.34	.335	.880	Straight	1/4" Alum.
ZT777-C-QC	1/4-28	.300	2.230	3.07	2.34	.335	.880	Straight	1/4" Alum.
ZT777-C-TF	1/4-28	.300	2.230	3.07	2.34	.335	.880	Straight	1/4" Alum.

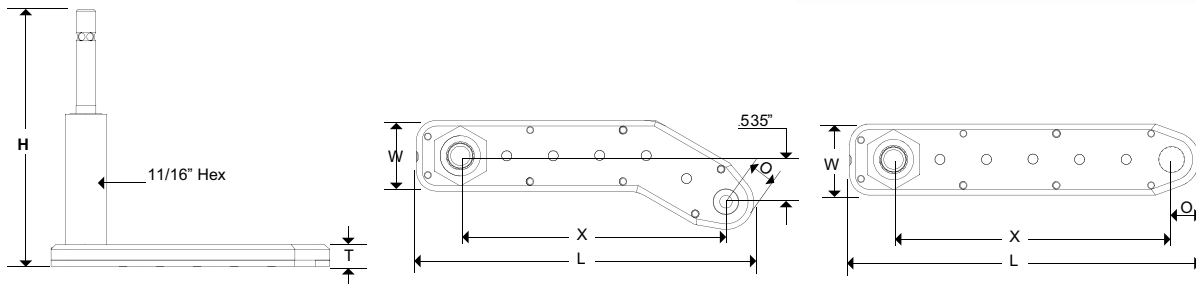


## ZT727/ZT728/ZT729 High Speed Angle Drill Attachments

The ZT727/ZT728/ZT729 series flat offset angle drill attachments have been designed to run at any speed up to 6,000 rpm in the tightest and most demanding applications. This full bearing angle drill is well suited for all metallic, graphite and composite materials used in the airframe industry today.

Features include:

- Standard duty-Full Bearing Design.
- Spindle gear is supported by both radial and thrust ball bearings designed to run at speeds up to 6,000 rpm.
- Improved spindle gear ball bearing system, significantly reduces spindle run out, run temperature and extends the product life.
- Drive shaft and idler gear shafts are all supported by ball bearings.
- Spindle gears are available with standard 10-32 (D) and 1/4-28 (C) internal threads.
- Drive shafts are available with 1/4" round (no suffix), 1/4" round with three flats (TF) and quick change (QC) drive shafts.
- These angle drills feature a 1:1.5 drive shaft to spindle gear ratio. This means you will net more spindle gear speed from your existing drill motors.

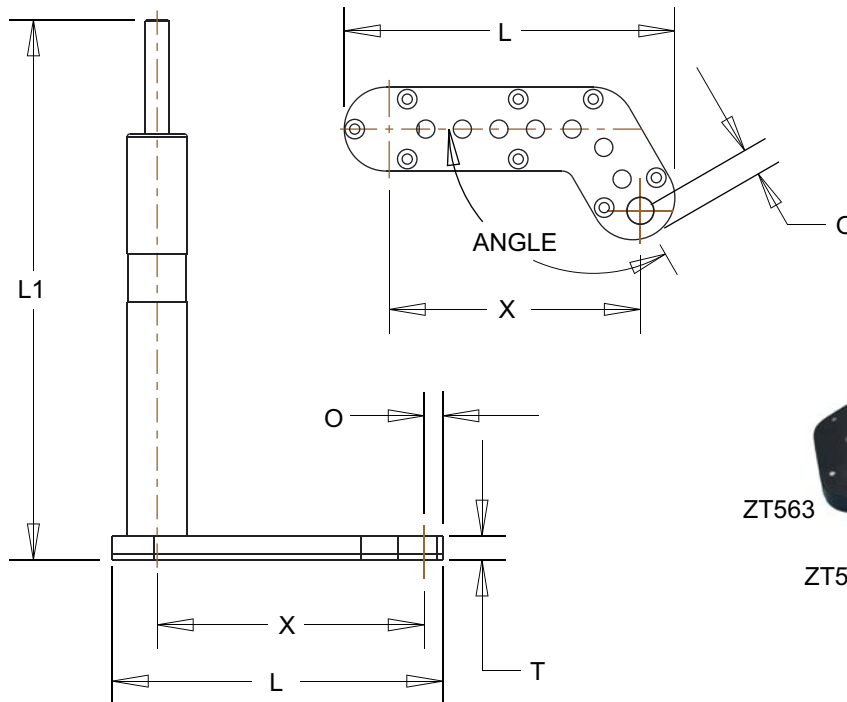


Model Number	Spindle Thread	Spindle Offset	Drill Offset		Overall Length	Overall Height	Body Thickness	Body Width	Angle	Drill Capacity
			O	X						
ZT727-D	10-32	.300	3.383	4.227	2.34	.335	.880	Straight	1/4" Alum.	
ZT727-D-QC	10-32	.300	3.383	4.227	2.34	.335	.880	Straight	1/4" Alum.	
ZT727-D-TF	10-32	.300	3.383	4.227	2.34	.335	.880	Straight	1/4" Alum.	
ZT727-C	1/4-28	.300	3.383	4.227	2.34	.335	.880	Straight	1/4" Alum.	
ZT727-C-QC	1/4-28	.300	3.383	4.227	2.34	.335	.880	Straight	1/4" Alum.	
ZT727-C-TF	1/4-28	.300	3.383	4.227	2.34	.335	.880	Straight	1/4" Alum.	
ZT728-D	10-32	.300	3.230	4.170	2.34	.335	.880	30° L.H.	1/4" Alum.	
ZT728-D-QC	10-32	.300	3.230	4.170	2.34	.335	.880	30° L.H.	1/4" Alum.	
ZT728-D-TF	10-32	.300	3.230	4.170	2.34	.335	.880	30° L.H.	1/4" Alum.	
ZT728-C	1/4-28	.300	3.230	4.170	2.34	.335	.880	30° L.H.	1/4" Alum.	
ZT728-C-QC	1/4-28	.300	3.230	4.170	2.34	.335	.880	30° L.H.	1/4" Alum.	
ZT728-C-TF	1/4-28	.300	3.230	4.170	2.34	.335	.880	30° L.H.	1/4" Alum.	
ZT729-D	10-32	.300	3.230	4.170	2.34	.335	.880	30° R.H.	1/4" Alum.	
ZT729-D-QC	10-32	.300	3.230	4.170	2.34	.335	.880	30° R.H.	1/4" Alum.	
ZT729-D-TF	10-32	.300	3.230	4.170	2.34	.335	.880	30° R.H.	1/4" Alum.	
ZT729-C	1/4-28	.300	3.230	4.170	2.34	.335	.880	30° R.H.	1/4" Alum.	
ZT729-C-QC	1/4-28	.300	3.230	4.170	2.34	.335	.880	30° R.H.	1/4" Alum.	
ZT729-C-TF	1/4-28	.300	3.230	4.170	2.34	.335	.880	30° R.H.	1/4" Alum.	



## ZT561/ZT562/ZT563 Flat Offset Angle Drill

The ZT561/ZT562/ZT563 series flat offset angle drills. Extra thin drills which allow access into tight areas. All steel housings, heat treated gears, hardened and precision ground shafts tackle the toughest of tasks with ease.



MODEL	SPINDLE THREAD	SPINDLE OFFSET O	DRILL OFFSET X	OVERALL LENGTH L	LENGTH L <sub>1</sub>	BODY THICKNESS T	BODY WIDTH W	ANGLE	DRILL CAP	PREVIOUS MODEL				
ZT562	10-32'	9/32"	2-5/8"	3-7/16"	5-11/16"	1/4"	7/8"	30° R.H.	1/8"	ZT513				
	1/4"-28													
ZT563	10-32'											30° L.H.		ZT515
	1/4"-28											STRAIGHT		ZT713
ZT561	10-32'			3-3/64"	3-13/16"								ZT714	
	1/4"-28												ZT715	
ZT762	10-32'			2-5/8"	3-7/16"			1-13/16"				30° R.H.		
	1/4"-28													30° L.H.
ZT763	10-32'													
	1/4"-28													
ZT761	10-32'		3-3/64"	3-13/16"										
	1/4"-28							STRAIGHT						

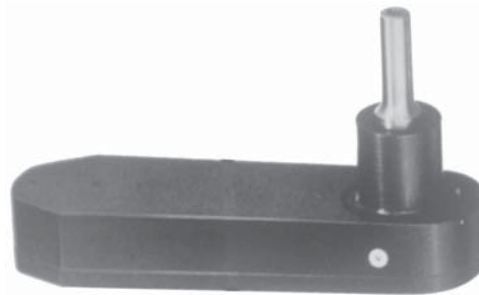
ZT561, ZT562 & ZT563 Angle drill illustrated, are also available as ZT761, ZT762 & ZT763 see reference L1 dimension for difference.

For 1/4-28 Spindle thread add -C to the part numbers above

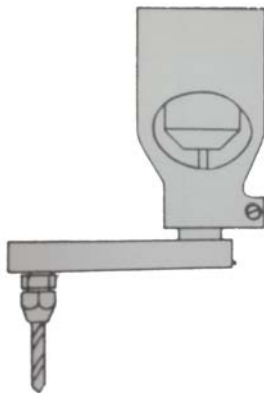


## ZT528 180° Flat Offset Angle Drill Heavy Duty

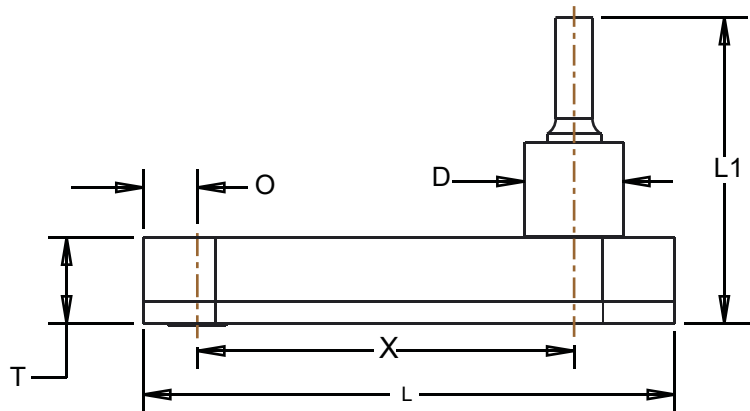
Drills offset for those places inaccessible for ordinary drills. Housings encase heat treated gears, with shafts hardened and precision ground to take the toughest task with ease.



ZT528



MOUNTING ADAPTER  
FOR  
ZT528



MODEL	SPINDLE THREAD	SPINDLE OFFSET O	DRILL OFFSET X	OVERALL LENGTH L	LENGTH SHORT END L1	BODY THICKNESS T	MOUNT DIAMETER D	MAX.REC. CAP.
ZT528-B	5/16"-24	3/8"	2-5/8"	3-11/16"	2-1/8"	5/8"	11/16"	5/16"
ZT528-C	1/4"-28							

MOUNTING ADAPTER FOR MODEL ZT528 SEE PAGE C2



## ZT535/ZT622/ZT721/ZT733 180° Flat Offset Angle Drill

Offset drills for those "hard to get at" areas. Heat treated gears, Hardened and precision ground shafts, make this tool acceptable for the toughest jobs,



ZT622  
REVERSE SPINDLE TYPE

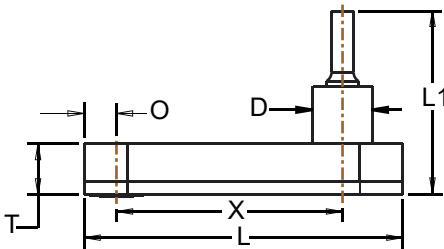
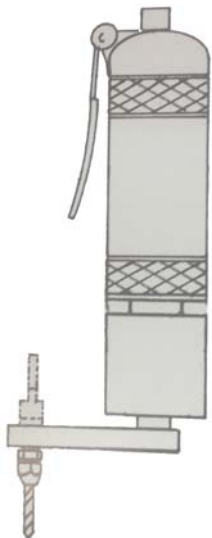


ZT535



ZT721

ZT733



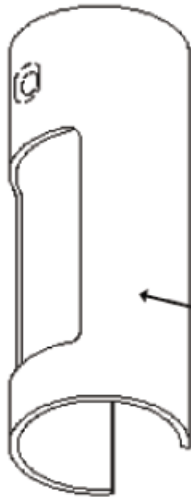
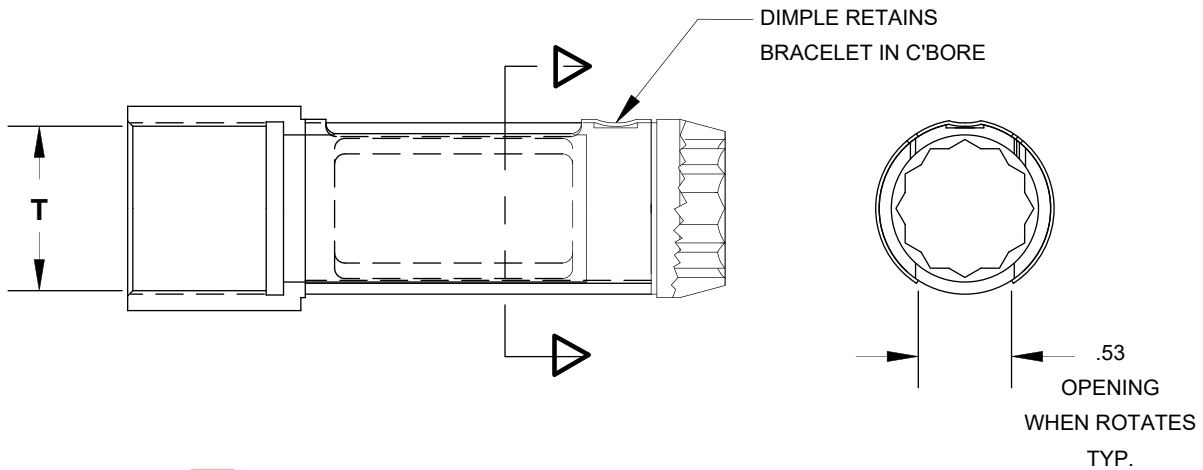
MODEL	SPINDLE THREAD	SPINDLE OFFSET O	DRILL OFFSET X	OVERALL LENGTH L	LENGTH SHORT END L1	BODY THICKNESS T	MOUNT DIAMETER D	MAX.REC. CAP.
ZT535-C	1/4-28"	5/16"	3-13/16"	4-35/64"	1-61/64"	17/32"	11/16"	1/4"
ZT535-D	#10-32							
ZT535-G	#5-40							
ZT622-C	1/4-28"	5/16"	3-1/8"	3-7/8"	1-61/64"	17/32"	11/16"	1/4"
ZT622-D	#10-32							
ZT622-G	#5-40							
ZT721-C	1/4-28"	5/16"	2-29/64"	3-13/64"	1-15/16"	1/2"	11/16"	1/4"
ZT721-D	#10-32							
ZT721-G	#5-40							
ZT733-C	1/4-28"	5/16"	2-15/32"	3-7/32"	1-13/16"	3/8"	11/16"	3/16"
ZT733-D	#10-32							
ZT733-G	#5-40							

DRILL ADAPTERS FOR THESE ANGLE DRILLS SEE PAGE A17





## ZT627AD Motor Adapters High Speed Angle Drill Attachments



The ZT627AD Motor Adapters are designed to be used in conjunction with ZEPHYR's hex body flat offset angle drill attachments and the BOEING quick change chuck.

Features include:

- Threads directly onto your pneumatic drill.
- 11/16" 12 point hex.
- Safely Sleeve that protects the user from the rotating drive shaft and quick change chuck.

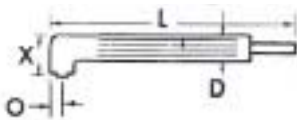
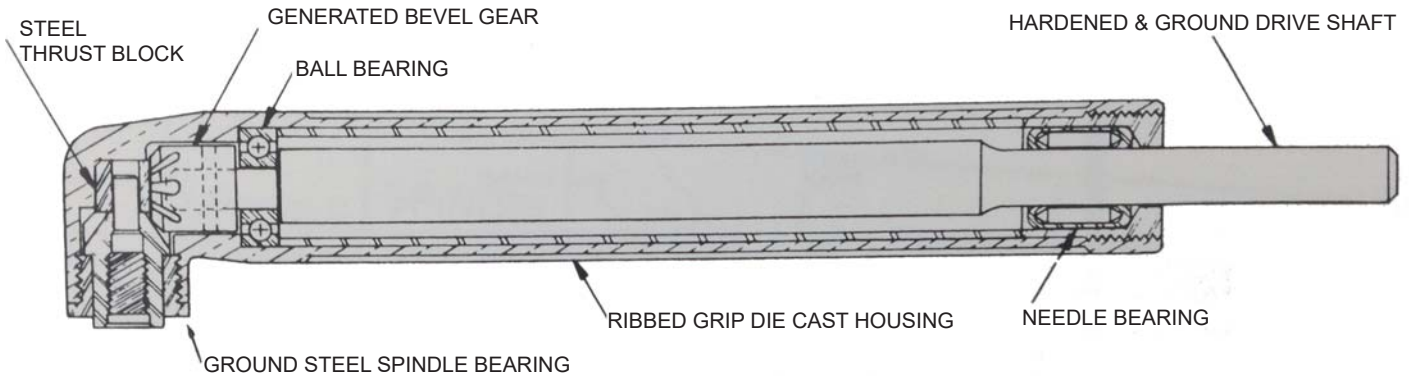
Model Number	Motor Thread	Overall Length	Adapter Hex	Body Diameter	Motor Model
ZT627AD	1"-20 LH	3.450"	11/16" 12 Point	1.030"	Dotco
ZT627AD-1.25	1-1/4-18- LH	3.165"	11/16" 12 Point	1.030"	Ingersoll-Rand
ZT627AD-M36	M36X1.5 LH	3.340"	11/16" 12 Point	1.030"	Atlas Copco LBB36



**ZT417**  
**Angle Drills**  
**90° Light Duty**



These small, compact drills are designed for extra "Tight" spots. They are similar in construction to the larger models except that, because of mechanical limitations, a ground steel spindle bearing is used instead of a radial thrust ball bearing.



MODEL	SPINDLE THREAD	SPINDLE OFFSET O	LENGTH SHORT END X	LENGTH OVERALL L	BODY DIAMETER D	MAXIMUM DRILL CAPACITY
ZT417-C	1/4-28	17/64"	27/32"	5-5/8"	5/8"	1/8"
ZT417-C-QC	1/4-28	17/64"	27/32"	5-15/16"	5/8"	1/8"
ZT417-D	10-32	17/64"	27/32"	5-5/8"	5/8"	1/8"
ZT417-D-QC	10-32	17/64"	27/32"	5-15/16"	5/8"	1/8"



# ZT613

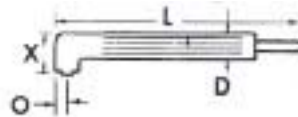
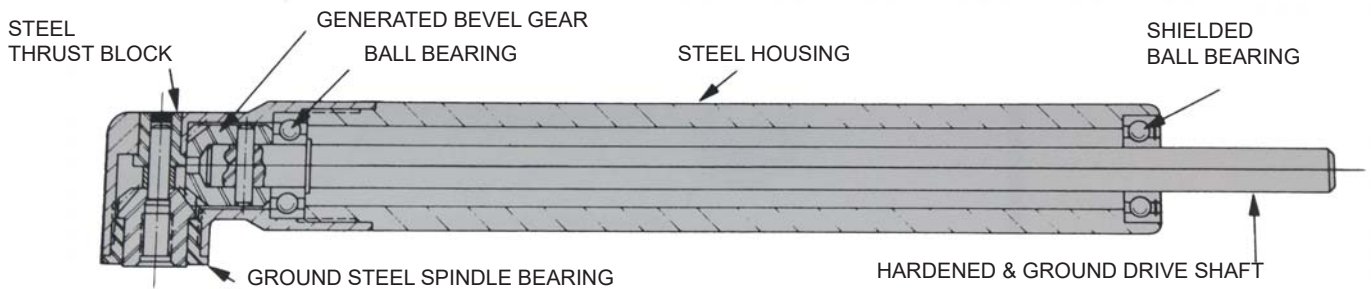
## Angle Drills

### 90° Light Duty

Constructed with an all steel housing to permit the use of larger, stronger gears and increased drill capacity, without sacrificing the overall size as offered in other Zephyr light duty drills.



ZT613



MODEL	SPINDLE THREAD	SPINDLE OFFSET O	DRILL OFFSET X	OVERALL LENGTH L	BODY DIAMETER D	MAX.DILL. CAP.
ZT613-C	1/4-28"	5/16"	29/32"	7-3/16"	1-61/64"	3/16"
ZT613-D	#10-32					
ZT613-F	9/32"-40					

OTHER SPINDLE SIZES ON REQUEST

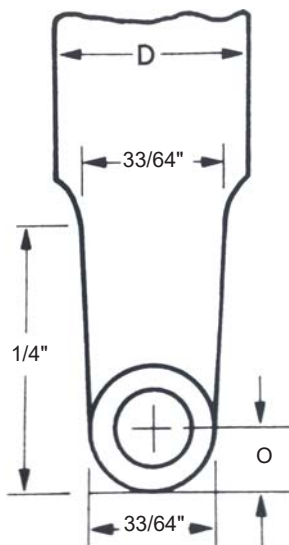
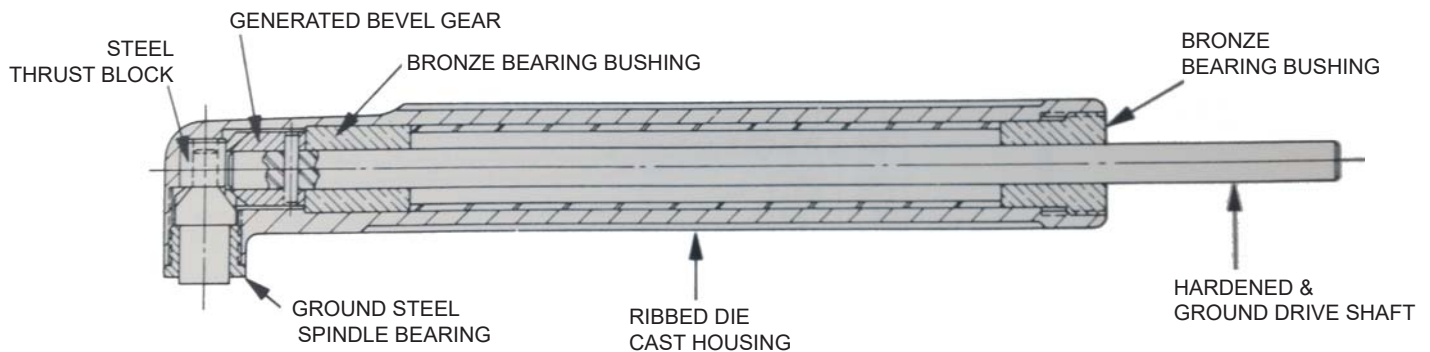


**ZT616**  
**Angle Drills**  
**90 Light Duty**

THE MIDGET DRILL THAT DOES A "BIG" JOB!



Designed primarily for use in limited spaces... this unit features a greatly reduced 90 degree end section plus all the advantages of other Zephyr light duty drills.



MODEL	SPINDLE THREAD	SPINDEL OFFSET O	LENGTH SHORT END X	LENGTH OVERALL L	BODY DIAMETER D	MAXIMUM DRILL CAPACITY
ZT616D	10-32	13/64"	25/32"	5-5/8"	5/8"	1/8"



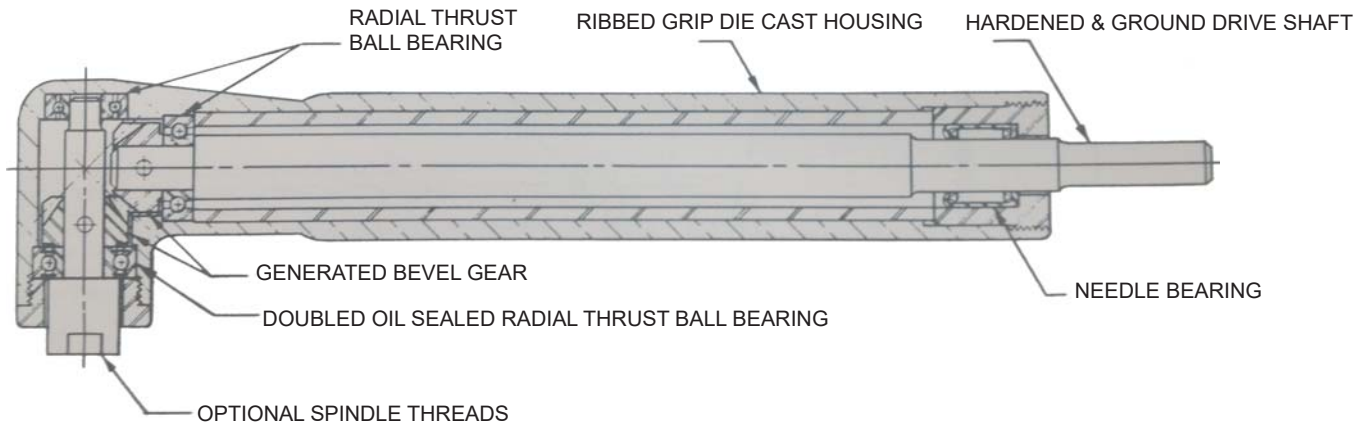


**ZT219**  
**Angle Drills**  
**90° Standard Duty**



ZT219

These tools are considered as the "Standard Duty" size by most users. They incorporate the finest of mechanical design and construction that it is possible to pack into their physical dimensions.



MODEL	SPINDLE THREAD	SPINDLE OFFSET O	DRILL OFFSET X	OVERALL LENGTH L	BODY DIAMETER D	MAX.DILL. CAP.
ZT219-B	5/16"-24					
ZT219-C	1/4"-28	13/32"	1-11/16"	7-3/8"	7/8"	3/8"
ZT219-D	10-32					



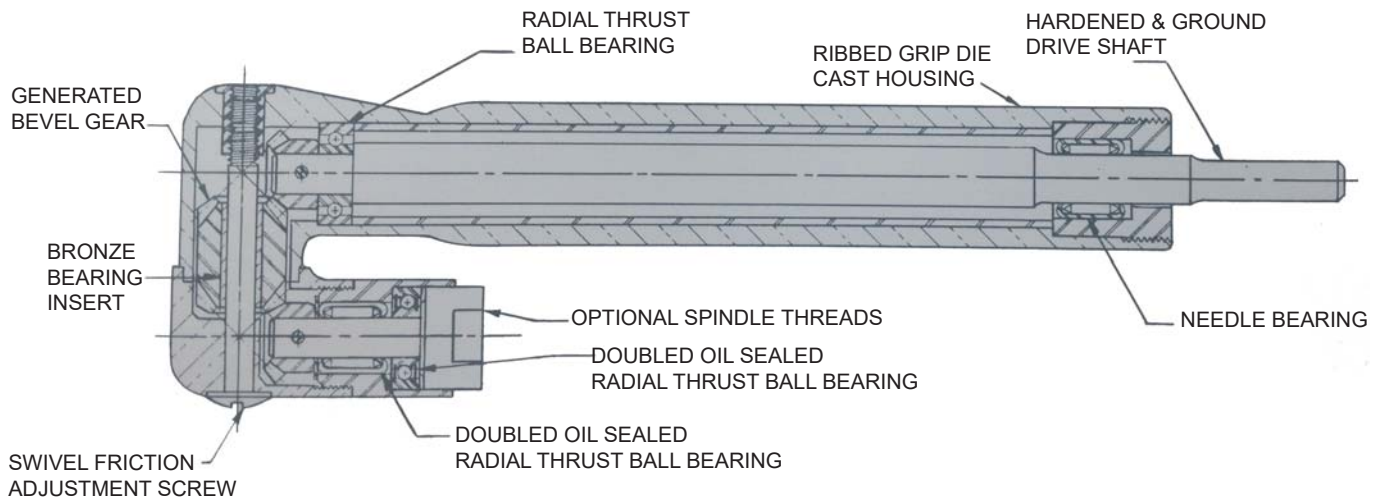


**ZT246**  
**Angle Drills**  
**360° Standard Duty**

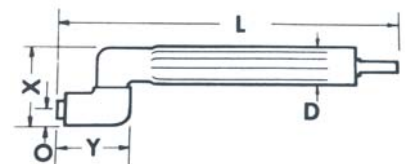


ZT246

A truly "all angle" 360° swivel heat type of tool designed for all standard duty drilling operations. Incorporates the same fine workmanship and design features as other Zephyr Tools.



MODEL	SPINDLE THREAD	SPINDLE OFFSET O	LENGTH SHORT END X	OVERALL LENGTH L	BODY DIAMETER D	OFFSET LENGTH Y	MAX.DILL. CAP.
ZT246-B	5/16"-24	3/8"	2.00"	8-9/16"	7/8"	2.00"	3/8"
ZT246-C	1/4"-28						
ZT246-D'	#10-32						



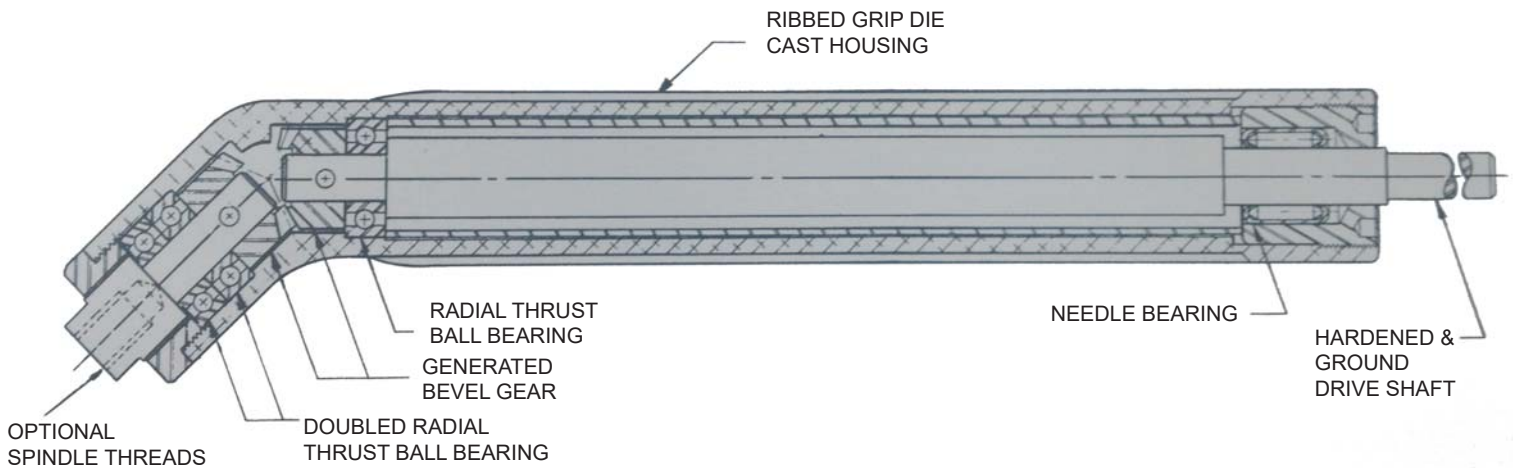


**ZT220**  
**Angle Drills**  
**45° Standard Duty**

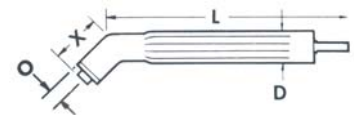


ZT220

This 45° angle head is the accepted "Standard Duty" size. Its conservative design and precision workmanship assure long and satisfactory service.



MODEL	SPINDLE THREAD	SPINDLE OFFSET O	LENGTH SHORT END X	OVERALL LENGTH L	BODY DIAMETER D	MAX.DILL. CAP.
ZT220-B	5/16"-24					
ZT220-C	1/4"-28	13/32"	1-3/8"	7-7/8"	7/8"	3/8"
ZT220-D	#10-32					



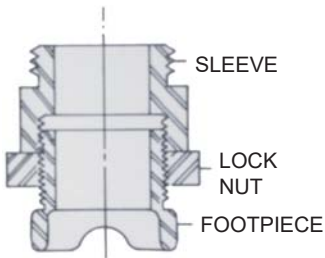
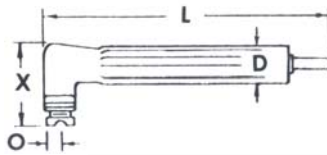
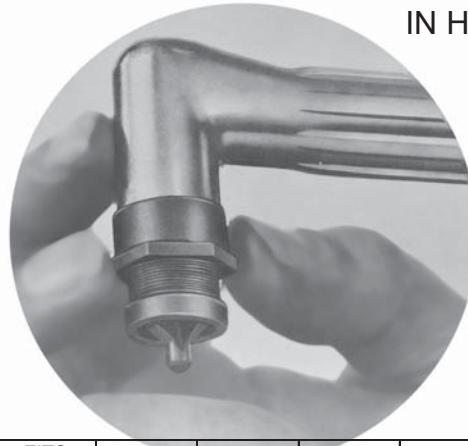


# ZT329 Angle Drills 90° Standard Duty



ZT329

CONTROLS CUTTING DEPTH  
IN HARD TO REACH PLACES



MODEL	ATTACHMENT	FITS ANGLE DRILL	SPINDLE THREAD	O	MIN. X	MAX. X	L	D
ZT329-A*	ZT329042	ZT219C	1/4"-28	15/32"	2-3/32"	2-1/4"	7-3/8"	7/8"
ZT329-B*	ZT329041							
ZT329-C*	ZT329043							
ZT329-D*	ZT329044							
ZT418-D*	ZT418040	ZT417	#10-32	5/16"	1-1/4"	1-7/16"	5-5/8"	5/8"

(\* )COMPLETE TOOL # (INCLUDES ANGLE HEAD)



USE ON MODEL #	CUTTER DIAMETER	When ordering these integral pilot cutters, specify, dash number and pilot diameter required: Example: ZT264-26-5/32	CUTTER THREAD	CUTTER NUMBER					No. OF FLUTES	USED ON
				78°	82°	100°	110°	115°		
ZT329-A	7/16"		1/4"-28	ZT264-24	ZT264-25	ZT264-26	ZT264-27	ZT264-45	3	STAINLESS
ZT329-B	1/2"			ZT264-28	ZT264-29	ZT264-30	ZT264-31	ZT264-46		
ZT329-C	7/16"			ZT170-24	ZT170-25	ZT170-26	ZT170-27	ZT170-45		
ZT329-D	1/2"			ZT170-28	ZT170-29	ZT170-30	ZT170-31	ZT170-46		
ZT418-D	9/32"		#10-32	ZT297-10	ZT297-11	ZT297-12	ZT297-13	ZT297-14		
		Pilot Hole								
ZT418-D	9/32"	5/64" - (.078)**	#10-32	ZT290-10	ZT290-11	ZT290-12	ZT290-13	ZT290-14	2	ALUMINUM
				ZT291-10	ZT291-11	ZT291-12	ZT291-13	ZT291-14	3	STAINLESS

USE PILOT #ZT292 (SPECIFY HEAD DIAMETER) USED ON ZT290, ZT291, CUTTERS

EXAMPLE: ZT290-12-5/32

ALSO AVAILABLE: RIVET SHAVING CARBIDE CUTTERS, FOR USE WITH ZT329

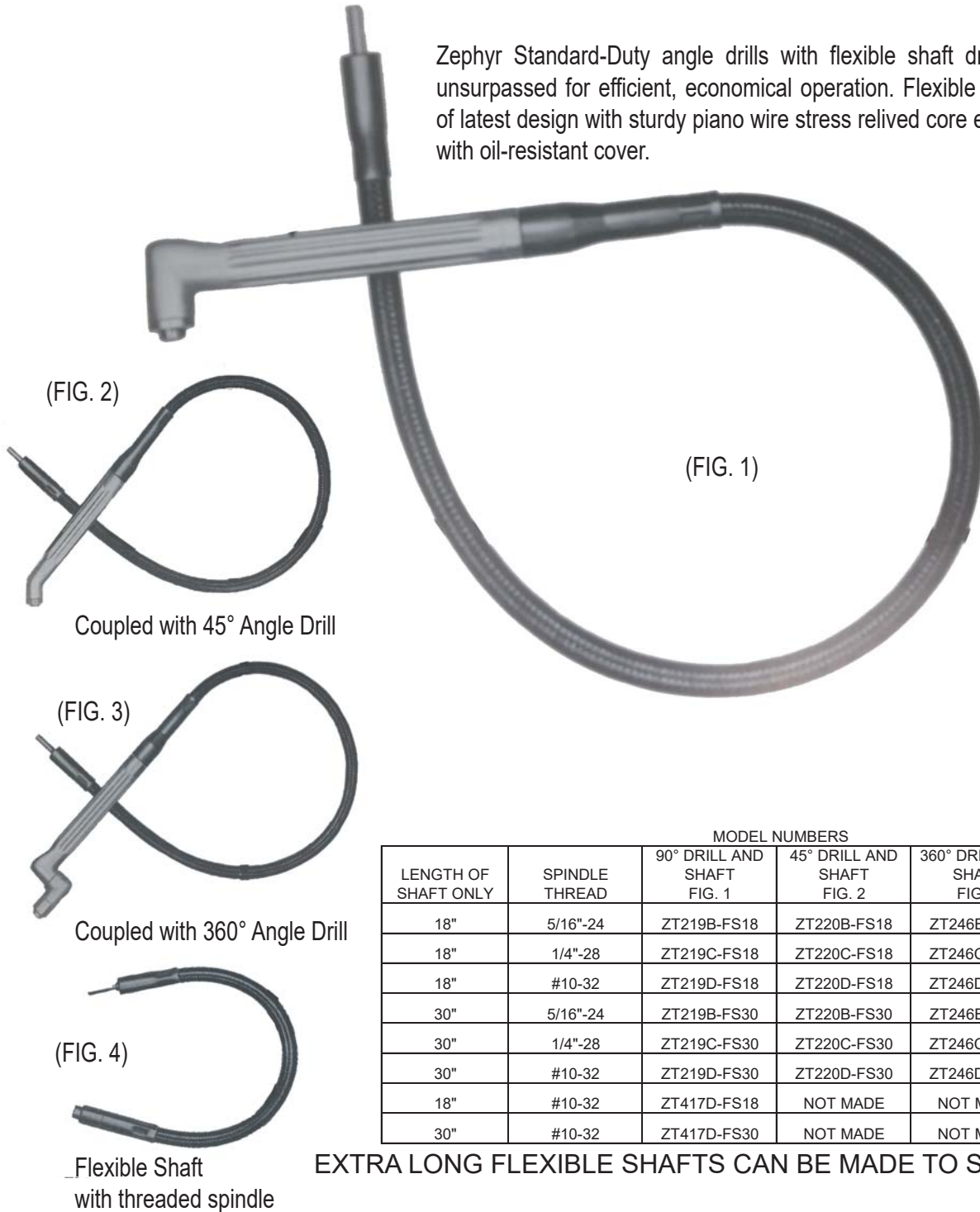
TO ORDER , SPECIFY ZT270 7/16" OR 1/2" DIAMETER





## Flexible Shaft Angle Drills

Zephyr Standard-Duty angle drills with flexible shaft drive are unsurpassed for efficient, economical operation. Flexible shaft is of latest design with sturdy piano wire stress relieved core encased with oil-resistant cover.



(FIG. 2)

Coupled with 45° Angle Drill

(FIG. 3)

Coupled with 360° Angle Drill

(FIG. 4)

Flexible Shaft  
with threaded spindle

(FIG. 1)

MODEL NUMBERS

LENGTH OF SHAFT ONLY	SPINDLE THREAD	90° DRILL AND SHAFT FIG. 1	45° DRILL AND SHAFT FIG. 2	360° DRILL AND SHAFT FIG. 3	SHAFT ONLY WITH THREADED FIG. 4
18"	5/16"-24	ZT219B-FS18	ZT220B-FS18	ZT246B-FS18	ZT195B-FS18
18"	1/4"-28	ZT219C-FS18	ZT220C-FS18	ZT246C-FS18	ZT195C-FS18
18"	#10-32	ZT219D-FS18	ZT220D-FS18	ZT246D-FS18	ZT195D-FS18
30"	5/16"-24	ZT219B-FS30	ZT220B-FS30	ZT246B-FS30	ZT195B-FS30
30"	1/4"-28	ZT219C-FS30	ZT220C-FS30	ZT246C-FS30	ZT195C-FS30
30"	#10-32	ZT219D-FS30	ZT220D-FS30	ZT246D-FS30	ZT195D-FS30
18"	#10-32	ZT417D-FS18	NOT MADE	NOT MADE	NOT MADE
30"	#10-32	ZT417D-FS30	NOT MADE	NOT MADE	NOT MADE

EXTRA LONG FLEXIBLE SHAFTS CAN BE MADE TO SPECIAL ORDER



## Collet Chuck & Drill Adapters



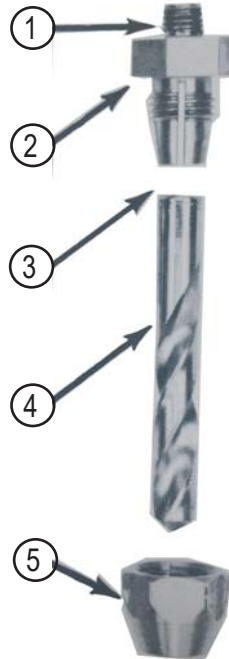
Optional thread sizes for most Angle Drills.

Hexagon nut for quick spindle tightening.

Accurately bored collet assures drill concentricity.

Precision collet design provides for firm grip on broken drills.

Collet nut tightly and securely locks collet.



**This amazing tool solves several drill problems:**

- Saves time and is easy to use does not gall drill shank
- Increases life of drills two or three times
- Nothing to wear out
- Reduce costs
- In some plants the savings on drill costs alone have paid for these adaptors the first day

DRILL CAPACITY	SPINDLE THREAD	COLLET CHUCK MODEL NUMBER
#50- 9/32"	#10-32	ZT41D (SPECIFY DRILL DIA.)
#50- 3/8"	1/4"-28	ZT41C (SPECIFY DRILL DIA.)
#50- 1/2"	5/16"-24	ZT41B (SPECIFY DRILL DIA.)

EXAMPLE FOR ORDERING: ZT41D-1/8  
LARGER SIZES MADE TO ORDER