

Auger Tools

Acker Octagonal-8 Sided Hollow Stem Augers

Application

The Hollow Stem Auger is recognized as a versatile, fast, effective tool for advancing the drill hole and "keeping the hole open." Once the drilling depth is achieved, the center stem of the auger is quickly removed and allows working inside the Hollow Stem using coring tools, soil sampling equipment, down-the-hole hammers or for inserting tie back rods and cables, well points and drain pipes.

The Hollow Stem is widely used in conjunction with Ground Water Monitoring drilling applications and hazardous waste operations.



Octagonal Hollow Stem Augers – Flights & Adapters

Auger Size	H.S. Auger 5 Ft. w/ Lockscrew	Adapter Cap		Center Stem Adapter				
		1-5/8" Hex w/ Lockscrew	2" Hex w/ Lockscrew	AW	NW	HW	AWJ	NWJ
3-1/4"	330359-0	330695-0	330696-0	330914-1	330914-3	NR	330914-2	330914-4
4-1/4"	330608-0	330684-0	330685-0	330857-0	330857-2	NR	330857-1	330857-3
6-1/4"	330647-0	330837-0	330691-0	NR	330861-0	330861-5	NR	330861-1
8-1/4"	330742-0	NR	330745-0	NR	330862-0	330862-5	NR	330862-1
10-1/4"	330893-0	4-1/4" Octagon Female 330896-0		4-1/4" Hollow Stem Only 330898-0				
12-1/4"	330785-0	4-1/4" Octagon Female 330791-0		4-1/4" Hollow Stem Only 330851-0				

NR = Not Recommended.

Cutter Heads

Cutter heads for Hollow Stem Augers are designed with replaceable-type carbide inserts. The cutter head design allows the center plug with the pilot bit to be positioned slightly ahead of the cutter head. A hollow bore drill head allows the center plug to be withdrawn to the surface when the desired depth of the hole is reached. Center stem rods are used to connect the center plug to the center stem adapter and adapter cap of the auger string at the surface.



Conical Type



Finger Type

Octagonal Hollow Stem Augers – Cutter Heads & Bits

Auger Size	Cutter Heads		Replacement Cutter Bits			
	Conical Part No.	Finger Part No.	Finger		Conical	
			Part No.	No. Req'd.	Part No.	No. Req'd.
3-1/4"	23025-18	23025-23	130068-116	4	130417-2	5
4-1/4"	23025-25	23025-24		4		6
6-1/4"	23025-27	23025-26		6		8
8-1/4"	23025-32	23025-31		8		10
10-1/4"	23025-42	23025-41		12		12
12-1/4"	23025-34	23025-33	12	15		



Replacement Cutter Bit
Conical Type



Replacement Cutter Bit
Finger Type

Auger Tools

Octagonal Hollow Stem Augers

Now Standard—"New Quick Make-up" Type

- Increases Production
- Fast Make-Up
- Safety Feature

For a complete lead assembly, the following items are required:

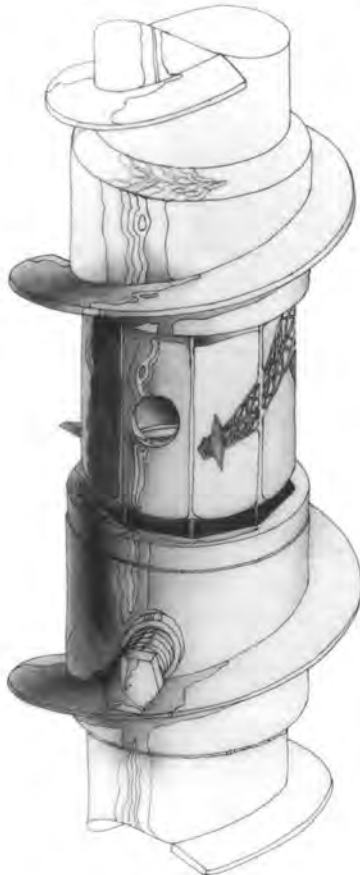
- Hollow Stem Auger (5 ft.)
- Adapter Cap
- Center Stem Adapter
- Center Plug
- Center Stem
- Cutter Head



Adapter Cap



Center Plug



Center Stem Adapter

Center Plug w/ Drag Bit – Replacement Parts

Auger Size	Reference Part No.	Conn.	Replacement Fingers		Replacement Pockets			
			Part No.	No. Req'd.	Angled		Straight	
					Part No.	No. Req'd.	Part No.	No. Req'd.
3-1/4"	330913-0	NWJ Box	130068-116	2	130739-7	2	—	—
4-1/4"	330720-1	NWJ		4	130739-6	2	130739-5	2
6-1/4"	330775-1	NWJ		4	130739-3	2	130739-4	2
8-1/4"	330764-1	NWJ		6		4		2
10-1/4"	330902-0	4-1/4" Sckt.		14		12		2
12-1/4"	330848-0	4-1/4" Sckt.		14		12		2

Octagonal Hollow Stem Augers – Parts & Accessories

Description	Hollow Stem Auger Size					
	3-1/4" Part No.	4-1/4" Part No.	6-1/4" Part No.	8-1/4" Part No.	10-1/4" Part No.	12-1/4" Part No.
Center Plug w/ Drag Bit – (NWJ Box)	See Center Plugs.					
Center Plug – (NWJ)	330913-0	330720-1	330775-1	330764-1	330902-0 [†]	330848-0 [†]
Sub – Center Plug – (NWJ Pin – AW Pin)	111584-3	111584-3	NR	NR	—	—
Sub – Center Plug – (NWJ Pin – NW Pin)	111584-5	111584-5	111584-5	111584-5	—	—
Sub – Center Plug – (NWJ Pin – AWJ Box)	111635-12	111635-12	NR	NR	—	—
Center Stem – (AW Rod) – 5 ft.	21005-5	21005-5	—	—	—	—
Center Stem – (NW Rod) – 5 ft.	21007-32	21007-32	21007-32	21007-32	—	—
Center Stem – (AWJ Rod) – 5 ft.	21156-6	21156-6	—	—	—	—
Center Stem – (NWJ Rod) – 5 ft.	21157-6	21157-6	21157-6	21157-6	—	—
Center Stem – 4-1/4" Oct. Socket Conn. 5 ft. Male/Female	—	—	—	—	330815-1	330815-1
Adapter Cap – 4-1/4" Octagonal Socket Conn.	—	—	—	—	330896-0	330791-0
Lock Screw – Standard	130365-0	130365-0	130660-0	130660-0	130660-0	130660-0
Boss (Repair Lockscrew Threads)	161273-0	161273-0	161273-2	161273-2	161273-2	161273-2
Holding Fork	330190-0	330627-0	330439-0	330659-0	330904-0	330802-0
Recovery Tools	330177-44	330177-49	330177-50	330177-51	330177-53	—

* Used w/ Socket Adapter Cap † 4-1/4" Hollow Stem Socket Only. NR = Not Recommended.

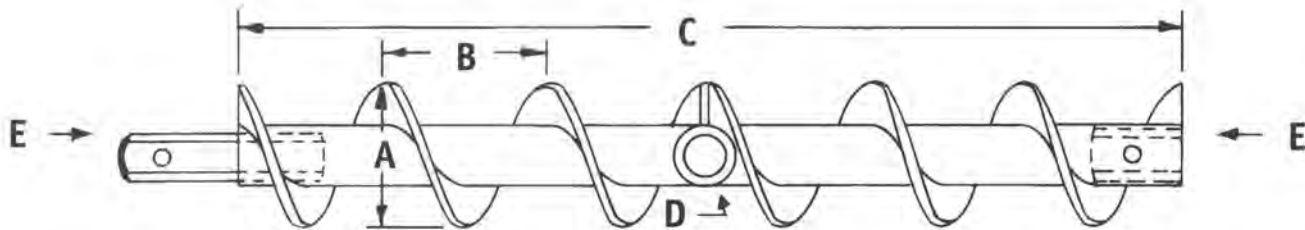
Auger Tools

Conventional Conveyor Flight Augers

With the addition of a Cutter Head, conveyor flight augers are commonly used for drilling to 100 ft. (30.5mm) depths where soil cover permits. Obviously, the sizes are many, but the most commonly used sizes are listed as standard. Cutter heads generally are somewhat larger in diameter than the conveyor flight to provide clearance for the cuttings to work easily to the surface. Optional features such as "hard facing" of the augers can be provided for added tool life when drilling abrasive formations. Flight connector pins are the drive pin type—simple but rugged. Conveyor flight auger lengths vary but 3 ft. and 5 ft. (.9144m - 1.524m) are the most popular lengths. Consult the chart for pitch and standard connections commonly used for auger boring applications. All flight augers are timed or synchronized—there are no gaps in the flight between auger sections.

NOTE: Augers are furnished with standard hexagonal shank or socket connections.

NOTE: When drilling conditions are difficult, augers may be "hard faced," the full length or 6 inches on each end. When desired simply specify, H.F. "full length" or "each end."



Conventional Conveyor Flight Augers With Standard Hexagon Connections												
"A" Auger Diameter	"B" Spiral Pitch	"C" Flight Length	"D" Axle Diameter	"E" Type Connection	Part No.	Weight*		Type Service				
						Lbs.	kg					
2-1/2" (63.5mm)	2-3/4" (69.8mm)	3 Ft. (0.914m)	1-1/8" x 21/32" (28.5 x 16.0mm)	1-1/8" Hex (28.5mm) Use Drive Pin no. 130064-3	330523-1	8.0	3.6	Standard				
		5 Ft. (1.524m)			330523-2	11.0	5.0					
3" (76.2mm)	3" (76.2mm)	3 Ft. (0.914m)	1-1/2" x 1" (38.1 x 25.4mm)		330098-9	10.0	4.5	Heavy Duty				
		5 Ft. (1.524m)			330098-4	15.0	6.7					
4" (101.0mm)	3" (76.2mm)	3 Ft. (0.914m)	1-1/2" x 1-3/16" (38.1 x 30.1mm)		330069-1	13.0	5.8	Heavy Duty				
		5 Ft. (1.524m)			330069-3	21.0	9.5					
4" (101.0mm)	3" (76.2mm)	3 Ft. (0.914m)			1-1/2" x 1-3/16" (38.1 x 30.1mm)	330069-23	13.0	5.8	Standard			
		5 Ft. (1.524m)				330064-27	21.0	9.5				
4" (101.0mm)	4" (101.0mm)	3 Ft. (0.914m)				2" x 1-1/2" (50.8 x 38.1mm)	330069-28	13.0	5.8	Heavy Duty		
		5 Ft. (1.524m)					330069-29	21.0	9.5			
4-1/2" (113.7mm)	4" (101.0mm)	3 Ft. (0.914m)		2" x 1-1/2" (50.8 x 38.1mm)			1-5/8" Hex (41.2mm) Pin no. 130064-1	330135-4	14.0	6.3	Heavy Duty	
		5 Ft. (1.524m)					330135-6	21.0	9.5			
5-1/2" (139.7mm)	5" (127.0mm)	3 Ft. (0.914m)					2" x 1-1/2" (50.8 x 38.1mm)	330136-4	18.0	8.1	Heavy Duty	
		5 Ft. (1.524m)						330136-6	30.0	13.5		
5-1/2" (139.7mm)	4" (101.0mm)	3 Ft. (0.914m)	2" x 1-1/2" (50.8 x 38.1mm)					1-5/8" Hex (41.2mm) 130064-2	330524-1	18.0	8.1	Heavy Duty
		5 Ft. (1.524m)						330524-2	30.0	13.5		
5-7/8" (149.2mm)	5" (127.0mm)	3 Ft. (0.914m)			2-7/8" x 2-9/16" (72.4 x 65.0mm)			Pin no. 130066-2	330066-9	27.0	12.1	Standard
		5 Ft. (1.524m)							330066-0	45.0	20.3	
5-7/8" (149.2mm)	6" (152.4mm)	3 Ft. (0.914m)				2-7/8" x 2-1/4" (72.4 x 57.1mm)		Drive Pin no. 130064-2	330066-11	27.0	12.2	Heavy Duty
		5 Ft. (1.524m)							330066-12	45.0	20.3	
7" (177.8mm)	7" (177.8mm)	3 Ft. (0.914m)		2" x 1-1/2" (50.8 x 38.1mm)				Pin no. 130064-1	330138-1	35.0	15.8	Standard
		5 Ft. (1.524m)							220138-3	55.0	25.0	
8-7/8" (225.4mm)	8" (203.2mm)	3 Ft. (0.914m)					2-7/8" x 2-1/4" (73.0 x 57.1mm)	Pin no. 130064-2	330089-10	39.0	17.6	Heavy Duty
		5 Ft. (1.524m)							330089-12	59.0	26.7	
10" (254.0mm)	10" (254.0mm)	3 Ft. (0.914m)	2-7/8" x 2-1/4" (73.0 x 57.1mm)					Pin no. 130064-2	330525-1	46.0	20.8	Heavy Duty
		5 Ft. (1.524m)							330525-2	73.0	33.0	

For Hole Diameters: See Cutter Head Size.

* Weights are ±10%

Auger Tools



Finger Type Cutter Heads

For Flight Augers

This drill head or "Cutter Head" is designed for use on Conveyor Flight type augers. The head is constructed of high quality steel and designed for use with hard faced or carbide inset type finger cutters. Carbide insert fingers are commonly used to drill reasonably hard rock and shales. The cutter head is held on the flight auger by means of a drive clip pin and rotated by the standard shank and socket connection. Finger teeth are held in place by a drive wedge or soft wire pins. Select cutter head diameter on basis of hole diameter desired and select flight size or diameter, about 10% less than cutter head diameter...or hole size.



Finger Type Cutter Heads

For Flight Augers

Diameter Range		Assembly With				Wedge Type		Bits						
Cutter or Hole Size		Hex Conn.	Hard Faced Bits	Carbide Insert Bits	Heavy Duty Carbide Insert Bits	Weight		No. Req'd	Part No.	No. Req'd	Hard Faced Front & Back	Standard Carbide Inserts	Heavy Duty Carbide Inserts	Wgt.
in.	mm					Lbs.	kg							
3-1/4	82.5	1-1/8	—	—	23001-032116	9.0	4.0	Pin Type		2	—	—	130068-116	*
4-1/2	113.0	1-1/8	23001-072073	23001-072076	—	13.0	5.8	2	130067-7	4	130068-073	130068-076	—	*
		1-5/8	23001-072073	23001-072076	—									
4-3/4	120.0	1-1/8	—	—	23001-032116	15.0	6.7	Pin Type		4	—	—	130068-116	*
		1-5/8	—	—	23001-032116									
5	152.4	1-1/8	23001-102073	23001-102076	—	16.0	7.2	2	130067-8	6	130068-073	130068-076	—	*
		1-5/8	23001-103073	23001-103076	—			2	130067-9					
5-1/2	165.1	1-1/8	23001-112083	23001-112086	—	18.0	8.1	2	130067-8	6	130068-083	130068-086	—	*
		1-5/8	23001-113083	23001-113086	—			2	130067-9					
6-1/4	158.7	1-1/8	23001-142073	23001-142076	—	20.0	9.0	4	130067-9	8	130068-073	130068-076	—	*
		1-5/8	23001-143073	23001-143076	—									
7	177.8	1-5/8	23001-173073	23001-173076	—	22.0	10.0	4	10067-9	8	130068-073	130068-076	—	*
8-1/4	209.5	1-5/8	23001-203073	23001-203076	—	25.0	11.3	4	130067-9	10	230068-073	130068-076	—	*
9-1/4	234.9	1-5/8	23001-223073	23001-223076	—	27.0	12.2	6	130067-9	12	130068-073	130068-076	—	*
10	254.0	1-5/8	23001-243073	23001-243076	—	30.0	13.5	6	130067-9	12	130068-073	130068-076	—	*
12	304.8	1-5/8	23001-253073	23001-253076	—	35.0	15.8	6	130067-9	14	130068-073	130068-076	—	*

* Less than one pound or .45 kilograms.

Drive Pins				
Auger Series	Part No.	Weight		
		Lbs.	kg	
Standard Duty	130064-1	*	*	
Heavy Duty	130064-2	*	*	
Extra Heavy Duty	130064-2	*	*	
Light Duty	130064-3	*	*	
Extra Light Duty	130064-4	*	*	

* Less than one pound or .45 kilogram.



Drive Pins

Steel drive pins are used to secure connecting ends of conveyor flight augers. The drive pin is driven into place with a hammer and removed by the pointed end of the hammer. Since driving will gradually weaken the clip, replacements should always be considered when ordering. Sizes will depend upon augers in use.

Auger Repair Connections				
Connector Size	Socket Part No.	Shank Part No.	Weight	
			Lbs.	kg
1-1/8" Hex	90886-2	90887-3	4.0	1.8
1-5/8" Hex	90886-3	90887-4	4.0	1.8
2" Hex	90886-12	90887-12	4.0	1.8



Auger Repair Connections

Repair connectors are used for replacing worn shank or socket connections on conveyor or auger flights.

NOTE:

Square pin & socket — optional

Hex pin & socket — standard

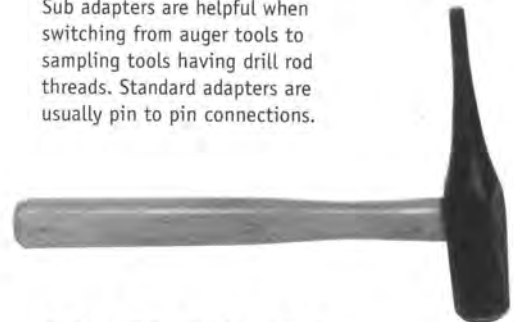
Auger To Rod Adapters			
Size Connection	Shank to Rod Pin Part No.	Weight	
		Lbs.	kg
Pin to Pin	Part No.		
1-1/8 Hex. to AW Rod	130036-7	6.5	2.9
1-5/8 Hex. to AW Rod	130063-4	7.0	3.1
1-5/8 Hex. to BW Rod	130063-7	8.0	3.6
1-5/8 Hex. to NW Rod	130063-3	10.0	4.5



Auger to Rod Adapters

Sub adapters are helpful when switching from auger tools to sampling tools having drill rod threads. Standard adapters are usually pin to pin connections.

Hammer For Drive Clip Pins		
Part No.	Weight	
	Lbs.	kg
130108-0	2.0	.90



Drive Pin-Hammer

This hammer is ideal for driving clip pins on conveyor flight augers.

Auger Tools



Side Feed
Water Swivel

Side Feed Water Swivel

For use with drill rigs not having hollow spindles. Adapts direct to rotary stem or Kelly. Water is fed into side part and down through drill rods. Used with auger drills for either high or low speed application, coring fish tailing, or small roller rock bits. Advise spindle connection, inlet port and rod size desired. Working pressure 150 PSI MAX. Ball Bearing type with 3/4" and 1-1/4" inlet ports.

Hoisting Ball

The hoisting bail is used for hoisting free auger flight strings from the bore hole. The standard connection is a socket to match shank connection on augers. This bail is a safeguard when hoisting augers with manila rope or wire line, and prevents damage to rope and auger tools. Ideal for conventional and Hollow Stem Augers.

Auger Holding Forks

This fork is used to support the auger string when disconnecting or withdrawing flights from the hole. Holding forks are available for all types of augers and service.

Recovery Tools

Twists over lost flights in a bore hole...this screw type tool is lowered into hole on the end of an extension rod. Upon contact, the assembly is rotated with a hand wrench in clockwise direction. After rotating and engaging of lost flight is made fast, the tools are carefully hoisted to surface. Turning during hoisting minimizes the danger to tools disconnecting—power rotation is not recommended—advise size of tools for recommendations.

Side Feed Water Swivel Assembly				
Ball Bearing Type • Maximum Working Pressure — 150 P.S.I.				
Description	1-1/8" Hex to AW Pin	1-5/8" Hex to AW Pin	1-5/8" Hex to NW Pin	2" Hex to NW Pin
Assembly Part Number	21064-7	21064-9	21126-1	21126-5
Water-Course Diameter	5/8" (15.9mm)	5/8" (15.9mm)	1-3/8" (34.9mm)	1-3/8" (34.9mm)
Hose Connection	3/4" NPT (19.1mm)	3/4" NPT (19.1mm)	1-1/4" NPT (31.8mm)	1-1/4" NPT (31.8mm)
Spare Parts for Acker Side Feed Water Swivel				
Stem	110777	111210	111211	11636
Body	110454	110454	110459	110459
Bearing (2 Req'd)	90071-109	90071-109	90071-114	90071-114
"O" Ring (2 Req'd)	90759-329	90759-329	90759-336	90759-336
Retaining Ring (2 Req'd)	90202-177	90202-177	90202-275	90202-275
Nipple	90313-24	90313-24	90313-55	90313-55
Grease Fitting	90359-7	90359-7	90359-7	90359-7
Assembly Weight - Lbs. (kg)	13 (5.9kg)	13 (5.9kg)	18 (8.2kg)	18 (8.2kg)

Hoisting Bails for Augers

Socket Connection	Part No.	Weight	
		Lbs.	kg
1-1/8" Hex	330113	3.5	1.5
1-5/8" Hex	330114	4.0	1.8
2" Hex	330441	5.0	2.2

Auger Holding Fork

Auger Series	Part No.	Weight	
		lbs.	kg
Light Duty	330109	8.0	3.6
Standard Duty	330110	9.0	4.0
Heavy Duty - Ex. Heavy Duty	330110	11.0	4.9
3-1/4" x 6-1/4" Hollow Stem	330190	14.0	6.4
4-1/4" x 7-1/4" Hollow Stem	330627	20.0	9.1
6-1/4" x 11" Hollow Stem	330439	33.0	15

Auger Recovery Tool

Axle Diameter	Flight Pitch	Shank Connection	Part No.	Weight*	
				Lbs.	kg
1-1/8" (28.5mm)	2-3/4" (69.8mm)	Hex - 1-5/8" (41.2mm)	330177-3	20.0	9.0
1-1/2" (38.1mm)	3" (76.2mm)		330177-4	25.0	11.3
2" (50.8mm)	4" (101.0mm)	Hex - 1-1/8" (28.5mm)	330177-8	30.0	13.5
2-7/8" (73.0mm)	5" (127.0mm)		330177-16	35.0	15.8
3-1/4"x6-1/4" Hollow Stem	—	Octagon	330177-44	68.0	30.8
4-1/4"x7-1/4" Hollow Stem	—	Octagon	330177-49	110.0	50.0

* Weights are ± 10%.