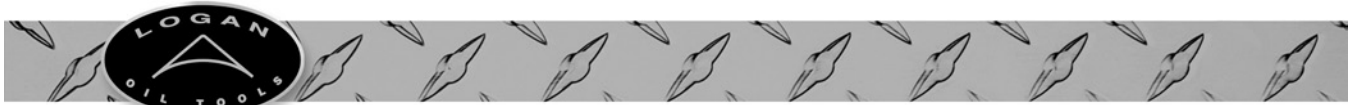




Core Type Junk Basket



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Core Type Junk Baskets

OVERVIEW

The Logan Core Type Junk Basket is an easy-to-use junk retrieval tool designed to effectively remove small objects such as bit cones, slips, hand tools, and tail chains from the hole. With its free-revolving double catchers, magnet inserts, and accessory shoes, the Logan Core Type Junk Basket is an indispensable piece of equipment on a rotary drilling rig.

USES

The Logan Core Type Junk Basket effectively retrieves all types of junk that accumulates at the bottom of a well that may impede drilling progress: rock bit cones and bearings, tong pins, broken slips, bits of wireline, small hand tools, debris from twisted-off drill strings, mill cuttings, and similar items.

It may also be used to take a core sample, drill a full gauge hole, or ream the hole.

CONSTRUCTION

The Logan Core Type Junk Basket consists of: a top sub, barrel, full flow valve assembly, filter, Type A mill shoe, and an upper and lower junk catcher assembly.

Junk Catcher Assembly

The short fingers of the upper junk catcher assembly, which extend only half way to the center, are designed to break the core that has been cut by the mill shoe when an upward strain is taken on the string. The combination of alternating short and long fingers of the lower junk catcher assembly extend almost to the center to form a close-fitting receptacle that traps and retrieves the core and small pieces of junk. Both junk catcher assemblies freely-revolve within the mill shoe, eliminating any breakage of the junk catcher fingers.

Both junk catcher assemblies can be easily redressed at the rig site. For the component breakdown of the junk catcher assemblies, refer to the Junk Catcher Assemblies tables on pages 10 – 19.

Optional Accessories

Mill Shoes

The hard, rugged, and long-lasting qualities of tungsten-carbide-faced mill shoes can cut away any protruding excess metal that may interfere with the free entry and retention of the debris in the Junk Basket.

If the fish is embedded in a hard formation and a core must be cut, the Junk Basket must be equipped with the proper mill shoe. If the fish is laying loosely on the bottom of the hole, the Junk Basket may be equipped with a proper mill or finger shoe.

Mill shoes for all Logan Core Type Junk Baskets are available in three types: A, B, and C.

Logan Core Type Junk Baskets are furnished with a standard Type A mill shoe. It is constructed of conventional hard metal and has side wings. Ideal for use in softer formations.

The Type B mill shoe is similar to the Type A design, but is dressed with sintered tungsten carbide. This extremely tough, hard-faced material will rapidly and effectively mill junk during fishing operations. Recommended for harder formations.

The Type C Mill Shoe is a flat-bottomed shoe. It is dressed with sintered tungsten carbide on the bottom and on the inner and outer faces. It will effectively mill junk and is especially effective for cutting cores and metal.

Finger Shoes

A finger shoe may be installed on the bottom of the barrel in place of the mill shoe when the junk is too large to pass

through the catchers. Finger shoes will normally retrieve larger objects than mill shoes, provided the junk is lying loose on the bottom of the well and a core does need not to be taken.

After the Junk Basket has engaged the fish, rotation while lowering will cause the long fingers to close under the fish and retain it in the barrel. Finger replacements are easy and inexpensive to replace on the finger shoe body.

Magnet Inserts

A Logan Core Type Junk Basket can be easily converted to an effective fishing magnet. The Logan Magnet Insert is generally used to thoroughly clean the hole prior to diamond drilling and in hard-to-drill formations. Logan Magnet Inserts are machined to fit into the recess normally occupied by the upper and lower junk catcher assemblies. Simply replace the two (2) junk catcher assemblies with a Logan Magnet Insert.

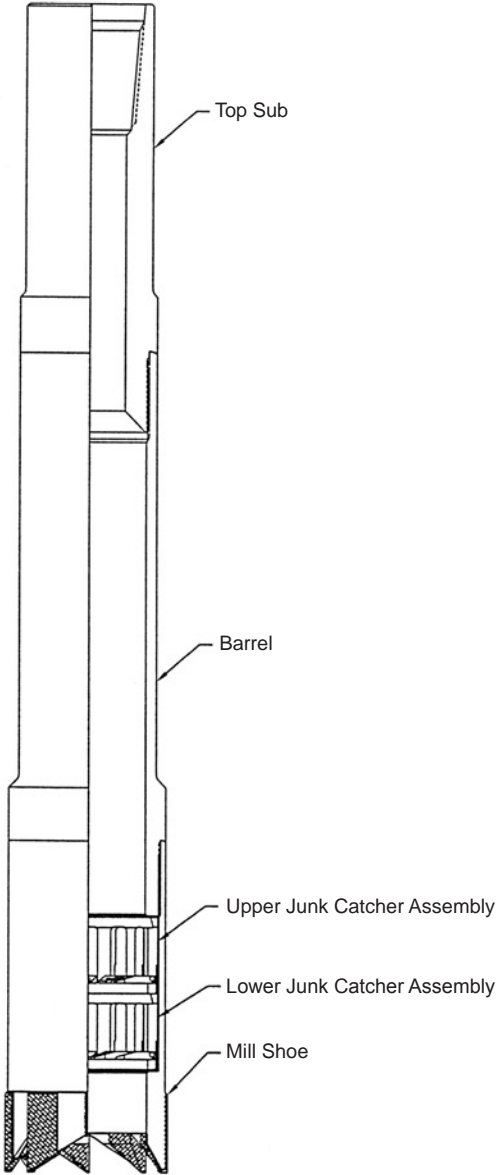
OPERATION

First, examine the Logan Core Type Junk Basket and make sure it is properly assembled and in good working condition.

Select the proper shoe. If the fish is embedded in a hard formation and a core must be cut, the Junk Basket must be equipped with the proper mill shoe. A Type A mill shoe will work best on loose fish in relatively soft formations. If the formation is hard, or the fish is embedded in the formation, use either the Type B or Type C tungsten carbide-faced mill shoe. These hard-faced mill shoes will cut away protruding excess metal to allow free entry of the junk into the basket. If the junk is too large to pass through the junk catchers and is laying loose on the bottom, use a finger shoe. (See **Mill Shoes** and **Finger Shoes** at left for more information.)



Core Type Junk Baskets



Logan Core Type Junk Basket

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Core Type Junk Baskets

The Logan Core Type Junk Basket is made up to the bottom of the fishing string. Connect the top sub of the Junk Basket to the drill string and run it into the hole.

If small junk particles are prevalent in the hole, a junk sub should be installed above the Junk Basket.

Lower the Junk Basket to a point within several feet from the bottom of the hole. Begin circulation at reduced pressure. While maintaining circulation, slowly lower the tool with slow right-hand rotation and lower the Junk Basket to the fish and the bottom of the hole. Continue slow right-hand rotation while lowering until a core at least ten inches long has been cut.

The coring action created by combination of fluid circulation and slow rotation of the tool while lowering will cut a 24-inch core. Upward strain on the string will allow the fingers of the upper catcher to break the core. The fingers of the lower catcher will trap the core and other junk for removal from the hole.

NOTE: When using the tungsten carbide-faced shoes, maintain one (1) ton of weight on the shoe and rotate the basket to give a surface speed of 250 ft/min to ensure proper milling.

After the core is cut, stop rotation and circulation. Release the torque from the string and take an upward strain on the string to break the core. A Logan Superior Hydraulic Jar made up in the string above the Logan Core Type Junk Basket will aid in quickly breaking the core.

As soon as the core is broken, stop rotation and circulation and pull the Logan Core Type Junk Basket from the hole.

At the surface, break the joint between the shoe and the barrel. Remove the shoe and empty the Junk Basket.

Recovering a Fish with a Junk Basket Equipped with a Mill Shoe

First, determine that the Logan Core Type Junk Basket is properly assembled and that all of the parts are in good working condition.

Turn on the circulating pumps. While maintaining circulation, slowly rotate the string to the right and lower the Junk Basket into contact with the fish and the bottom of the hole. Continue to rotate as weight is increased and allow the mill shoe to penetrate the formation. Penetration cuts a short core from the formation and forces the junk completely into the barrel.

Continue right-hand rotation and lower until a 10-inch-long core has been cut.

NOTE: When using hard-faced mill shoes, maintain one (1) ton of weight on the shoe and rotate the Junk Basket at 50 –150 rpm to ensure proper milling.

The fingers on the junk catcher fold back while the core and fish enter. Pulling up the Junk Basket will cause the junk catcher's fingers to dig in and cut off a section of the core, thereby holding the fish and core securely in the Junk Basket barrel.

Stop rotation and circulation and pull the Logan Core Type Junk Basket from the hole.

Recovering a Fish with a Junk Basket Equipped with a Finger Shoe

First, determine that the Logan Core Type Junk Basket is properly assembled and that all of the parts are in good working condition.

Lower the Junk Basket to approximately ten feet off the bottom of the hole. Turn on the circulation pumps to force circulation through the Junk Basket to condition the mud and flush out any mud that may have accumulated in the barrel during the run. Maintain circulation for a few minutes.

While maintaining high pressure circulation, slowly rotate the string to the right and lower it until approximately two (2) tons of weight rest against the bottom of the hole. This will cause the fingers of the finger shoe to close under the fish. Stop rotation and circulation and pull the Junk Basket from the hole.

Fish or Core Removal

Unscrew the mill or finger shoe from the Junk Basket and thoroughly wash out the barrel.

NOTE: The Logan Core Type Junk Basket should be washed as soon as possible after use.

MAINTENANCE

Good maintenance will ensure the best performance and maximum life of the Logan Core Type Junk Basket. Disassemble and thoroughly clean the Junk Basket as soon as possible after each job. Worn or damaged parts, especially the springs and fingers, should be replaced during Disassembly/Assembly procedures outlined below.

Grease each internal part as it is reassembled. Thoroughly dry threaded connections and coat with thread compound as they are assembled. When assembly is complete, paint or lubricate the entire outside of the Logan Core Type Junk Basket to prevent corrosion.



Core Type Junk Baskets

NOTE: If using a Logan Magnet Insert, thoroughly clean it after each use and make sure the circulation hole is clean. Always store the magnet insert with the keeper in place to preserve magnetism.

DISASSEMBLY

The following disassembly instructions are for a Logan Core Type Junk Basket with a mill or finger shoe:

1. Break the threaded joints between the top sub and the barrel, and between the barrel and the shoe. It may best to do this at the rig as the Junk Basket is removed from the hole.
2. Remove the shoe from the barrel. It may be necessary to use a lifting sub and a large pipe vise to facilitate handling, if the assembly is large.
3. Lift out the two (2) junk catcher assemblies (or magnet insert).

If the Junk Basket has been placed horizontally in a vise, care should be taken that the junk catcher assemblies do not fall out when the shoe is removed.

4. Remove the top sub from the barrel.
5. Inspect the fingers of the junk catchers assemblies for damage and ensure that all of the fingers work properly.

If any damage is found, disassemble and replace the damaged parts, or use a spare junk catcher assembly if the Junk Basket must be used immediately. (See **Redressing a Junk Catcher Assembly** below.)

If the tool is equipped with a finger shoe, skip to step 7.

6. Unscrew the mill shoe. Remove the junk catcher assembly from the shoe.
7. Remove the finger shoe:
 - (a) Unscrew the finger shoe from the barrel.
 - (b) Unscrew the finger shoe replacement from the finger shoe body.
8. Wash out the inside and the inner passages of the barrel.
9. Carefully inspect all parts. Replace damaged parts with new ones.
10. Thoroughly clean and lubricate all internal parts, and the interior of all the outside parts.

Redressing a Junk Catcher Assembly Disassembly

The only tools required are a 1/4" blade screwdriver, and if the catcher is large, a vise.

1. Place the junk catcher assembly with the retainer ring up on a workbench or in a vise. Do not exert excess force against the junk catcher assembly with vise jaws.
2. Remove the two (2) retainer screws.
3. Slowly and carefully remove the retainer ring to avoid lost or damaged parts.

CAUTION: The retainer ring holds several torsion springs. It has a tendency to spring off when it is partially disassembled because of the spring load behind it.

4. Remove the fingers and the torsion springs.

5. Remove the torsion springs from the fingers.
6. Remove the pivot pins (if used).
7. Thoroughly clean and inspect all parts. Replace any parts that are damaged or worn.

Reassembly

All junk catcher assemblies are assembled in the same manner, except more care must be taken with the lower catcher assembly than with the upper catcher assembly to assure that the long and short fingers are assembled in the proper alternating sequence.

1. Check the junk catcher assembly replacement parts lists on pages 10 – 19 to ensure that the proper fingers and in the correct quantity are being used. Thoroughly grease all parts.
2. Insert one leg of a torsion spring into the small hole at the upper end of a long finger. The other leg of the torsion spring should protrude outward towards the code letter on the finger.

NOTE: Some junk catcher assemblies do not have fingers with integral lugs. Fingers in these assemblies are assembled with the torsion spring maintained in position with a pivot pin.

3. Insert the finger with its assembled torsion spring into any one of the open slots in the side of the body. The two (2) pilot lugs on the finger will nest into the smaller cross-slots at the upper end of the finger slot.



Core Type Junk Baskets

CAUTION: *Be sure to insert the finger with the code letter towards the outside of the junk catcher. Fingers must freely revolve inward towards the center of the junk catcher when the retainer ring is installed. After assembly, the fingers also must be able to bend upward during operation.*

4. Install the first short finger in the same manner next to the first long finger.
5. Install the second long finger.
6. Continue installation by alternating long and short fingers until all of the fingers have been installed.

After installation, one leg of the torsion spring extending outward approximately 1/4" to 1/2" (depending on size) on each finger. Do not trim off these torsion spring legs. They are necessary to the function of the junk catcher fingers.

7. Slip the retainer ring, with the two (2) holes at the bottom side, over the upper part of the body. Aligned these two (2) holes with the two (2) tapped holes in the body.
8. Push the retainer ring down and bend the torsion spring legs until the bottom edge of the retainer ring rests on the series of shoulders near the center of the body.

NOTE: *The force exerted by the torsion springs in a very large junk catcher assembly may be too great for one person to handle. Two people may be required to assemble the retainer ring — one to hold the fingers and torsion springs in place, while the other person pushes down the retainer ring.*

9. Align the two (2) holes in the retainer ring with the two (2) tapped holes in the body.

10. Insert the two (2) retainer screws, and tighten. Make sure the screw heads are centered in the retainer ring holes and do not overlap the edges of the holes. Do not over tighten these two (2) screws.

11. Check the deflection and retraction of each finger to ensure proper action.

The junk catcher assembly is now ready for assembly in the Logan Core Type Junk Basket.

ASSEMBLY

The Logan Core Type Junk Basket is easily assembled using standard shop tools. No special tools are required.

Make sure all parts have been thoroughly cleaned, inspected, and lubricated prior to assembly.

1. Carefully inspect all parts. Replace worn or damaged parts with new parts.
2. Be sure the inside and inner passages of the barrel are clean.
3. Horizontally clamp the barrel in a vise.
4. Make up the top sub to the barrel.
5. Insert the lower junk catcher assembly into the shoe. (The lower junk catcher is the one with alternating long and short fingers.) Insert the upper junk catcher assembly into the shoe above the lower catcher.

CAUTION: *Make sure that both junk catcher assemblies are installed so the fingers hinge upward during operation. Make sure that both junk catcher assemblies are well greased prior to assembly, so they can freely rotate within the shoe.*

If using a magnet insert, place it with the bail end up, into the same recess as both junk catcher assemblies.

6. Make up the shoe and its inserted junk catcher assemblies (or magnet insert) to the lower end of the barrel.
7. Tighten the two (2) joints.
8. Paint or coat the exterior with grease to prevent corrosion.

The Logan Core Type Junk Basket is now ready for use.

Magnet Insert Installation

1. Remove the shoe from the barrel of the Junk Basket.
2. Remove the junk catcher from the shoe.
3. Install the Logan Magnet Insert into the junk catcher recess.
4. Reassemble the Junk Basket.

NOTE: *Thoroughly clean the Logan Magnet Insert after each use. Be sure the circulation hole is clean. Always store the magnet insert with the keeper in place to preserve magnetism.*



Core Type Junk Baskets

HOLE SIZE		3-3/4 to 4-1/8	4-1/4 to 4-1/2	4-5/8 to 5	4-5/8 to 5	5-1/8 to 5-1/2	5-5/8 to 6	5-5/8 to 6
BARREL O.D.		3-5/8	3-3/4	3-7/8	3-7/8	4-1/4	5-1/8	4-3/4
SHOE O.D.		3-5/8	4-1/16	4-1/2	4-1/2	4-7/8	5-1/8	5-3/8
MAXIMUM DIAMETER OF FISH		2-23/32	2-31/32	3-9/32	3-3/8	3-23/32	3-25/32	4-1/16
COMPLETE ASSEMBLY	Logan Part No.	301-363	301-375	301-388	301-387	301-425	301-512	301-475
	Bowen No.	14590	14586	14595	19375	14600	59993	14605
TOP SUB	Logan Part No.	E1000	E1001	E1002	E1002	E1003	D1004	E1004
	Bowen No.	14725	14726	14727	14727	14728	2619	14729
BARREL	Logan Part No.	E2000	E2001	E20015	E2002	E2003	E20035	E2004
	Bowen No.	14591	14587	14596	19376	14601	14746	14606
UPPER CATCHER ASSEMBLY (See Note 1)	Logan Part No.	...	...	...	...	...	600-083	500-014
	Bowen No.	...	...	...	...	...	14747-W	14607-W
LOWER CATCHER ASSEMBLY (See Note 1)	Logan Part No.	500-023	500-024	500-050	500-025	500-026	500-026	500-027
	Bowen No.	14593-W	14589-W	14598-W	19377-W	14603-W	14603-W	14608-W
TYPE A MILL SHOE (Hard Faced Mill Teeth)	Logan Part No.	E5000-A	E5001-A	E50015	E5002-A	E5003-A	E50035-A	E5004-A
	Bowen No.	14594-A	14574-A	14599-A	19378-A	14604-A	2625-A	14609-A

OPTIONAL COMPONENTS

TYPE B MILL SHOE (Tungsten Carbide Mill Teeth)	Logan Part No.	E5000-B	E5001-B	E50015-B	E5002-B	E5003-B	E50035-B	E5004-B
	Bowen No.	14594-B	14574-B	14599-B	19378-B	14604-B	2625-B	14609-B
TYPE C MILL SHOE (Tungsten Carbide Faced)	Logan Part No.	E5000-C	E5001-C	E50015-C	E5002-C	E5003-C	E50035-C	E5004-C
	Bowen No.	14594-C	14574-C	14599-C	19378-C	14604-C	2625-C	14609-C
FINGER SHOE	Logan Part No.	E3000	E3001	E3002	E3002	E3003	...	E3004
	Bowen No.	22205	22206	22207	22207	22208	...	22209
	Max. Dia. of Fish	3-1/4	3-13/16	4-1/16	4-1/16	4-1/2	...	4-3/4
MAGNET INSERTS	Logan Part No.	500-036	500-037	500-038	500-038	500-039	...	500-040
	Bowen No.	61842	61838	61858	61858	60852	...	61862
ADAPTER	Logan Part No.	E4000	E4001	E4002	E4002	E4003	...	E4004
	Bowen No.	M-61843	M-61839	M-61859	M-61859	M-61853	...	M-61863
MAGNETIC ASSEMBLY	Logan Part No.	600-069	600-069	600-070	600-070	600-070	...	600-071
	Bowen No.	61812	61812	61814	61814	61814	...	61816

Logan Oil Tools reserves the right to change or discontinue designs without notice.

Special Notes:

- (1) For component breakdown of the junk catcher assemblies, refer to Junk Catcher Assemblies chart.
- (2) For type A, B, or C shoes: unless specified, shoes will be furnished with the same O.D. as minimum hole size shown.

When ordering, please specify:

- (1) Complete assembly or part number
- (2) Top Sub connection
- (3) O.D. and type of shoe

Recommended Spare Parts:

- (1) 2 Upper Catchers
- (2) 2 Lower Catchers
- (3) 2 Mill Shoes
- (4) 2 Finger Shoes
- (5) 4 Finger Shoe Replacements



Core Type Junk Baskets

HOLE SIZE		6-1/8 to 6-1/2	6-1/8 to 6-1/2	6-1/8 to 6-1/2	6-5/8 to 7	7-1/4 to 8	8-1/4 to 9	9-1/4 to 10-1/8
BARREL O.D.		5-3/4	5-1/8	5-1/4	5-3/4	6-1/2	7-1/2	8-1/2
SHOE O.D.		5-3/4	5-7/8	5-7/8	6-1/4	7-1/8	8-1/8	9-1/8
MAXIMUM DIAMETER OF FISH		4-13/32	4-5/16	4-1/2	4-13/16	5-7/16	6-3/16	7-3/16
COMPLETE ASSEMBLY	Logan Part No.	301-576	301-513	301-525	301-575	301-650	301-750	301-850
	Bowen No.	59996	14610	19379	14615	14620	14625	14630
TOP SUB	Logan Part No.	E10045	E10047	E1005	E1006	E1007	E1008	E1009
	Bowen No.	59997	14730	19380	14731	14732	14733	14734
BARREL	Logan Part No.	E20045	E20047	E2005	E2006	E2007	E2008	E2009
	Bowen No.	15134	14611	19381	14616	14621	14626	14631
UPPER CATCHER ASSEMBLY (See Note 1)	Logan Part No.	500-051	600-065	500-015	500-016	500-017	500-018	14000-013
	Bowen No.	15130-W	14612-W	19382-W	14617-W	14622-W	14627-W	14632-W
LOWER CATCHER ASSEMBLY (See Note 1)	Logan Part No.	600-020	600-066	500-028	500-029	500-030	500-031	600-024
	Bowen No.	28349-W	14613-W	19383-W	14618-W	14623-W	14628-W	14633-W
TYPE A MILL SHOE (Hard Faced Mill Teeth)	Logan Part No.	E50045-A	E50047-A	E5005-A	E5006-A	E5007-A	E5008-A	E5009-A
	Bowen No.	2676-A	14614-A	19384-A	14619-A	14624-A	14629-A	14634-A

OPTIONAL COMPONENTS

TYPE B MILL SHOE (Tungsten Carbide Mill Teeth)	Logan Part No.	E50045-B	E50047-B	E5005-B	E5006-B	E5007-B	E5008-B	E5009-B
	Bowen No.	2676-B	14614-B	19384-B	14619-B	14624-B	14629-B	14634-B
TYPE C MILL SHOE (Tungsten Carbide Faced)	Logan Part No.	E50045-C	E50047-C	E5005-C	E5006-C	E5007-C	E5008-C	E5009-C
	Bowen No.	2676-C	14614-C	19384-C	14619-C	14624-C	14629-C	14634-C
FINGER SHOE	Logan Part No.	E30045	...	E3005	E3006	E3007	E3008	E3009
	Bowen No.	22218	...	19406	22210	22211	22212	22213
	Max. Dia. of Fish	4-13/32	...	5-3/8	5-29/32	6-1/2	7-1/4	8-1/8
MAGNET INSERTS (Complete Assembly)	Logan Part No.	500-055	500-053	500-041	500-042	500-043	500-044	500-045
	Bowen No.	61866	62637	61868	61874	61949	61955	61959
ADAPTER	Logan Part No.	E4018	E4031	E4005	E4006	E4007	E4008	E4009
	Bowen No.	M-61867	62638	M-61869	M-61875	M-61950	M-61956	M-61960
MAGNETIC ASSEMBLY	Logan Part No.	600-071	600-071	600-071	600-072	600-072	600-079	600-075
	Bowen No.	61816	61816	61816	61818	61822	61824	61826

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Special Notes:

- (1) For component breakdown of the junk catcher assemblies, refer to Junk Catcher Assemblies chart.
- (2) For type A, B, or C shoes: unless specified, shoes will be furnished with the same O.D. as minimum hole size shown.

When ordering, please specify:

- (1) Complete assembly or part number
- (2) Top Sub connection
- (3) O.D. and type of shoe

Recommended Spare Parts:

- (1) 2 Upper Catchers
- (2) 2 Lower Catchers
- (3) 2 Mill Shoes
- (4) 2 Finger Shoes
- (5) 4 Finger Shoe Replacements



Core Type Junk Baskets

HOLE SIZE		10-1/4 to 11-5/8	11-3/4 to 12-1/2	12-5/8 to 15	15 to 20				
BARREL O.D.		9-3/8	10-3/8	11-3/8	13-3/4				
SHOE O.D.		10-1/8	11-1/4	12-1/4	14-1/2				
MAXIMUM DIAMETER OF FISH		8-1/16	9-1/16	10-1/16	12-1/16				
COMPLETE ASSEMBLY	Logan Part No.	301-938	301-1038	301-1138	301-1375				
	Bowen No.	14635	14640	14645	14650				
TOP SUB	Logan Part No.	E1010	E1011	E1012	E1013				
	Bowen No.	14735	14736	14737	14738				
BARREL	Logan Part No.	E2010	E2011	E2012	E2013				
	Bowen No.	14636	14641	14646	14651				
UPPER CATCHER	Logan Part No.	500-054	500-020	500-021	500-022				
ASSEMBLY (See Note 1)	Bowen No.	14637-W	14642-W	14647-W	14652-W				
LOWER CATCHER	Logan Part No.	500-032	500-033	500-034	500-035				
ASSEMBLY (See Note 1)	Bowen No.	14638-W	14643-W	14648-W	14653-W				
TYPE A MILL SHOE	Logan Part No.	E5010-A	E5011-A	E5012-A	E5013-A				
(Hard Faced Mill Teeth)	Bowen No.	14639-A	14644-A	14649-A	14654-A				

OPTIONAL COMPONENTS

TYPE B MILL SHOE	Logan Part No.	E5010-B	E5011-B	E5012-B	E5013-B				
(Tungsten Carbide Mill Teeth)	Bowen No.	14639-B	14644-B	14649-B	14654-B				
TYPE C MILL SHOE	Logan Part No.	E5010-C	E5011-C	E5012-C	E5013-C				
(Tungsten Carbide Faced)	Bowen No.	14639-C	14644-C	14649-C	14654-C				
FINGER SHOE	Logan Part No.	E3010	E3011	E3012	E3013				
	Bowen No.	22214	22215	22216	22217				
	Max. Dia. of Fish	9-15/16	11	11-7/8	15-1/4				
MAGNET INSERTS	Logan Part No.	500-046	500-047	500-048	500-049				
(Complete Assembly)	Bowen No.	61969	61977	61979	61987				
ADAPTER	Logan Part No.	E4010	E4011	E4012	E4013				
	Bowen No.	M-61970	M-61978	M-61980	M-61988				
MAGNETIC ASSEMBLY	Logan Part No.	600-076	600-077	600-077	600-078				
	Bowen No.	61828	61830	61830	61834				

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Special Notes:

- (1) For component breakdown of the junk catcher assemblies, refer to Junk Catcher Assemblies chart.
- (2) For type A, B, or C shoes: unless specified, shoes will be furnished with the same O.D. as minimum hole size shown.

When ordering, please specify:

- (1) Complete assembly or part number
- (2) Top Sub connection
- (3) O.D. and type of shoe

Recommended Spare Parts:

- (1) 2 Upper Catchers
- (2) 2 Lower Catchers
- (3) 2 Mill Shoes
- (4) 2 Finger Shoes
- (5) 4 Finger Shoe Replacements



Junk Catcher Assemblies

OVERVIEW

The alternately long and short fingers of the junk catcher assembly extend almost to the center of the basket to form a close-fitting receptacle that will retain small pieces of junk that may impede drilling progress or hold a core sample.

CONSTRUCTION

The steel body design provides greater strength and durability. The retainer ring, retainer screws and springs are made of stainless steel to eliminate rust and corrosion problems. Fingers are inexpensive and can be easily replaced.

ASSEMBLY

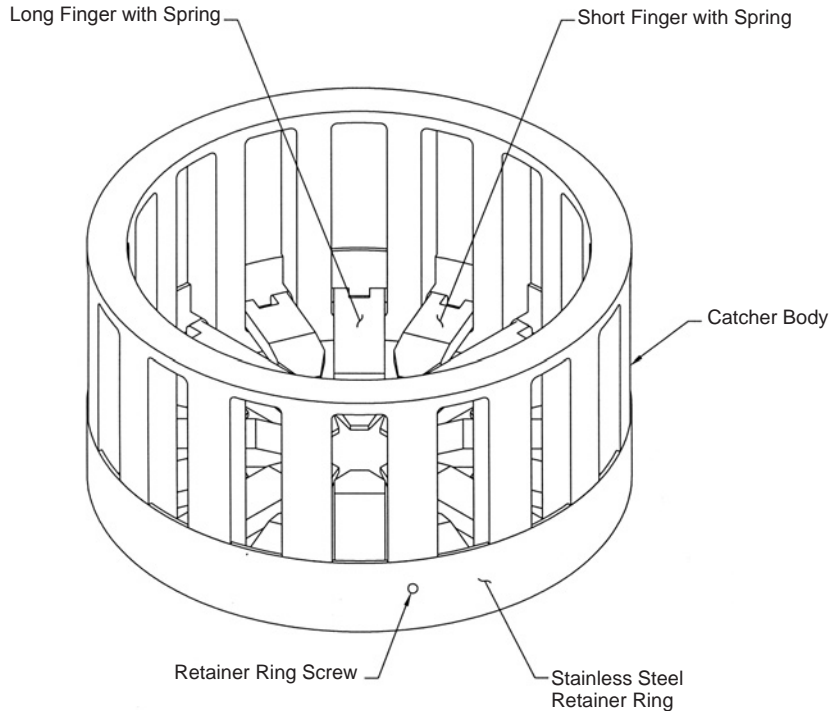
After redressing a junk catcher assembly, care must be taken to ensure that alternate long and short fingers are assembled in proper sequence.

When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Finger number and code, when ordering fingers

Recommended Spare Parts:

- (1) 2 Sets of Fingers
- (2) 4 Sets of Torsion Springs
- (3) 1 Set of Pivot Pins
- (4) 4 Retainer Screws



Special Notes:

(1) Code: Each finger is stenciled with a letter or letter-number code. These codes are used in lieu of the part number because of space limitation. See the Finger Code Chart below to cross-reference the code with the part number.

Finger Code Chart

Code	Part No.	Code	Part No.	Code	Part No.	Code	Part No.
A	E11006	I	E11003	P-1	E9007	21778-W	E9015
B	E9005	J	E11014	P-2	E11008	21779-W	E11016
C	E11005	K	E9014	W-1	E9012	362-W	E9006
D	—	L	E10003	W-2	E11013	363-W	E11007
E	E9001	M	E9010	W-3	E9002	690-W	E90015
F	E11000	N	E11010	W-4	E11001	691-W	E11015
G	E9013	O	—	X-1	E9019	666-W	E9009
H	E9004	P	—	X-2	E11020	667-W	E11011



Junk Catcher Assemblies

INSIDE DIAMETER		2-11/32	2-39/64	2-23/32	2-17/32	2-17/32	2-31/32	3-1/16
OUTSIDE DIAMETER		3-3/32	3-15/64	3-1/4	3-11/32	3-11/32	3-11/16	3-13/16
LENGTH		1-7/8	1-7/8	1-7/8	1-7/8	1-7/8	2-1/4	2-1/2
COMPLETE ASSEMBLY	Logan Part No.	600-015	600-031	500-023	14000-008	600-016	500-024	14000-009
	Bowen No.	21795W	21810W	14593-W	22070-W	21855W	14589-W	22075-W
BODY	Logan Part No.	D11000	D11021	E7000	D11001	D11001	E7001	D11002
	Bowen No.	56357	45542	45541	68366	68366	45590	45591
FINGER RETAINER <i>(stainless steel)</i>	Logan Part No.	D12000	D12019	E8000	D12001	D12001	E8001	D12002
Bowen No.	56358	45538	45543	68367	68367	45562	45592	
SHORT FINGER *	Logan Part No.	E9011	E9001	E9001	E9011	E9011	E9002	E9002
	Bowen No.	68368	45539	45539	68368	68368	45574	45574
	Code	...	E	E	AD	...	W-3	R
	No. Req'd	4	5	5	8	4	5	10
MEDIUM FINGER *	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...	...
	Code	...	...	...	...	...	...	...
	No. Req'd	...	...	...	...	...	...	...
LONG FINGER *	Logan Part No.	E11012	E11000	E11000	...	E11012	E11001	...
	Bowen No.	68369	45540	45540	...	68369	45575	...
	Code	...	F	F	...	...	W-4	...
	No. Req'd	4	5	5	...	4	5	...
PIVOT PIN *	Logan Part No.	E12001	E12000	E12000	E12001	E12001	E12001	E12001
	Bowen No.	45583	45535	45535	45583	45583	45583	45583
	Req'd	8	10	10	8	8	10	10
TORSION SPRING * <i>(stainless steel)</i>	Logan Part No.	E13009	E13006	E13006	E13009	E13009	E13007	E13009
	Bowen No.	45571	45567	45567	45571	45571	55958	45571
	No. Req'd	8	10	10	8	8	10	10
RETAINER SCREW * <i>(stainless steel)</i>	Logan Part No.	E14000	E14000	E14000	E14000	E14000	E14000	E14000
	Bowen No.	42257	42257	42257	42257	42257	42257	42257
	No. Req'd	2	2	2	2	2	2	2
REPAIR KITS	Logan Part No.	600-015RK	600-031RK	500-023RK	14000-008RK	600-016RK	500-024RK	14000-009RK
	Bowen No.	21795K	21810K	14593K	22070K	21855K	14589K	22075K

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When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Finger number and code, when ordering fingers

Recommended Spare Parts:

- (1) 2 Sets of Fingers
- (2) 4 Sets of Torsion Springs
- (3) 1 Set of Pivot Pins
- (4) 4 Retainer Screws

Special Notes:

- (1) Code: Each finger is stenciled with a letter or letter-number code. These codes are used in lieu of the part number because of space limitation. See the Finger Code Chart below to cross-reference the code with the part number.

Finger Code Chart

Code	Part No.	Code	Part No.	Code	Part No.	Code	Part No.
A	E11006	I	E11003	P-1	E9007	21778-W	E9015
B	E9005	J	E11014	P-2	E11008	21779-W	E11016
C	E11005	K	E9014	W-1	E9012	362-W	E9006
D	—	L	E10003	W-2	E11013	363-W	E11007
E	E9001	M	E9010	W-3	E9002	690-W	E90015
F	E11000	N	E11010	W-4	E11001	691-W	E11015
G	E9013	O	—	X-1	E9019	666-W	E9009
H	E9004	P	—	X-2	E11020	667-W	E11011



Junk Catcher Assemblies

INSIDE DIAMETER	3-1/16	3-13/32	3-13/32	3-9/32	3-13/32	3-21/32	3-3/4	
OUTSIDE DIAMETER	3-13/16	3-31/32	3-31/32	4	4-1/16	4-9/32	4-15/32	
LENGTH	2-1/2	1-63/64	1-63/64	2-3/8	2-3/8	2-1/4	2-9/16	
COMPLETE ASSEMBLY	Logan Part No.	600-017	600-032	600-033	500-050	500-025	600-018	600-019
	Bowen No.	21780W	21880W	21805W	14598-W	19377-W	21790W	21735W
BODY	Logan Part No.	D11002	D11022	D11022	E70015	E7002	D11003	E7003
	Bowen No.	45591	45565	45565	45568	45563	45579	45559
FINGER RETAINER	Logan Part No.	D12002	D12020	D12020	E80015	E8002	D12003	E8003
<i>(stainless steel)</i>	Bowen No.	45592	45566	45566	45569	45564	45580	45560
SHORT FINGER *	Logan Part No.	E9002	E9002	E9002	E90015	E90015	E9012	E9004
	Bowen No.	45574	45574	45574	55962	55962	45581	45558
	Code	W-3	R	R	690-W	690-W	W-1	H
	No. Req'd	5	12	6	5	5	6	5
MEDIUM FINGER *	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...	...
	Code	...	...	...	...	...	...	...
	No. Req'd	...	...	...	...	...	...	...
LONG FINGER *	Logan Part No.	E11001	...	E11001	E11015	E11015	E11013	E11003
	Bowen No.	45575	...	45575	55963	55963	45582	45561
	Code	W-4	...	W-4	691-W	691-W	W-2	I
	No. Req'd	5	...	6	5	5	6	5
PIVOT PIN *	Logan Part No.	E12001	E12001	E12001	E12002	E12002	E12001	...
	Bowen No.	45583	45583	45583	55957	55957	45583	...
	No. Req'd	10	12	12	10	10	12	...
TORSION SPRING *	Logan Part No.	E13009	E13009	E13009	E13007	E13007	E13009	E13000
<i>(stainless steel)</i>	Bowen No.	45571	45571	45571	55958	55958	45571	45520
	No. Req'd	10	12	12	10	10	12	10
RETAINER SCREW *	Logan Part No.	E14000	E14000	E14000	E14000	E14000	E14000	E14000
<i>(stainless steel)</i>	Bowen No.	42257	42257	42257	42257	42257	42257	42257
	No. Req'd	2	2	2	2	2	2	2
REPAIR KITS	Logan Part No.	600-017RK	600-032RK	600-033RK	500-050RK	500-025RK	600-018RK	600-019RK
<i>* Indicates parts included in kit</i>	Bowen No.	21780K	21880K	21805K	14598K	19377K	21790K	21735K

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When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Finger number and code, when ordering fingers

Recommended Spare Parts:

- (1) 2 Sets of Fingers
- (2) 4 Sets of Torsion Springs
- (3) 1 Set of Pivot Pins
- (4) 4 Retainer Screws

Special Notes:

(1) Code: Each finger is stenciled with a letter or letter-number code. These codes are used in lieu of the part number because of space limitation. See the Finger Code Chart below to cross-reference the code with the part number.

Finger Code Chart

Code	Part No.	Code	Part No.	Code	Part No.	Code	Part No.
A	E11006	I	E11003	P-1	E9007	21778-W	E9015
B	E9005	J	E11014	P-2	E11008	21779-W	E11016
C	E11005	K	E9014	W-1	E9012	362-W	E9006
D	—	L	E10003	W-2	E11013	363-W	E11007
E	E9001	M	E9010	W-3	E9002	690-W	E90015
F	E11000	N	E11010	W-4	E11001	691-W	E11015
G	E9013	O	—	X-1	E9019	666-W	E9009
H	E9004	P	—	X-2	E11020	667-W	E11011



Junk Catcher Assemblies

INSIDE DIAMETER		3-3/4	3-3/4	4-3/32	4-1/16	4-1/16	4-13/32	4-13/32
OUTSIDE DIAMETER		4-15/32	4-15/32	4-3/4	4-7/8	4-7/8	5-5/32	5-5/32
LENGTH		2-9/16	2-9/16	2-1/2	2-25/32	2-25/32	2-13/16	1-13/32
COMPLETE ASSEMBLY	Logan Part No.	600-083	500-026	600-062	500-014	500-027	600-020	600-067
	Bowen No.	14747-W	14603-W	21820W	14607-W	14608-W	28349W	25250-W
BODY	Logan Part No.	E7003	E7003	D11015	E7004	E7004	D11004	D11019
	Bowen No.	45559	45559	45595	45555	45555	45511	68375
FINGER RETAINER	Logan Part No.	E8003	E8003	D12015	E8004	E8004	D12004	D12004
<i>(stainless steel)</i>	Bowen No.	45560	45560	45596	45556	45556	45519	45519
SHORT FINGER *	Logan Part No.	E9004	E9004	E9019	E9004	E9004	E9005	E9018
	Bowen No.	45558	45558	45597	45558	45558	45517	68376
	Code	H	H	X-1	H	H	B	
	No. Req'd	10	5	6	12	6	8	12
MEDIUM FINGER *	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...	...
	Code	...	...	...	...	...	...	...
	No. Req'd	...	...	...	...	...	...	...
LONG FINGER *	Logan Part No.	...	E11003	E11020	...	E9013	E11006	...
	Bowen No.	...	45561	45598	...	45557	45516	...
	Code	...	I	X-2	...	G	A	...
	No. Req'd	...	5	6	...	6	4	...
PIVOT PIN *	Logan Part No.	...	...	E12010	...	...	...	...
	Bowen No.	...	...	45599	...	...	...	...
	No. Req'd	...	...	12	...	...	...	...
TORSION SPRING *	Logan Part No.	E13000	E13000	E13009	E13000	E13000	E13000	E13000
<i>(stainless steel)</i>	Bowen No.	45520	45520	45571	45520	45520	45520	45520
	No. Req'd	10	10	12	12	12	12	12
RETAINER SCREW *	Logan Part No.	E14000	E14000	E14000	E14000	E14000	E14000	E14000
<i>(stainless steel)</i>	Bowen No.	42257	42257	42257	42257	42257	42257	42257
	No. Req'd	2	2	2	2	2	2	2
REPAIR KITS	Logan Part No.	600-083RK	500-026RK	600-062RK	500-014RK	500-027RK	600-020RK	600-067RK
<i>* Indicates parts included in kit</i>	Bowen No.	14747K	14603K	21820K	14607K	14608K	28349K	25250K

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When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Finger number and code, when ordering fingers

Recommended Spare Parts:

- (1) 2 Sets of Fingers
- (2) 4 Sets of Torsion Springs
- (3) 1 Set of Pivot Pins
- (4) 4 Retainer Screws

Special Notes:

- (1) Code: Each finger is stenciled with a letter or letter-number code. These codes are used in lieu of the part number because of space limitation. See the Finger Code Chart below to cross-reference the code with the part number.

Finger Code Chart

Code	Part No.	Code	Part No.	Code	Part No.	Code	Part No.
A	E11006	I	E11003	P-1	E9007	21778-W	E9015
B	E9005	J	E11014	P-2	E11008	21779-W	E11016
C	E11005	K	E9014	W-1	E9012	362-W	E9006
D	—	L	E10003	W-2	E11013	363-W	E11007
E	E9001	M	E9010	W-3	E9002	690-W	E90015
F	E11000	N	E11010	W-4	E11001	691-W	E11015
G	E9013	O	—	X-1	E9019	666-W	E9009
H	E9004	P	—	X-2	E11020	667-W	E11011



Junk Catcher Assemblies

INSIDE DIAMETER		4-13/32	4-5/16	4-5/16	4-17/32	4-17/32	4-3/4	4-13/16
OUTSIDE DIAMETER		5-5/32	5-5/16	5-5/16	5-13/32	5-13/32	5-5/8	5-23/32
LENGTH		2-13/16	2-7/8	2-7/8	2-7/8	2-7/8	2-5/8	3-1/16
COMPLETE ASSEMBLY	Logan Part No.	500-051	600-065	600-066	500-015	500-028	600-021	500-016
	Bowen No.	15130-W	14612-W	14613-W	19382-W	19383-W	21750W	14617-W
BODY	Logan Part No.	D11004	D11018	D11018	E7005	E7005	D11005	E7006
	Bowen No.	45511	45572	45572	45553	45553	45584	45512
FINGER RETAINER <i>(stainless steel)</i>	Logan Part No.	D12004	D12017	D12017	E8005	E8005	D12005	E8006
	Bowen No.	45519	45573	45573	45554	45554	45585	45552
SHORT FINGER *	Logan Part No.	E9005	E9005	E9005	E9005	E9005	E9005	E9005
	Bowen No.	45517	45517	45517	45517	45517	45517	45517
	Code	B	B	B	B	B	B	B
	No. Req'd	12	12	6	12	6	6	12
MEDIUM FINGER *	Logan Part No.	...	...	E9013	...	...	...	...
	Bowen No.	...	...	45557	...	...	...	...
	Code	...	...	G	...	...	...	...
	No. Req'd	...	...	3	...	...	...	...
LONG FINGER *	Logan Part No.	...	...	E11006	...	E11006	E11006	...
	Bowen No.	...	...	45516	...	45516	45516	...
	Code	...	...	A	...	A	A	...
	No. Req'd	...	...	3	...	6	6	...
PIVOT PIN *	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...	...
	No. Req'd	...	...	...	...	...	...	...
TORSION SPRING * <i>(stainless steel)</i>	Logan Part No.	E13000	E13000	E13000	E13000	E13000	E13000	E13000
	Bowen No.	45520	45520	45520	45520	45520	45520	45520
	No. Req'd	12	12	12	12	12	12	12
RETAINER SCREW * <i>(stainless steel)</i>	Logan Part No.	E14000	E14000	E14000	E14000	E14000	E14000	E14000
	Bowen No.	42257	42257	42257	42257	42257	42257	42257
	No. Req'd	2	2	2	2	2	2	2
REPAIR KITS	Logan Part No.	500-051RK	600-065RK	600-066RK	500-015RK	500-028RK	600-021RK	500-016RK
	Bowen No.	15130K	14612K	14613K	19382K	19383K	21750K	14617K

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When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Finger number and code, when ordering fingers

Recommended Spare Parts:

- (1) 2 Sets of Fingers
- (2) 4 Sets of Torsion Springs
- (3) 1 Set of Pivot Pins
- (4) 4 Retainer Screws

Special Notes:

(1) Code: Each finger is stenciled with a letter or letter-number code. These codes are used in lieu of the part number because of space limitation. See the Finger Code Chart below to cross-reference the code with the part number.

Finger Code Chart

Code	Part No.	Code	Part No.	Code	Part No.	Code	Part No.
A	E11006	I	E11003	P-1	E9007	21778-W	E9015
B	E9005	J	E11014	P-2	E11008	21779-W	E11016
C	E11005	K	E9014	W-1	E9012	362-W	E9006
D	—	L	E10003	W-2	E11013	363-W	E11007
E	E9001	M	E9010	W-3	E9002	690-W	E90015
F	E11000	N	E11010	W-4	E11001	691-W	E11015
G	E9013	O	—	X-1	E9019	666-W	E9009
H	E9004	P	—	X-2	E11020	667-W	E11011



Junk Catcher Assemblies

INSIDE DIAMETER		4-13/16	5-1/4	5-3/16	5-3/16	5-7/16	5-7/16	5-5/8
OUTSIDE DIAMETER		5-23/32	6-1/8	6-1/4	6-1/4	6-3/8	6-3/8	6-19/32
LENGTH		3-1/16	3-5/16	3-5/16	3-5/16	3	3-5/16	2-7/8
COMPLETE ASSEMBLY	Logan Part No.	500-029	600-063	14000-011	600-022	500-017	500-030	600-060
	Bowen No.	14618-W	18935-W	22050-W	21725W	14622-W	14623-W	21865W
BODY	Logan Part No.	E7006	D11016	D11006	D11006	E7007	E7007	D11013
	Bowen No.	45512	45513	45550	45550	45545	45545	45602
FINGER RETAINER	Logan Part No.	E8006	D12016	D12006	D12006	E8007	E8007	D12014
	Bowen No.	45552	45527	45551	45551	45546	45546	45528
<i>(stainless steel)</i>								
SHORT FINGER *	Logan Part No.	E9005	E9005	E9013	E9013	E9005	E9005	E9005
	Bowen No.	45517	45517	45557	45557	45517	45517	45517
	Code	B	B	G	G	B	B	B
	No. Req'd	6	6	12	6	14	7	12
MEDIUM FINGER *	Logan Part No.	...	E11006	...	...	...	...	...
	Bowen No.	...	45516	...	...	...	...	...
	Code	...	A	...	...	...	...	...
	No. Req'd	...	3	...	...	...	...	...
LONG FINGER *	Logan Part No.	E11006	E11005	...	E11005	...	E11005	...
	Bowen No.	45516	45518	...	45518	...	45518	...
	Code	A	C	...	C	...	C	...
	No. Req'd	6	3	...	6	...	7	...
PIVOT PIN *	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...	...
	No. Req'd	...	...	...	...	...	...	...
TORSION SPRING *	Logan Part No.	E13000	E13000	E13000	E13000	E13000	E13000	E13000
	Bowen No.	45520	45520	45520	45520	45520	45520	45520
	No. Req'd	12	12	12	12	14	14	12
<i>(stainless steel)</i>								
* RETAINER SCREW	Logan Part No.	E14000	E14000	E14000	E14000	E14000	E14000	E14000
	Bowen No.	42257	42257	42257	42257	42257	42257	42257
	No. Req'd	2	2	2	2	2	2	2
<i>(stainless steel)</i>								
REPAIR KITS	Logan Part No.	500-029RK	600-063RK	14000-011RK	600-022RK	500-017RK	500-030RK	600-060RK
	Bowen No.	14618K	18935K	22050K	21725K	14622K	14623K	21865K

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When ordering, please specify:

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- (2) Finger number and code, when ordering fingers

Recommended Spare Parts:

- (1) 2 Sets of Fingers
- (2) 4 Sets of Torsion Springs
- (3) 1 Set of Pivot Pins
- (4) 4 Retainer Screws

Special Notes:

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Finger Code Chart

Code	Part No.	Code	Part No.	Code	Part No.	Code	Part No.
A	E11006	I	E11003	P-1	E9007	21778-W	E9015
B	E9005	J	E11014	P-2	E11008	21779-W	E11016
C	E11005	K	E9014	W-1	E9012	362-W	E9006
D	—	L	E10003	W-2	E11013	363-W	E11007
E	E9001	M	E9010	W-3	E9002	690-W	E90015
F	E11000	N	E11010	W-4	E11001	691-W	E11015
G	E9013	O	—	X-1	E9019	666-W	E9009
H	E9004	P	—	X-2	E11020	667-W	E11011



Junk Catcher Assemblies

INSIDE DIAMETER		5-5/8	6	6	6	6-3/16	6-3/16	6-1/2
OUTSIDE DIAMETER		6-19/32	7	7	7	7-1/8	7-1/8	7-7/16
LENGTH		3-5/8	1-23/32	3-7/16	3.44	3-13/16	3-13/16	3-1/2
COMPLETE ASSEMBLY	Logan Part No.	600-061	14000-012	600-023	600-085	500-018	500-031	600-030
	Bowen No.	18936W	21640-W	18725W		14627-W	14628-W	18720-W
BODY	Logan Part No.	D11014	E7014	D11007	D11007	E7008	E7008	D11020
	Bowen No.	45514	68382	45505	45505	45547	45547	45515
FINGER RETAINER <i>(stainless steel)</i>	Logan Part No.	D12014	D12007	D12007	D12007	E8008	E8008	D12018
	Bowen No.	45528	45506	45506	45506	45548	45548	45529
SHORT FINGER *	Logan Part No.	E9005	E9016	E9014	E9014	E9006	E9006	E9014
	Bowen No.	45517	68383	45508	45508	47670	47670	45508
	Code	B	AH	K	K	362-W	362-W	K
	No. Req'd	6	12	6	12	12	6	6
MEDIUM FINGER *	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...	...
	Code	...	...	...	...	...	...	...
	No. Req'd	...	...	...	...	...	...	...
LONG FINGER *	Logan Part No.	E11005	...	E11014	...	E11007	E11014	...
	Bowen No.	45518	...	45507	...	47669	45507	...
	Code	C	...	J	...	363-W	J	...
	No. Req'd	6	...	6	...	6	6	...
PIVOT PIN *	Logan Part No.	...	...	...	...	E12008	E12008	...
	Bowen No.	...	...	...	...	45536	45536	...
	No. Req'd	...	...	...	...	12	12	...
TORSION SPRING * <i>(stainless steel)</i>	Logan Part No.	E13000	E13002	E13004	E13004	E13001	E13001	E13004
	Bowen No.	45520	45549	45509	45509	45537	45537	45509
	No. Req'd	12	12	12	12	12	12	12
RETAINER SCREW * <i>(stainless steel)</i>	Logan Part No.	E14000	E14000	E14000	E14000	E14000	E14000	E14000
	Bowen No.	42257	42257	42257	42257	42257	42257	42257
	No. Req'd	2	2	2	2	2	2	2
REPAIR KITS	Logan Part No.	600-061RK	14000-012RK	600-023RK	...	500-018RK	500-031RK	600-030RK
	Bowen No.	18936K	21640K	18725K	...	14627K	14628K	18720K

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When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Finger number and code, when ordering fingers

Recommended Spare Parts:

- (1) 2 Sets of Fingers
- (2) 4 Sets of Torsion Springs
- (3) 1 Set of Pivot Pins
- (4) 4 Retainer Screws

Special Notes:

(1) Code: Each finger is stenciled with a letter or letter-number code. These codes are used in lieu of the part number because of space limitation. See the Finger Code Chart below to cross-reference the code with the part number.

Finger Code Chart

Code	Part No.	Code	Part No.	Code	Part No.	Code	Part No.
A	E11006	I	E11003	P-1	E9007	21778-W	E9015
B	E9005	J	E11014	P-2	E11008	21779-W	E11016
C	E11005	K	E9014	W-1	E9012	362-W	E9006
D	—	L	E10003	W-2	E11013	363-W	E11007
E	E9001	M	E9010	W-3	E9002	690-W	E90015
F	E11000	N	E11010	W-4	E11001	691-W	E11015
G	E9013	O	—	X-1	E9019	666-W	E9009
H	E9004	P	—	X-2	E11020	667-W	E11011



Junk Catcher Assemblies

INSIDE DIAMETER		7-1/16	7-3/16	7-3/16	7-11/16	7-13/16	7-13/16	8-1/16
OUTSIDE DIAMETER		7-7/8	8-1/8	8-1/8	9	9-1/32	9-1/32	9-5/16
LENGTH		4-5/16	4-5/16	4-5/16	4-5/8	2-5/16	4-5/8	5
COMPLETE ASSEMBLY	Logan Part No.	600-034	14000-013	600-024	600-025	14000-014	500-019	500-054
	Bowen No.	9800W	14632-W	14633W	21755W	25235-W	18945-W	14637-W
BODY	Logan Part No.	D11023	E7009	E7009	D11008	E7016	E7010	E7013
	Bowen No.	68396	45521	45521	68116	68388	45522	45523
FINGER RETAINER	Logan Part No.	D12021	D12008	D12008	D12009	E8010	E8010	E8013
	Bowen No.	68397	45530	45530	68117	45531	45531	45532
<i>(stainless steel)</i>								
SHORT FINGER *	Logan Part No.	E9010	E9007	E9007	E11014	E9016	E11014	E9010
	Bowen No.	45525	45588	45588	45507	68383	45507	45525
	Code	M	N	P-1	J	S	J	M
	No. Req'd	6	12	6	6	12	6	16
MEDIUM FINGER *	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...	...
	Code	...	...	...	...	...	...	...
	No. Req'd	...	...	...	...	...	...	...
LONG FINGER *	Logan Part No.	E10003	...	E11008	E11018	...	E11018	...
	Bowen No.	45510	...	45589	70277	...	70277	...
	Code	L	...	P-2	J	...	J	...
	No. Req'd	6	...	6	6	...	6	...
PIVOT PIN *	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...	...
	No. Req'd	...	...	...	...	...	...	...
TORSION SPRING *	Logan Part No.	E13002	E13002	E13002	E13004	E13004	E13004	E13004
	Bowen No.	45549	45549	45549	45509	45509	45509	45509
<i>(stainless steel)</i>								
	No. Req'd	12	12	12	12	12	12	16
RETAINER SCREW *	Logan Part No.	E14000	E14000	E14000	E14000	E14000	E14000	E14000
	Bowen No.	42257	42257	42257	42257	42257	42257	42257
<i>(stainless steel)</i>								
	No. Req'd	2	2	2	2	2	2	2
REPAIR KITS	Logan Part No.	600-034RK	14000-013RK	600-024RK	600-025RK	14000-014RK	500-019RK	500-054RK
	Bowen No.	9800K	14632K	14633K	21755K	25235K	18945K	154611K

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When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Finger number and code, when ordering fingers

Recommended Spare Parts:

- (1) 2 Sets of Fingers
- (2) 4 Sets of Torsion Springs
- (3) 1 Set of Pivot Pins
- (4) 4 Retainer Screws

Special Notes:

- (1) Code: Each finger is stenciled with a letter or letter-number code. These codes are used in lieu of the part number because of space limitation. See the Finger Code Chart below to cross-reference the code with the part number.

Finger Code Chart

Code	Part No.	Code	Part No.	Code	Part No.	Code	Part No.
A	E11006	I	E11003	P-1	E9007	21778-W	E9015
B	E9005	J	E11014	P-2	E11008	21779-W	E11016
C	E11005	K	E9014	W-1	E9012	362-W	E9006
D	—	L	E10003	W-2	E11013	363-W	E11007
E	E9001	M	E9010	W-3	E9002	690-W	E90015
F	E11000	N	E11010	W-4	E11001	691-W	E11015
G	E9013	O	—	X-1	E9019	666-W	E9009
H	E9004	P	—	X-2	E11020	667-W	E11011



Junk Catcher Assemblies

INSIDE DIAMETER		8-1/16	8-5/16	8-5/16	8-5/16	8-11/16	9-1/8	9-1/8
OUTSIDE DIAMETER		9-5/16	9-3/4	9-3/4	9-3/4	10-3/32	10-7/16	10-7/16
LENGTH		5	5	5	4-1/2	5-3/32	5-3/16	5-3/16
COMPLETE ASSEMBLY	Logan Part No.	500-032	14000-015	600-026	600-064	600-027	500-020	500-033
	Bowen No.	14638-W	31046-W	21760W	22000-W	21840W	14642-W	14643-W
BODY	Logan Part No.	E7013	D11009	D11009	D11017	D11010	E7011	E7011
	Bowen No.	45523	45576	45576	45577	45593	45524	45524
FINGER RETAINER	Logan Part No.	E8013	D12010	D12010	D12010	D12011	E8011	E8011
	Bowen No.	45532	45578	45578	45578	45594	45533	45533
<i>(stainless steel)</i>								
SHORT FINGER *	Logan Part No.	E9010	E9010	E9010	E9010	E11014	E11014	E11014
	Bowen No.	45525	45525	45525	45525	45507	45507	45507
	Code	M	M	M	M	J	J	J
	No. Req'd	8	16	8	16	8	16	8
MEDIUM FINGER *	Logan Part No.	E11014	...	E10003	...	E10003	...	E10003
	Bowen No.	45507	...	45510	...	45510	...	45510
	Code	J	...	L	...	L	...	L
	No. Req'd	4	...	4	...	4	...	4
LONG FINGER *	Logan Part No.	E11017	...	E11010	...	E11010	...	E11010
	Bowen No.	68295	...	45526	...	45526	...	45526
	Code	N	...	N	...	N	...	N
	No. Req'd	4	...	4	...	4	...	4
PIVOT PIN *	Logan Part No.	...	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...	...
	No. Req'd	...	...	...	...	...	...	...
TORSION SPRING *	Logan Part No.	E13004	E13004	E13004	E13004	E13004	E13004	E13004
	Bowen No.	45509	45509	45509	45509	45509	45509	45509
	No. Req'd	16	16	16	16	16	16	16
<i>(stainless steel)</i>								
RETAINER SCREW *	Logan Part No.	E14000	E14000	E14000	E14000	E14000	E14000	E14000
	Bowen No.	42257	42257	42257	42257	42257	42257	42257
	No. Req'd	2	2	2	2	2	2	2
<i>(stainless steel)</i>								
REPAIR KITS	Logan Part No.	500-032RK	14000-015RK	600-026RK	600-064RK	600-027RK	500-020RK	500-033RK
	Bowen No.	14638K	31046K	21760K	22000K	21840K	14642K	14643K

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When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Finger number and code, when ordering fingers

Recommended Spare Parts:

- (1) 2 Sets of Fingers
- (2) 4 Sets of Torsion Springs
- (3) 1 Set of Pivot Pins
- (4) 4 Retainer Screws

Special Notes:

(1) Code: Each finger is stenciled with a letter or letter-number code. These codes are used in lieu of the part number because of space limitation. See the Finger Code Chart below to cross-reference the code with the part number.

Finger Code Chart

Code	Part No.	Code	Part No.	Code	Part No.	Code	Part No.
A	E11006	I	E11003	P-1	E9007	21778-W	E9015
B	E9005	J	E11014	P-2	E11008	21779-W	E11016
C	E11005	K	E9014	W-1	E9012	362-W	E9006
D	—	L	E10003	W-2	E11013	363-W	E11007
E	E9001	M	E9010	W-3	E9002	690-W	E90015
F	E11000	N	E11010	W-4	E11001	691-W	E11015
G	E9013	O	—	X-1	E9019	666-W	E9009
H	E9004	P	—	X-2	E11020	667-W	E11011



Junk Catcher Assemblies

INSIDE DIAMETER		10-1/8	10-1/8	9-7/8	11-3/16	12-3/8	12-3/8	
OUTSIDE DIAMETER		11-3/8	11-3/8	11-21/32	13-5/8	13-13/16	13-13/16	
LENGTH		6	6	5-31/32	7-5/16	7-7/8	7-7/8	
COMPLETE ASSEMBLY	Logan Part No.	500-021	500-034	600-028	600-029	500-022	500-035	
	Bowen No.	14647-W	14648-W	21770W	21775W	14652-W	14653-W	
BODY	Logan Part No.	E7012	E7012	D11011	D11012	E7015	E7015	
	Bowen No.	45586	45586	64810	45605	68391	68391	
FINGER RETAINER	Logan Part No.	E8012	E8012	D12012	D12013	E8014	E8014	
<i>(stainless steel)</i>	Bowen No.	45587	45587	64811	45606	68392	68392	
SHORT FINGER *	Logan Part No.	E9009	E9009	E9009	E9015	E9017	E9017	
	Bowen No.	666	666	666	45607	68393	68393	
	Code	666-W	666-W	666-W	21778-W			
	No. Req'd	16	8	8	7	14	7	
MEDIUM FINGER *	Logan Part No.	...	...	...	...	...	...
	Bowen No.	...	...	...	...	...	...
	Code	...	...	...	...	...	...
	No. Req'd	...	...	...	...	...	...
LONG FINGER *	Logan Part No.	...	E11011	E11011	E11016	...	E11019	
	Bowen No.	...	667	667	45608	...	68395	
	Code	...	667-W	667-W	21779-W	...	...
	No. Req'd	...	8	8	7	...	7	
PIVOT PIN *	Logan Part No.	E12012	E12012	E12012	E12009	E12013	E12013	
	Bowen No.	45603	45603	45603	45609	68394	68394	
	No. Req'd	16	16	16	14	14	14	
TORSION SPRING *	Logan Part No.	E13005	E13005	E13005	E13010	E13004	E13004	
<i>(stainless steel)</i>	Bowen No.	45604	45604	45604	45610	45509	45509	
	No. Req'd	16	16	16	14	14	14	
RETAINER SCREW *	Logan Part No.	E14000	E14000	E14000	E14000	E14000	E14000	
<i>(stainless steel)</i>	Bowen No.	42257	42257	42257	42257	42257	42257	
	No. Req'd	2	2	2	2	2	2	
REPAIR KITS	Logan Part No.	500-021RK	500-034RK	600-028RK	600-029RK	500-022RK	500-035RK	
<i>* Indicates parts included in kit</i>	Bowen No.	1464K	14648K	21770K	21775K	14652K	14653K	

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When ordering, please specify:

- (1) Name and number of assembly or part
- (2) Finger number and code, when ordering fingers

Recommended Spare Parts:

- (1) 2 Sets of Fingers
- (2) 4 Sets of Torsion Springs
- (3) 1 Set of Pivot Pins
- (4) 4 Retainer Screws

Special Notes:

- (1) Code: Each finger is stenciled with a letter or letter-number code. These codes are used in lieu of the part number because of space limitation. See the Finger Code Chart below to cross-reference the code with the part number.

Finger Code Chart

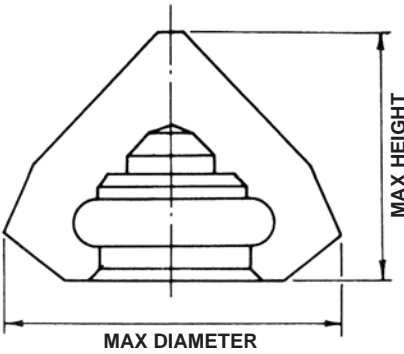
Code	Part No.	Code	Part No.	Code	Part No.	Code	Part No.
A	E11006	I	E11003	P-1	E9007	21778-W	E9015
B	E9005	J	E11014	P-2	E11008	21779-W	E11016
C	E11005	K	E9014	W-1	E9012	362-W	E9006
D	—	L	E10003	W-2	E11013	363-W	E11007
E	E9001	M	E9010	W-3	E9002	690-W	E90015
F	E11000	N	E11010	W-4	E11001	691-W	E11015
G	E9013	O	—	X-1	E9019	666-W	E9009
H	E9004	P	—	X-2	E11020	667-W	E11011



Core Type Junk Baskets

ROCK BIT CONE DIMENSIONS

The cone sizes shown below may be used as a guide in junk fishing operations. Cone dimensions are the maximum for the size indicated in the middle column, which are the nominal Hughes Christensen Company bit cone sizes.



2-CONE BITS		SIZE	3-CONE BITS	
MAX DIA.	MAX HEIGHT		MAX DIA.	MAX HEIGHT
...	...	3-3/4 to 4-1/8	1-31/32	2-45/64
...	...	4-1/4 to 4-1/2	2-13/64	2-59/64
...	...	4-5/8 to 5	2-11/32	3-13/64
...	...	5-1/8 to 5-1/2	2-41/64	3-17/64
...	...	5-5/8 to 6	3-1/8	4-1/64
...	...	6-1/8 to 6-1/2	3-6/64	4-3/16
...	...	6-5/8 to 7	3-7/16	4-9/16
...	...	7-1/8 to 7-1/2	3-45/64	4-27/32
3-45/64	5-17/32	7-5/8 to 8	3-31/32	5-17/64
4-11/32	6-7/64	8-1/8 to 8-1/2	4-3/8	5-25/32
4-11/32	6-5/16	8-5/8 to 9	4-17/32	6-1/32
...	...	9-1/8 to 9-1/2	4-9/16	6-13/32
4-7/8	7	9-5/8 to 9-7/8	4-15/16	6-41/64
5-23/64	7-19/32	10-1/2 to 11-1/2	5-27/64	7-5/32
5-63/64	8-27/64	11-3/4 to 12-1/2	6-1/8	7-61/64
...	...	12-5/8 to 13-1/8	6-5/16	8-31/64
...	...	13-1/2 to 14-1/4	7-1/32	8-13/16
...	...	14-1/2 to 15	7-25/64	9-19/32
...	...	16	9-27/32	10-1/8
...	...	17 to 17-1/2	8-13/64	11-11/64
...	...	18-1/2 to 18-7/8	8-25/32	11-23/64
...	...	20	9-1/2	11-7/8
...	...	22	10-15/32	14-1/64
...	...	24	10-15/16	14-9/16
...	...	26	12-19/64	14-31/64

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