

**INSTALLATION TOOLING**

**HLK10**

**Hi-Lok/Hi-Tigue  
Collar Removal Tool Kit**

**Federal Stock Number R5180-143-6196**



1/4" Drive Extension

Hi-Lok Collar  
Removal Tools  
(6 sizes)

1/4" Drive  
Flex Handle

3/8" Drive Extension

3/8" Drive Flex  
Handle

**HLK10 TOOL KIT**

The HLK10 Kit provides compact hand tools to remove installed Hi-Lok or Hi-Lok/Hi-Tigue threaded collars from Hi-Lok pins without damage to the latter.

And shorter turning increments can be used than with a gear type ratchet.

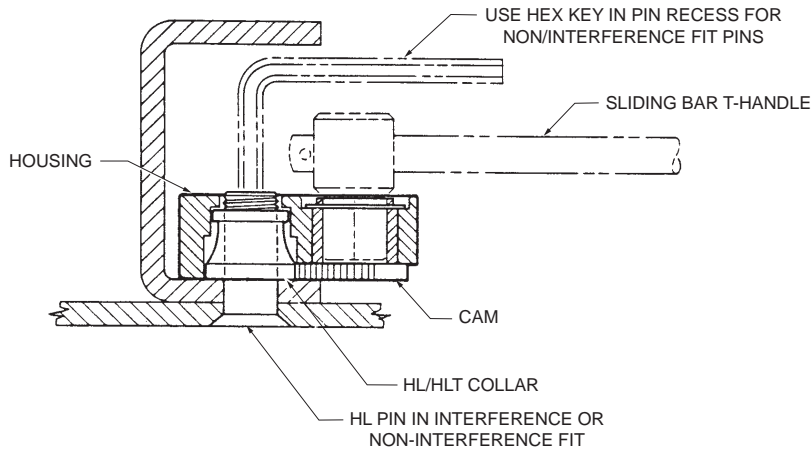
The tool housing has an internal opening which is placed over the collar to be removed. During removal the collar is clamped between a fixed gripping jaw and a cam-type gripping jaw. To unscrew the collars, the tool is rotated counterclockwise with a 1/4 or 3/8 inch drive extension or flex handle or ratchet wrench.

The Kit provides removal tools for Hi-Lok and Hi-Tigue collars in sizes ranging from -5 (5/32) through -16 (1/2).

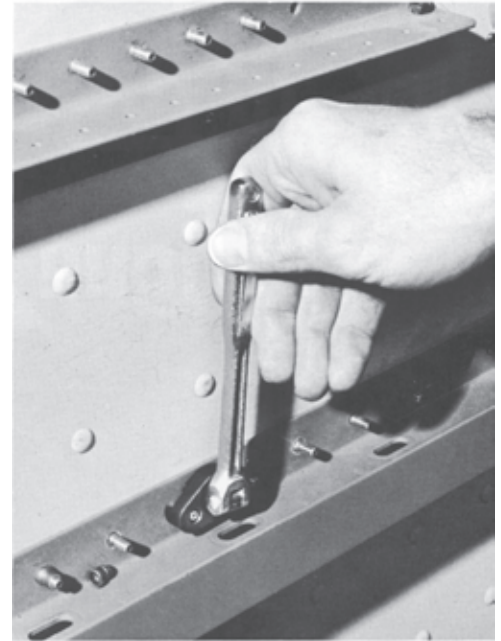
The HLH-128 series tools are particularly useful to remove collars in structural areas not readily accessible to normal hand tools. The clamping action provided by the tool is posi-

# HLK10

## Hi-Lok/Hi-Tigue Collar Removal Tool Kit



Match the correct size HLH128 Removal Tool with the size of the HL or HLT collar to be removed. Place tool over collar until it bottoms on structure. Rotate the cam-jaw until the serrations grip the base of the collar. Insert extension or flex handle into tool. Rotate handle and tool counterclockwise until collar is loosened sufficiently to remove by hand.



HLH128-8 Tool with HLH130 1/4 Drive Flex Handle is shown removing 1/4 (-8) Hi-Lok collar without damage to pin.

### HLK10 Tool Kit Parts List



Part Number	Name	Qty.
HLH128-6	Tool, 5/32" & 3/16" collar removal	1
HLH128-8	Tool, 1/4" collar removal	1
HLH128-10	Tool, 5/16" collar removal	1
HLH128-12	Tool, 3/8" collar removal	1
HLH128-14	Tool, 7/16" collar removal	1
HLH128-16	Tool, 1/2" collar removal	1
HLH132	1/4" Drive x 3" long extension for HLH128-6, -8 & -10 removal tools	1
HLH130	1/4" Drive flex handle for HLH128-6, -8 & -10 removal tools	1
HLH133	3/8" Drive x 3" long extension for HLH128-12, -14 & -16 removal tools	1
HLH131	3/8" Drive flex handle for HLH128-12, -14 & -16 removal tools	1
HLH134	Box assembly	1
2-159994	Brochure, HLK10 tool kit	1

#### KIT SIZE AND WEIGHT:

3/4" thick x 5" wide x 11" long • 3.0 lbs. approx.

**HS TOOLING**

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**HLK10  
COLLAR REMOVAL TOOL KIT**

5002 rev —

# INSTALLATION TOOLING

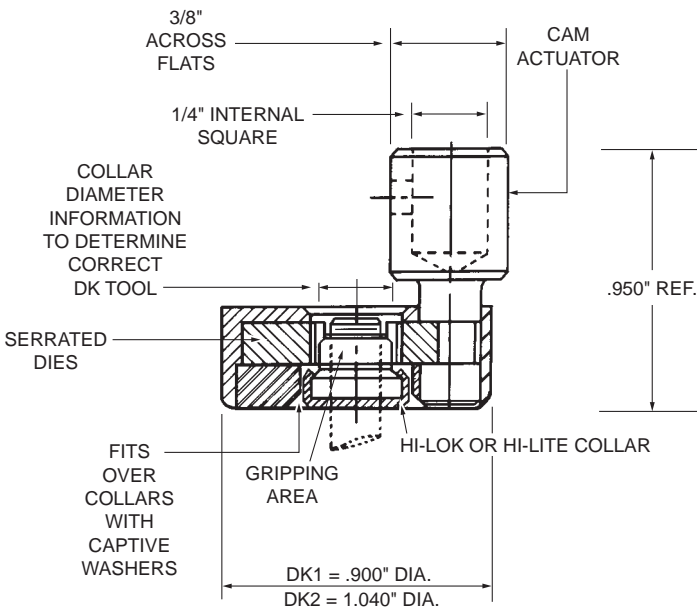
## DK SERIES

### Collar Removal Tools

#### DK SERIES REMOVAL TOOL

The DK Series removal tools are designed to remove Hi-Lok or Hi-Lite Collars with or without captive washers in limited access areas. The design of this unique tool features a pair of adjusting serrated dies, which when actuated, close and fully engage the upper diameter of the Hi-Lok or Hi-Lite Collar. Due to the location of the serrated dies within the removal tool, Hi-Lok or Hi-Lite Collars with captive washers can be effectively removed in composite and metallic structures. The cam operated dies fully engage the Hi-Lok or Hi-Lite Collar which provides optimum die life. This design is superior to similar designs which rely on only a few teeth to en-

gage and remove Hi-Lok or Hi-Lite Collars. Collars manufactured from high strength stainless steel can now be easily removed. The unique cam is designed for actuation by either a 1/4" male square drive or a 3/8" open end wrench. The DK Series removal tools are designed with the smallest envelope to accommodate limited access areas. The DK Series tools can be used to remove more than one type of Hi-Lok or Hi-Lite Collar. See Collar Usage Chart for further information.

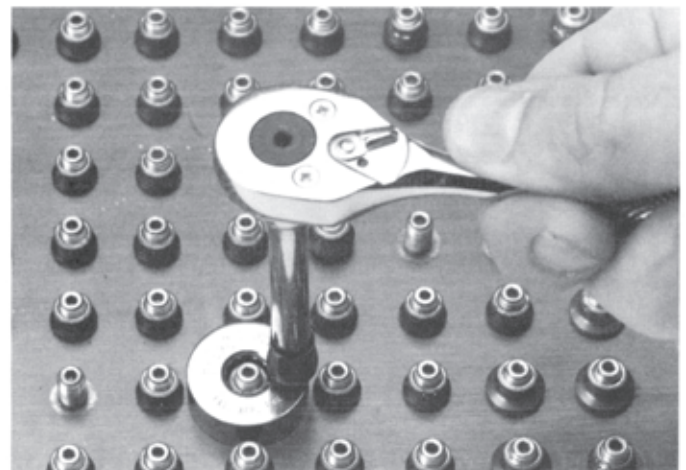


#### COLLAR USAGE CHART

Collar Dia. Range .239 - .262	Collar Dia. Range .269 - .290	Collar Dia. Range .332 - .350	Collar Dia. Range .370
DK1-1	DK1-3	DK2-4	DK2-5
HL70-5	HL70-6	HL75-8	HL79-8
HL75-5	HL75-6	HL82-8	
HL87-2	HL79-6	HL87-8	
HL94-5	HL82-5	HL94-8	
HL97-5	HL82-6	HL97-8	
HL584-5	HL87-3	HL584-8	
HL1087-5	HL94-6	HL1187-8	
HL1087ATW-5	HL97-6	HST79-8	
HL1187-5	HL584-6	HST1094-8	
HL1094-5	HL1087-6		
HST79-6	HL1087ATW-6		
HST1094-5	HL1187-6		
	HL1094-6		
	HST1094-6		

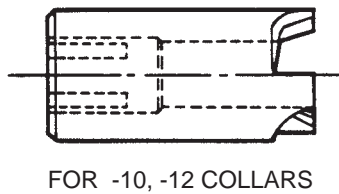
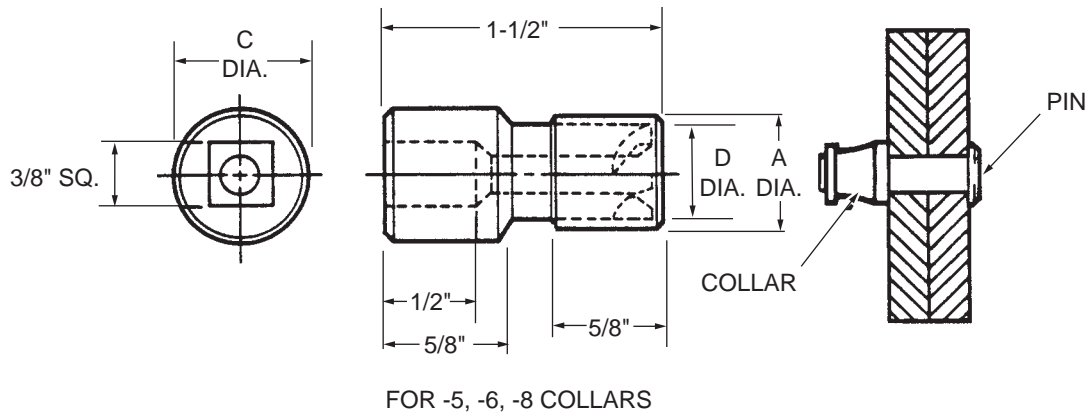


**ACTIVATED BY EITHER  
1/4" MALE SQUARE  
DRIVE OR 3/8" OPEN  
END WRENCH**



# HLC1

## Collar Removal Tool



The one-piece Removal Tool works on the combined principles of a hollow mill cutter and a wrench. The Removal Tool fitted in a reversible screwdriver motor is firmly pressed over the Collar and rotated until the tool teeth bite into the collar material sufficiently to grip and unscrew the collar from the Pin threads. The Ingersoll-Rand Air Motor OAR2NP4 equipped with an SQ2012-5 Socket or equivalent is recommended.

DASH NUMBER	PIN NOM. DIAMETER	COMPLETE TOOL PART NO.	A	C	D
.5	5/32	HLC1-5	5/8	3/4	1/2
-6	3/16	HLC1-6	5/8	3/4	1/2
-8	1/4	HLC1-8	13/16	3/4	11/16
-10	5/16	HLC1-10	--	3/4	3/4
-12	3/8	HLC1-12	--	7/8	7/8

NOTE: The HLC1 Removal tool is used to remove Collars from Pins that have been installed in an interference fit condition. This prevents the pin from rotating while the collar is being unscrewed.

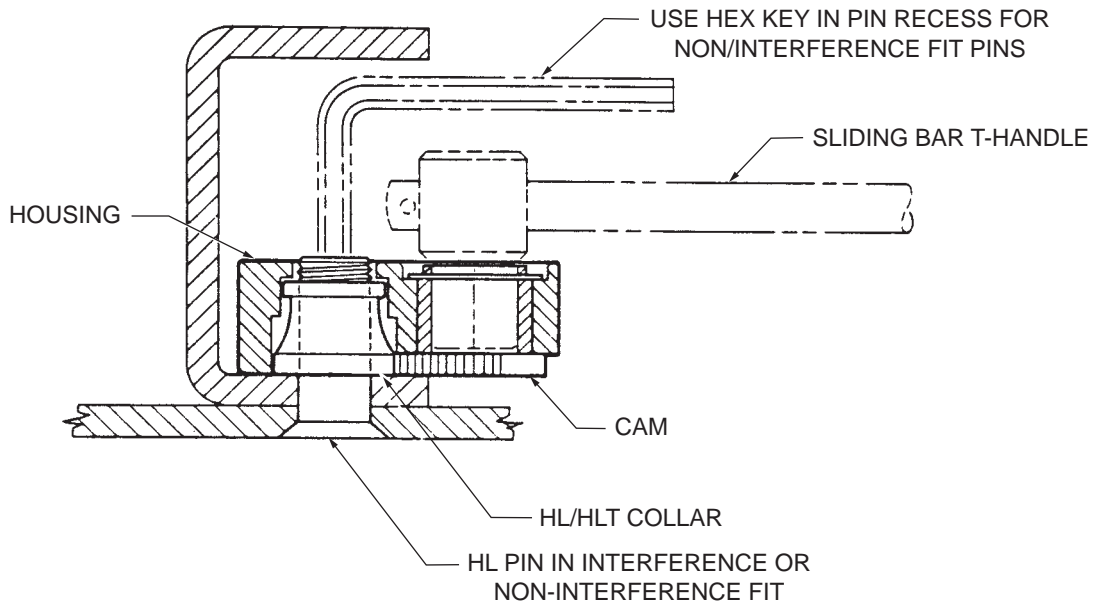
\*\*"Super-Key" not available in these sizes, standard hex tip only.

NOTE: Due to the higher residual preload, the -8 Collar requires an initial loosening with pliers prior to using the Removal Tool.

NOTE: The HLC1 Removal Tool is not used with collars that have a captive washer.

# HLH128

**Dimensional Data Hi-Lok®/ Hi-Tigue® Removal Tool Assembly  
For removing HL or HLT collars that have been installed  
in interference and non-interference fit pins**



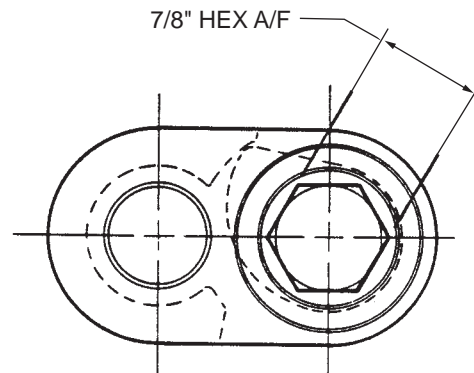
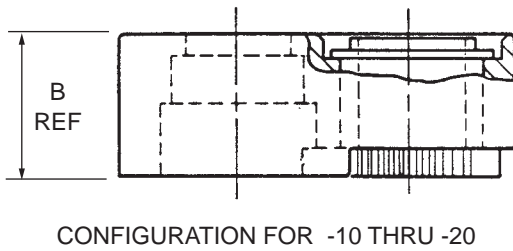
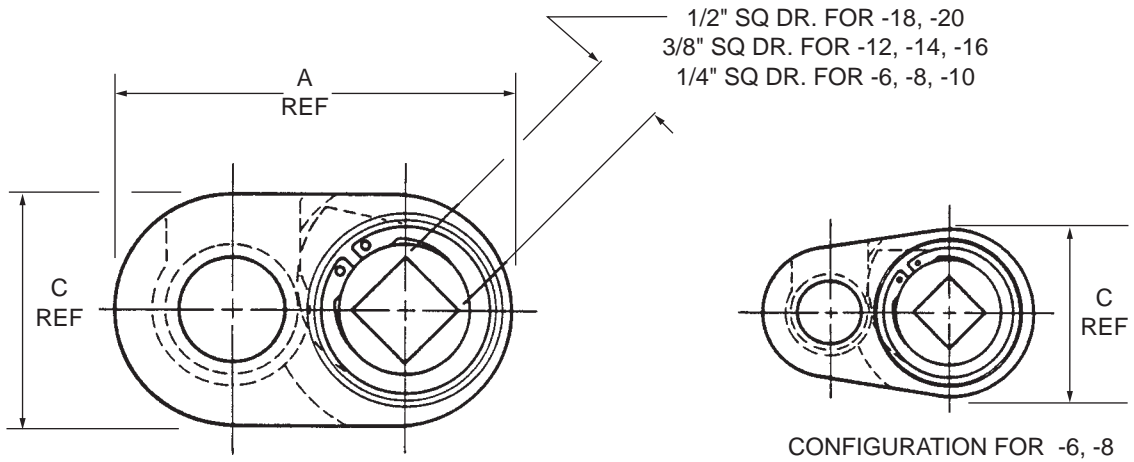
Match the correct size HLH128 Removal Tool Assembly with the HL or HLT collar to be removed (see chart below). Place housing over collar until it bottoms on the structure. Rotate the cam until the serrations on the cam contact the base of the collar. Insert a square drive T-handle as shown in the diagram and rotate entire assembly counter-clockwise until collar is loosened sufficiently to permit removing by hand.

**REMOVAL TOOL ASSEMBLY - HL/HLT COLLAR USAGE CHART**

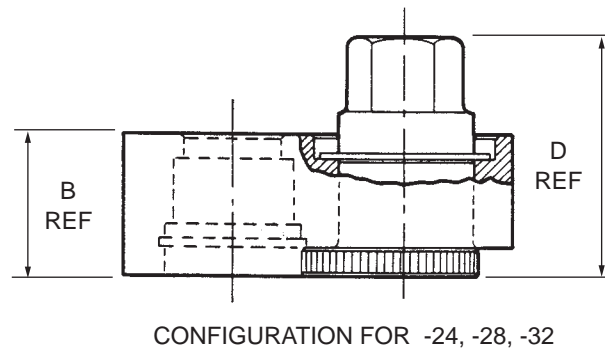
HLH128-6		HLH128-6		HLH128-8		HLH128-10		HLH128-12		HLH128-14		HLH128-16		HLH128-18		HLH128-20		HLH128-24		HLH128-28		HLH128-32		
HL	HLT	HL	HLT	HL	HLT	HL	HLT	HL	HLT	HL	HLT	HL	HLT	HL	HLT	HL	HLT	HL	HLT	HL	HLT	HL	HLT	
70-5	587-5	70-6	70-6	70-8	86-8	70-10	70-10	70-12	70-12	72-14	86-14	78-16	86-16	73-18	73-20	73-24	73-28	73-32						
72-5	594-5	72-6	70LP-6	77-8	94-8	77-10	70LP-10	72-12	70LP-12	78-14	94-14	78K-16	94-16	79-18	79-20	79-24	79-28	79-32						
77-5	673-5	74-6	86-06	78-8		78-10	86-10	77-12	77-12	78K-14	97-14	86-16	97-16	87-18	87-20	87-24	87-28	87-32						
78-5	677-5	77-6	94-6	78K-8		78K-10	94-10	78-12	86-12	79-14		87-16												
78K-5	678-5	78-6	97-6	80-8		80-10		78K-12	94-12	84-14		97-16												
86-5	694-5	78K-6	77-6	81-8		87-10		80-12	97-12	87-14		198-16												
90-5		80-6		86-8		97-10		85-12		94-14		278-16												
94-5		81-6		87-8		177-10		86-12		97-14		379-16												
97-5		85-6		97-8		198-10		87-12		198-14		386-16												
192-5	HLT	86-6		177-8		277-10		97-12		272-14		486-16												
198-5	70-5	87-6		178-8		278-10		177-12		273-14														
272-5	73-5	97-6		198-8		379-10		198-12		278-14														
273-5	77-6	177-6		277-8		386-10		277-12		386-14														
277-5	86-5	178-6		278-8		486-10		278-12		486-14														
278-5	94-5	186-6		379-8		686-10		379-12		494-14														
379-5	97-5	198-6		386-8				386-12																
386-5	270-5	277-6		486-8				486-12																
486-5	686-5	278-6		588-8				686-12																
490-5		379-6		686-8																				
494-5		486-6																						
570-5		686-6																						
578-5																								
579-5																								
METRIC COLLARS		HLM70-4 HLM70-5		HLM70-6		HLM70-8		HLM70-10																

# HLH128

## Dimensional Data HI-Lok®/ HI-Tigue® Removal Tool Assembly For removing HL or HLT collars that have been installed in interference and non-interference fit pins



DASH NO.	SIZE	A	B	C	D
-6	3/16	1.225	.400	.800	--
-8	1/4	1.300	.400	.800	--
-10	5/16	1.435	.500	.800	--
-12	3/8	1.7	.562	1.070	--
-14	7/16	1.915	.687	1.150	--
-16	1/2	2.070	.687	1.200	--
-18	9/16	2.480	1.060	1.400	--
-20	5/8	2.785	1.090	1.600	--
-24	3/4	3.245	1.200	1.800	2.00
-28	7/8	3.750	1.500	2.000	2.25
-32	1	4.20	1.750	2.200	2.50



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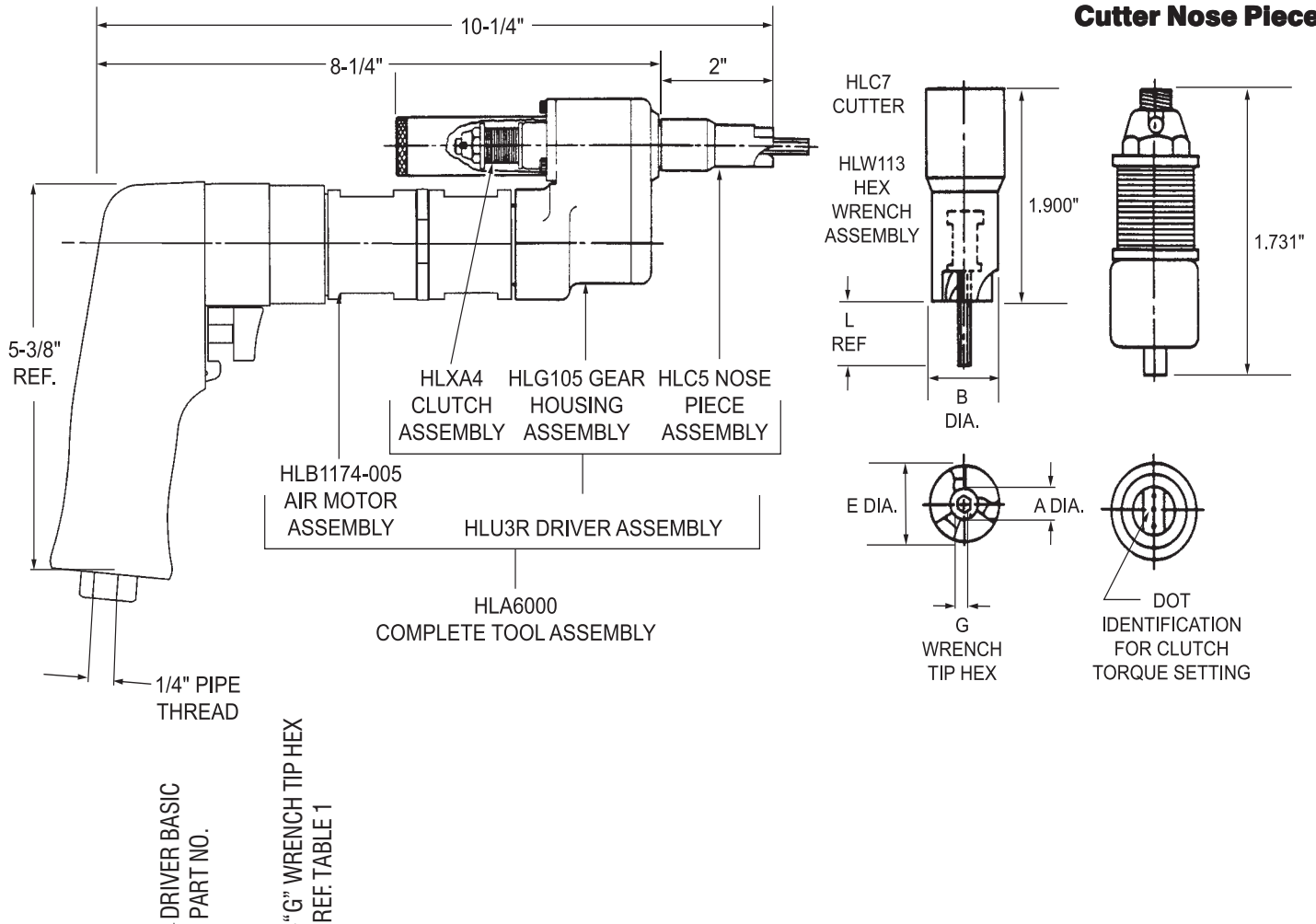
HLH128

**DIMENSIONAL DATA HI-LOK®/ HI-TIGUE® REMOVAL TOOL ASSEMBLY**

**FOR REMOVING HL OR HLT COLLARS THAT HAVE BEEN INSTALLED IN INTERFERENCE AND NON-INTERFERENCE FIT PINS**

# HLA6000

## Non Interference Fit Collar Removal Tool Cutter Nose Piece



### HLA 6000 - 5

Example: complete driver assy. part no.

#### ORDERING INFORMATION

1. Determine pin recess hex dimensions (G wrench tip hex) of the fasteners to be removed.
2. See table 1 for clutch assembly dot identification and torque setting.
3. Determine complete tool assembly part no.

#### TECHNICAL DATA

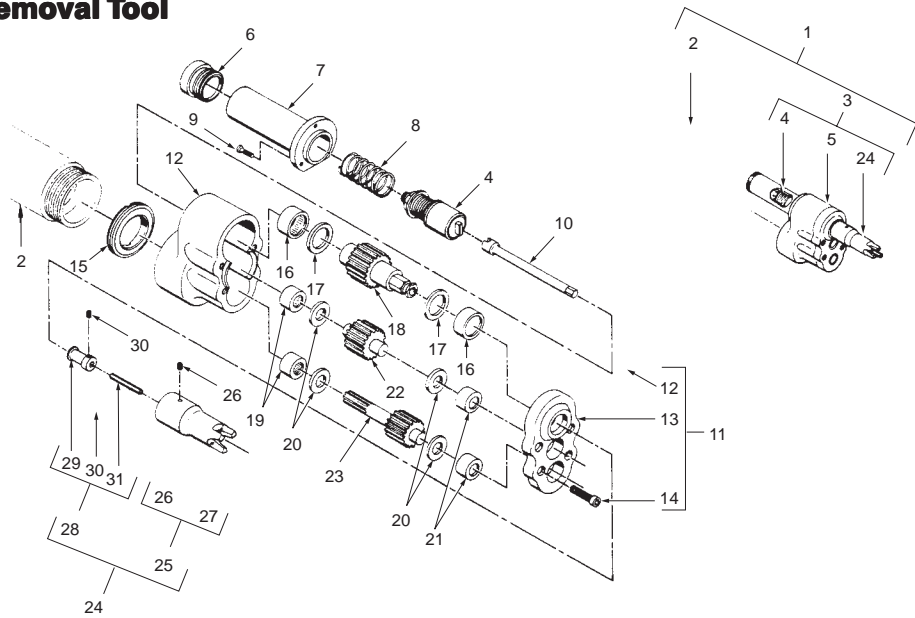
Operating Pressure .....	90 PSIA	Horsepower Rating .....	0.75
<b>MAX. TORQUE RATING</b> .....	270 in. lb (Motor) @ 90 PSIA	Air Consumption .....	25 CFM
Socket Speed .....	600 RPM	Weight .....	3.5 lb

**TABLE 1**

"G" WRENCH TIP HEX	COMPLETE TOOL ASSY. PART NO.	NOSE PIECE ASSEMBLY					HLX4 CLUTCH ASSEMBLIES		
		PART NO.	A DIA.	B DIA.	L (REF.)	E DIA.	PART NO.	DOT IDENTIFICATION	TORQUE SETTING
1/16	HLA6000-2	HLC5-5	0.270	0.687	0.390	0.750	HLXA4-56	••	18-12 in. lb.
5/64	HLA6000-6	HLC5-6	0.315				HLXA4-8	•••	30-32 in. lb.
3/32	HLA6000-8	HLC5-8	0.420	0.750	0.490	HLXA4-1012	••••	55-60 in. lb.	
1/8	HLA6000-10	HLC5-10	0.505	0.875	0.576				0.875
5/32	HLA6000-12	HLC5-12	0.600	1.000	0.689	1.000			

# HLU3R

## Non Interference Fit Collar Removal Tool Cutter Nose Piece



ITEM	PART NO.	DESCRIPTION	QTY 1/16	QTY 5/64	QTY 3/32	QTY 1/8	QTY 5/32	ITEM	PART NO.	DESCRIPTION	QTY 1/16	QTY 5/64	QTY 3/32	QTY 1/8	QTY 5/32
1	HLA6000-5	Complete tool assy.	1	-	-	-	-	24	HLC5-5	.. Nose piece assy.	1	-	-	-	-
1	HLA6000-6	Complete tool assy.	-	1	-	-	-	24	HLC5-6	.. Nose piece assy.	-	1	-	-	-
1	HLA6000-8	Complete tool assy.	-	-	1	-	-	24	HLC5-8	.. Nose piece assy.	-	-	1	-	-
1	HLA6000-10	Complete tool assy.	-	-	-	1	-	24	HLC5-10	.. Nose piece assy.	-	-	-	1	-
1	HLA6000-12	Complete tool assy.	-	-	-	-	1	24	HLC5-12	.. Nose piece assy.	-	-	-	-	1
2	HLB1174-005	.. Air motor assy.	1	1	1	1	1	25	HLC7-5	... Cutter assy.	1	-	-	-	-
3	HLU3R-5	.. Driver assy.	1	-	-	-	-	25	HLC7-6	... Cutter assy.	-	1	-	-	-
3	HLU3R-6	.. Driver assy.	-	1	-	-	-	25	HLC7-8	... Cutter assy.	-	-	1	-	-
3	HLU3R-8	.. Driver assy.	-	-	1	-	-	25	HLC7-10	... Cutter assy.	-	-	-	1	-
3	HLU3R-10	.. Driver assy.	-	-	-	1	-	25	HLC7-12	... Cutter assy.	-	-	-	-	1
3	HLU3R-12	.. Driver assy.	-	-	-	-	1	26	10-32x3/16lg.	.... Set screw, soc Nylok	1	1	1	1	1
4	HLXA4-56	.. Clutch assy.	1	1	-	-	-	27	HLC6-5	.... Tool, removal	1	-	-	-	-
4	HLXA4-8	.. Clutch assy.	-	-	1	-	-	27	HLC6-6	.... Tool, removal	-	1	-	-	-
4	HLXA4-1012	.. Clutch assy.	-	-	-	1	-	27	HLC6-8	.... Tool, removal	-	-	1	-	-
5	HLG105	.. Gear housing assy.	1	1	1	1	1	27	HLC6-10	.... Tool, removal	-	-	-	1	-
6	HLB115	... Clutch cap	1	1	1	1	1	27	HLC6-12	.... Tool, removal	-	-	-	-	1
7	HLB116	... Sleeve assy.	1	1	1	1	1	28	HLW113-5	... Wrench tip holder assy.	1	-	-	-	-
8	HLB114	... Spring	1	1	1	1	1	28	HLW113-6	... Wrench tip holder assy.	-	1	-	-	-
9	4-40 UNC x 3/8 lg.	... Cap screw, socket head	3	3	3	3	3	28	HLW113-8	... Wrench tip holder assy.	-	-	1	-	-
10	HLB118	... Clutch shaft	1	1	1	1	1	28	HLW113-10	... Wrench tip holder assy.	-	-	-	1	-
11	HLB121	... Housing assy.	1	1	1	1	1	28	HLW113-12	... Wrench tip holder assy.	-	-	-	-	1
12	Not sold separately	.... Housing, rear	1	1	1	1	1	29	HLW223-5	.... Holder	1	-	-	-	-
13	Not sold separately	.... Housing, front	1	1	1	1	1	29	HLW223-6	.... Holder	-	1	-	-	-
14	6-32 UNC x 5/8 lg.	.... Soc screw, soc hd	4	4	4	4	4	29	HLW223-8	.... Holder	-	-	1	-	-
15	HLB112	... Jam nut	1	1	1	1	1	29	HLW223-10	.... Holder	-	-	-	1	-
16	B-85	... Bearing (Torrington)	2	2	2	2	2	29	HLW223-12	.... Holder	-	-	-	-	1
17	19659	... Washer, thrust	2	2	2	2	2	30	5-40 UNC x 1/8 lg.	.... Set screw	1	1	1	1	1
18	HLB117	... Gear, socket drive	1	1	1	1	1	31	HLT140-062	.... Wrench tip	1	-	-	-	-
19	B-55	... Bearing (Torrington)	2	2	2	2	2	31	HLT140-078	.... Wrench tip	-	1	-	-	-
20	19658	... Washer, thrust	4	4	4	4	4	31	HLT140-094	.... Wrench tip	-	-	1	-	-
21	M551	... Bearing (Torrington)	2	2	2	2	2	31	HLT140-125	.... Wrench tip	-	-	-	1	-
22	HLB119	... Gear, idler	1	1	1	1	1	31	HLT140-156	.... Wrench tip	-	-	-	-	1
23	HLB120	... Gear, drive shaft	1	1	1	1	1								

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HLU3R

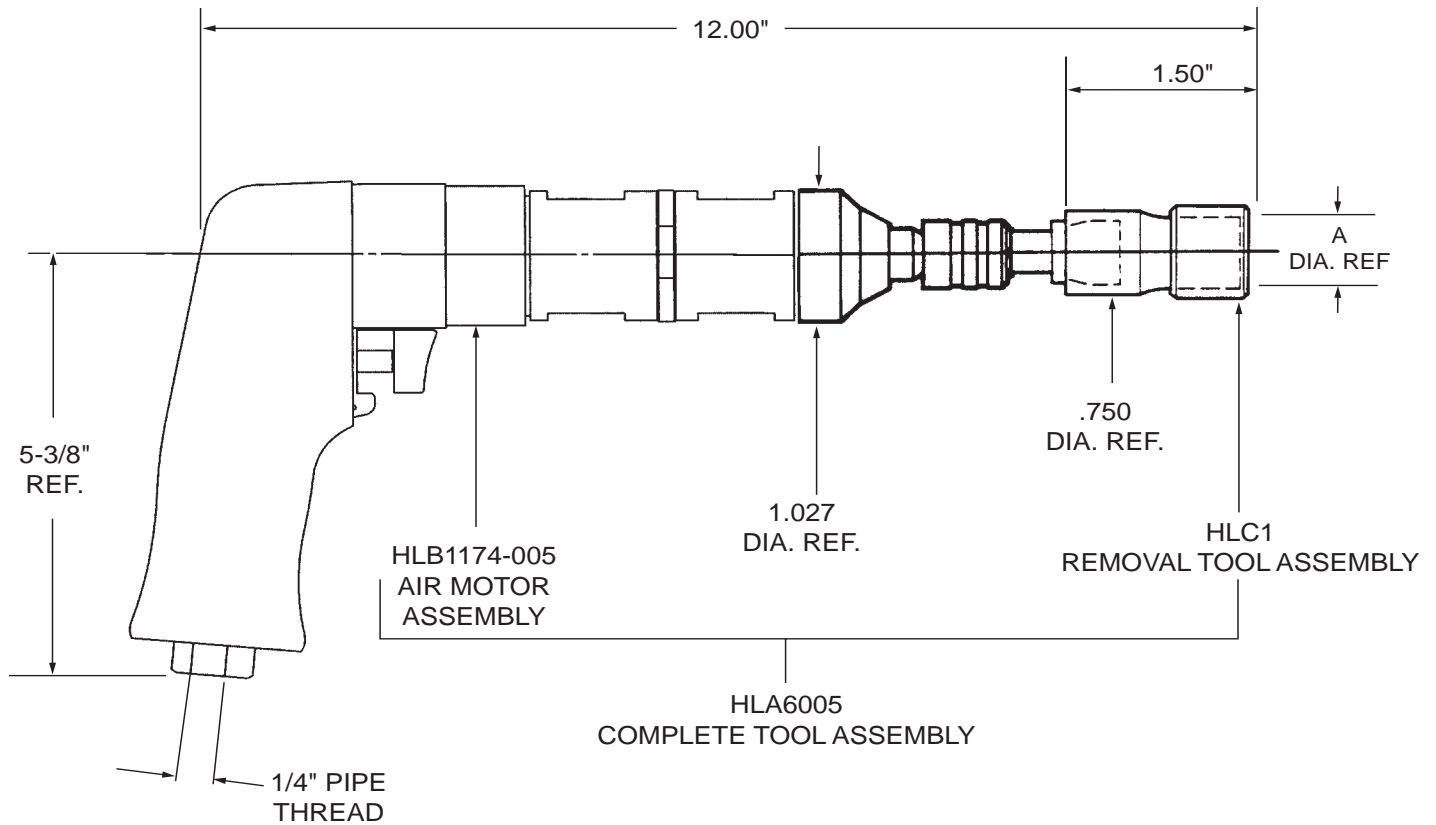
NON INTERFERENCE FIT COLLAR REMOVAL TOOL CUTTER NOSE PIECE

5010 rev —

# INSTALLATION TOOLING

## HLA6005

### Interference Fit Collar Removal Tool Cutter Nose Piece



### GENERAL DESCRIPTION

The HLA6005 Removal Tool Assembly is used for rapid removal of HL or HLT collars from HL or HLT pins that have been installed in an interference fit condition. To operate, press the tool sharply on the fastener to engage the clutch elements. The impact effect helps the cutter teeth to obtain a “bite” on the collar. While maintaining end pressure on the tool, pull the trigger until the collar is completely unthreaded from the pin.

In instances of high preload, such as may occur on some types of -8 size collars, initial loosening of the collar may have to be done manually by hand tools. The DK2 hand removal tool assembly is recommended for this purpose.

To order, match the dash number of the HLA6005 Removal Tool Assembly with dash number of the collar to be removed. Example: HLA6005-6 is the correct tool to remove HL70-6 collars.

### TECHNICAL DATA

Operating Pressure .....	90 PSIA	Horsepower Rating .....	0.75
<b>MAX. TORQUE RATING</b> .....	270 in. lb	Air Consumption .....	25 CFM
(Motor)	@ 90 PSIA	Weight .....	3.5 lb
Socket Speed .....	600 RPM		

**TABLE 1**

"A" DIA. DIA.	COMPLETE TOOL ASSY. PART NO.	COLLAR USAGE DASH NO.
0.625	HLA6005-5	-5
0.625	HLA6005-6	-6
0.812	HLA6005-8	-8

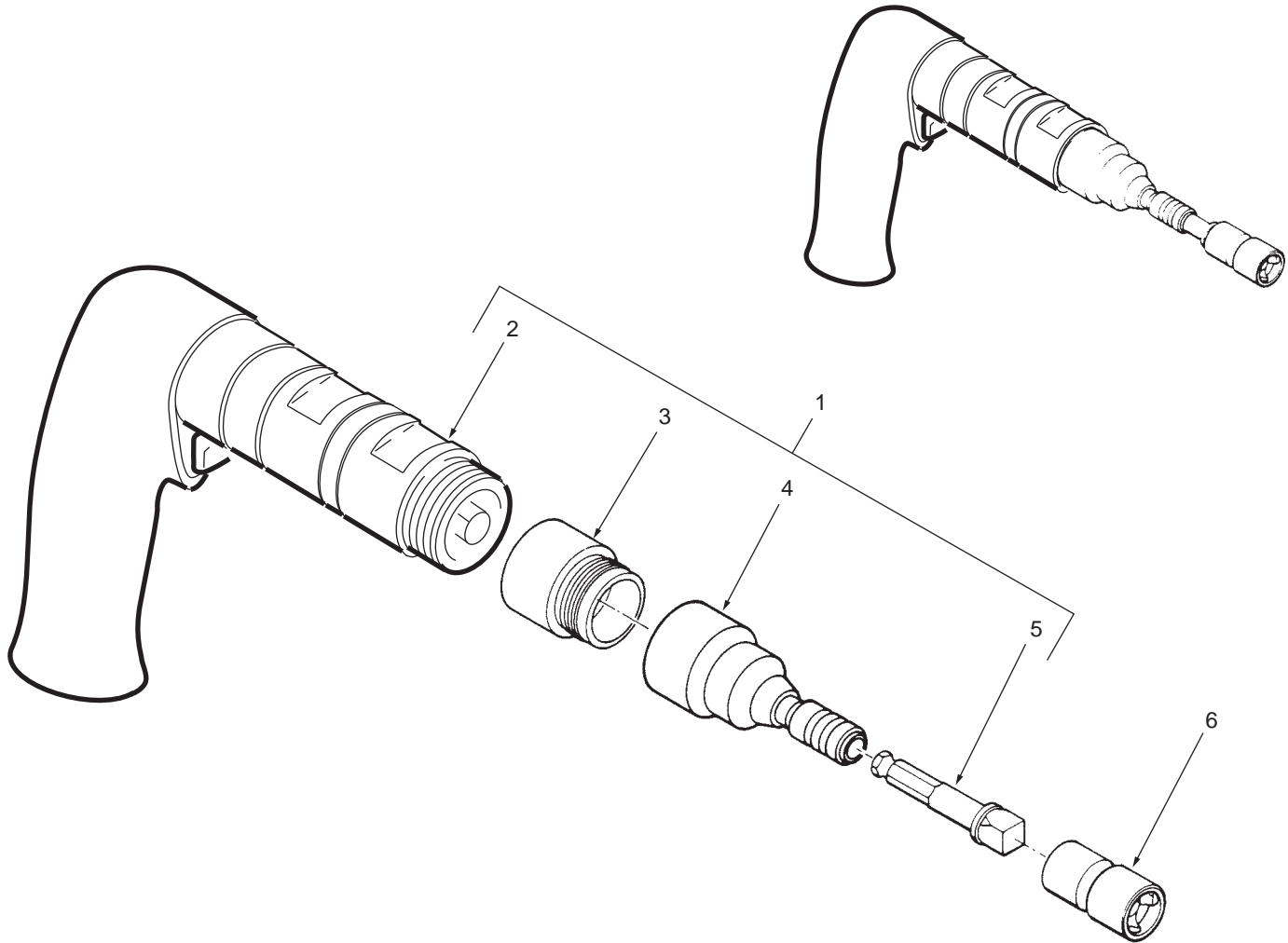
**HLA6005  
INTERFERENCE FIT COLLAR REMOVAL TOOL CUTTER NOSE PIECE**



5011 rev —

# HLA6005

## Interference Fit Collar Removal Tool Cutter Nose Piece



ITEM	PART NO.	DESCRIPTION	QTY. HLA6005-5	QTY. HLA6005-6	QTY. HLA6005-8
1	HLB832	. Air motor assembly	1	1	1
2	HLB1174-005	. . Air motor	1	1	1
3	HLB1451	. . Adaptor	1	1	1
4	7 PI	. . Clutch	1	1	1
5	(SQ2012-5)	. . Drive extension	1	1	1
6	HLC1-5	. Removal tool assembly	1	-	-
6	HLC1-6	. Removal tool assembly	-	1	-
6	HLC1-8	. Removal tool assembly	-	-	1

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**HLA6005**

**INTERFERENCE FIT COLLAR REMOVAL TOOL CUTTER NOSE PIECE**

**5012** rev —