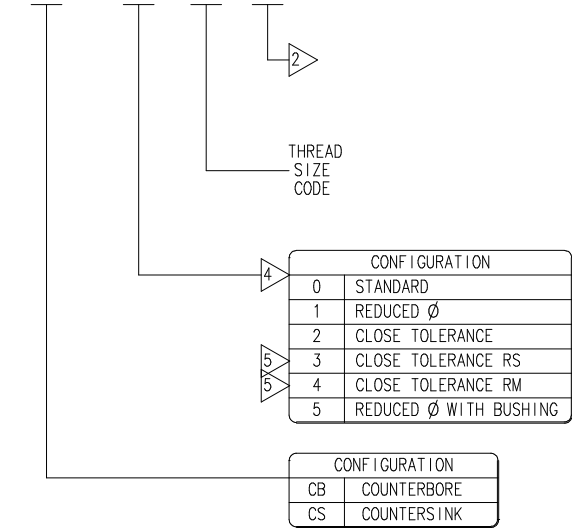


STANDARD TOOL SHOWN

PART NUMBER CALL OUT
D () T860 () - () - ()



MATERIAL:

HANDLE ASSEMBLY:
LOW CARBON STEEL.

NOSE ASSY. COMPONENTS:
HIGH CARBON STEEL HARDENED.

PULL STUD:
H-11 HEAT TREAT TO Rc 50 MIN.

ADAPTOR:
4130 ALLOY STEEL HEAT TREAT TO Rc 38-42.

WRENCH:
CARBON STEEL.

FINISH:

ALL COMPONENTS/ASSY.:
BLACK OXIDE.

NOTES:

- FOR INSTALLATION INSTRUCTIONS SEE SHEET 2 OF 5.
- LENGTH CODE FOR VARIABLE NUT HEIGHTS SEE SHEET 4 OF 5. NOT REQUIRED FOR STANDARD NUT HEIGHTS.
- CAUTION: DO NOT USE THIS TOOL TO INSTALL FASTENERS ON PARENT MATERIAL HARDER THAN BHN200 (RB100). AS THIS MAY OVER STRESS THE TOOL. CONSULT HUCK INTERNATIONAL INC. (LAKEWOOD OPERATIONS) PANEL FASTENER ENGINEERING DEPARTMENT FOR ALTERNATE TOOLING.
- SEE SHEET 5 OF 5 FOR USAGE.
- RM=REPAIR MODIFIED
RS=REPAIR STANDARD

				TOLERANCE DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED FRACTIONS ± 1/32 ANGLES ± 2° 2 PLACE DECIMALS ± .02 3 PLACE DECIMALS ± .015		HUCK		Huck International, Inc. Advanced Fastening Systems TUCSON DIVISION 3724 E. COLUMBIA ST. TUCSON, AZ 85714			
G	5615	6/16/95	JR	MA	PREPARED IN ACCORDANCE WITH ANSI Y14.5M	DATE:	6/16/95	UNIVERSAL HAND INSTALLATION TOOL FOR RIVETLESS FLOATING NUT PLATES.			
F	4643	8/31/87	Y	MA	THIRD ANGLE PROJECTION DUAL DIMENSIONING IN MM. TOL. MM	DR. BY:	<i>J.R.</i>	SIZE	CODE IDENT NO.	PART NO.	D () T860
E	4436A	11/17/86	JR	EK		CHK. BY:	<i>[Signature]</i>	A	OHDW7	DWG NO.	S-3137
D	4291	2/21/86	Y	CS		APPD. BY:	<i>[Signature]</i>			SHEET	1 OF 5
C	4167	10/30/85	AS	CS							
REV	E.O. NO.	DATE	BY	APPD	SCALE	NONE	RL DATE:	10/07/83			
REVISION											

INSTALLATION OF RIVETLESS NUT PLATES

PANEL PREPARATION

FOR MOUNTING HOLE DIMENSIONS SEE HUCK INTERNATIONAL DRAWING S-0774 OR EQUIVALENT.

FIRST OPERATION

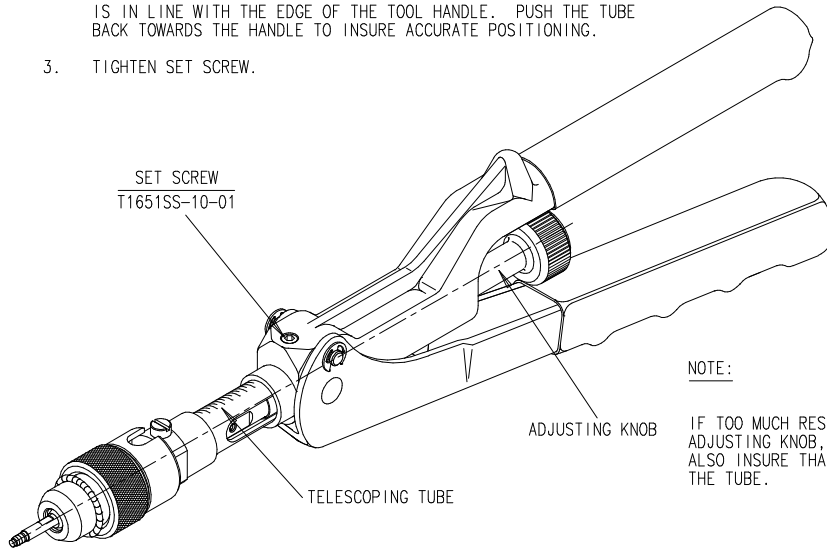
- STEP 1: THE PRESSURE PAD COLLETS OF THE FLARING NOSE ASSEMBLY SHOULD BE POSITIONED TO THE FORWARD END OF AXIAL TRAVEL, PROVIDING A RECESS FOR THE FIRST OPERATION. ROTATE THE KNURLED COLLAR SO THAT THE SLOT DOES NOT ALIGN WITH THE STOPPING SCREW WHICH PROVIDES A POSITIVE STOP AGAINST THE SCREW PLUG. THIS PREVENTS THE PRESSURE PAD COLLETS FROM RETRACTING AND OPENING UP PREMATURELY.
- STEP 2: INSERT NUT PLATE ASSEMBLY SLEEVE THRU PREPARED HOLE AND SCREW PULL STUD INTO NUT UNTIL FULL THREAD ENGAGEMENT IS ACHIEVED.
- STEP 3: CLOSE HANDLES OF TOOL, WHICH PULLS THE NUT PLATE ASSEMBLY SLEEVE FIRST INTO PERPARED HOLE, UNTIL BRACKET IS SEATED FIRMLY AGAINST THE PANEL AND LOBES ARE FULLY ENGAGED.

SECOND OPERATION

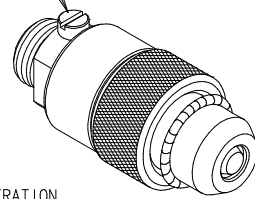
- STEP 4: WITHOUT DISENGAGING THE TOOL, ROTATE THE KNURLED COLLAR TO ALIGN THE SLOT IN THE SCREW PLUG WITH THE STOPPING SCREW. OPEN THE HANDLES OF THE TOOL AND RETRACT THE PRESSURE PAD BY PULLING IT BACK AGAINST THE STOP. THIS WILL EXPOSE THE FLARING TIP SURFACE. EXPOSING THE FLARING TIP SURFACE IS NECESSARY TO INSURE FULL FLARING CAPABILITY OF SLEEVE SKIRT.
- STEP 5: CLOSE HANDLES TO FLARE OR SWAGE SLEEVE SKIRT, THIS CAPTIVATES THE NUT. ENOUGH PRESSURE SHOULD BE APPLIED TO FORM A FLAT UPSET AGAINST THE PANEL. IN CASE OF EXTRA LONG SLEEVE PROTRUSION, MATERIAL WILL ROLL OVER RESULTING IN A HIGHER RADIUS UPSET. CAUTION: DO NOT TRY TO COMPLETELY FLATTEN MATERIAL AS TOOL MIGHT BE OVER STRESSED DUE TO COLD WORKING OF SLEEVE MATERIAL.
- STEP 6: LOOSEN HANDLES OF TOOL. DISENGAGE PULL STUD FROM NUT PLATE INSTALLATION IS COMPLETE.

TO ADJUST TOOL TO DESIRED GRIP LENGTH

- 1. SET SCREW MUST BE BACKED OFF TO PERMIT FREE MOVEMENT OF THE TELESCOPING TUBE.
- 2. ROTATE ADJUSTING KNOB CLOCKWISE OR COUNTER-CLOCKWISE TO OBTAIN DESIRED GRIP LENGTH ADJUSTMENT. THIS IS INDICATED WHEN THE MARK OPPOSITE THE GRIP LENGTH LETTER ON THE TELESCOPING TUBE IS IN LINE WITH THE EDGE OF THE TOOL HANDLE. PUSH THE TUBE BACK TOWARDS THE HANDLE TO INSURE ACCURATE POSITIONING.
- 3. TIGHTEN SET SCREW.

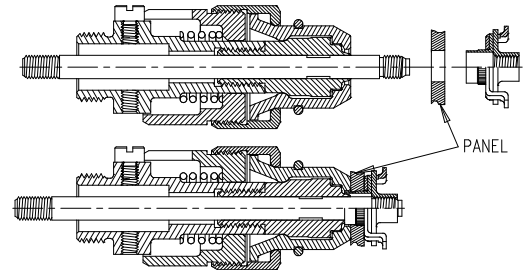


STOPPING SCREW



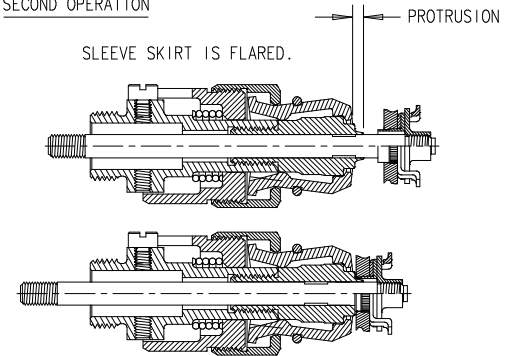
FIRST OPERATION

SLEEVE LOBES ARE DRAWN INTO PANEL



SECOND OPERATION

SLEEVE SKIRT IS FLARED.

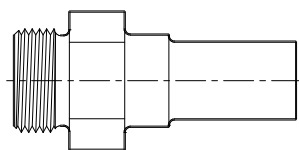


NOTE:

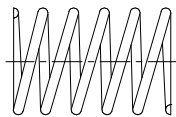
IF TOO MUCH RESISTANCE IS ENCOUNTERED WHEN ROTATING THE ADJUSTING KNOB, CLOSE THE HANDLES WHILE TURNING THE KNOB ALSO INSURE THAT THE SET SCREW IS NOT PRESSING AGAINST THE TUBE.

				<p>TOLERANCE DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED FRACTIONS ± 1/32 ANGLES ± 2° 2 PLACE DECIMALS ± .02 3 PLACE DECIMALS ± .015</p>				<p>Huck International, Inc. Advanced Fastening Systems TUCSON DIVISION 3724 E. COLUMBIA ST. TUCSON, AZ 85714</p>				
G	5615	6/16/95	JR	MA	PREPARED IN ACCORDANCE WITH ANSI Y14.5M	DATE:	6/16/95	UNIVERSAL HAND INSATALLATION TOOL FOR RIVETLESS FLOATING NUT PLATES.				
F	4643	8/31/87	Y	MA	THIRD ANGLE PROJECTION DUAL DIMENSIONING IN MM. TOL. MM	DR. BY:	<i>[Signature]</i>	SIZE	CODE IDENT NO.	PART NO.	D()T860	
E	4436A	11/17/86	JR	EK		CHK. BY:	<i>[Signature]</i>	A	OHDW7	DWG NO. S-3137	SHEET 2 OF 5	
D	4291	2/21/86	Y	CS		APPD. BY:	<i>[Signature]</i>					
C	4167	10/30/85	AS	CS								
REV	E.O. NO.	DATE	BY	APPD	SCALE NONE	REL. DATE:	10/07/83					
REVISION												

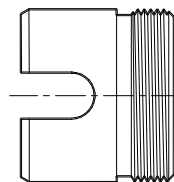
COMPONENTS OF NOSE PIECE



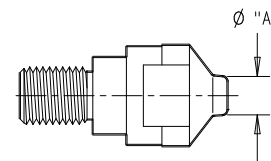
FLARING TIP ADAPTER
T1808AD



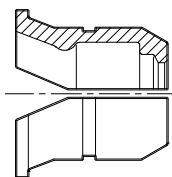
SPRING
T1808SG



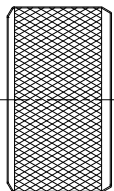
SCREW PLUG
T1808PG



FLARING TIP
SEE TABLE II



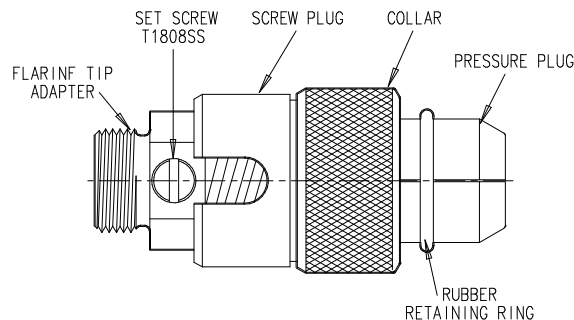
PRESSURE PAD
T1808PD - () STD.
T1809PD - () REDUCED Ø
(ONE SET OF 4 REQ'D.)



COLLAR
T1808CO



RUBBER
RETAINING RING
T1808OR



FLARING NOSE ASSEMBLY - COLLET TYPE
PART No. # D () N8613 () - ()

TABLE I

NUT SIZE CODE	TYPE OF NUT PLATE		THREAD SIZE	Ø "A"			
	FF/FHF	HF9		NUT PLATE			
01	4	N/A	.112-40 UNC	.286	.257	TBD.	
			M3 x 0,5				
	6	.138-32 UNC	.278				
	M3.5 x 0,6						
02	8	8	.164-32 UNC	.362	.302		
	M4	N/A	M4 x 0,7				
	10	10	.190-32 UNF				
03	M5		M5 x 0,8	.482	.390		
	12	N/A	.250-28 UNF				
	M6		M6 x 1,0				

TABLE II

PART No. CALL OUT	FLARING TIP	STYLE
DCBN86130 - ()	T1808FT - ()	C'BORE
DCSN86130 - ()	T1829FT - ()	C'SINK 100°
DCBN86131 - ()	T1809FT - ()	C'BORE
DCSN86131 - ()	T1831FT - ()	C'SINK 100°
DCBN86132 - ()	T1850FT - ()	C'BORE
DCSN86132 - ()	T1853FT - ()	C'SINK 100°
DCBN86133 - ()	T1851FT - ()	C'BORE
DCBN86134 - ()	T1852FT - ()	C'BORE
DCSN86134 - ()	T1854FT - ()	C'SINK 100°
DCSN86135 - ()	T1875FT - ()	C'BORE
DCBN86135 - ()	T1876FT - ()	C'SINK 100°

PART No. CALL OUT

D () N8613 () - ()

BASIC TOOL NO. #

TABLE I
THREAD SIZE CODE

CONFIGURATION
0 STANDARD
1 REDUCED Ø
2 CLOSE TOLERANCE
3 CLOSE TOLERANCE RS
4 CLOSE TOLERANCE RM
5 REDUCED Ø W/BUSHING

TYPE

CB	COUNTERBORE
CS	COUNTERSINK

MATERIAL:

NOSE ASSEMBLY COMPONENTS:
HIGH CARBON STEEL HARDENED.

FINISH:

NOSE ASSEMBLY COMPONENTS:
BLACK OXIDE

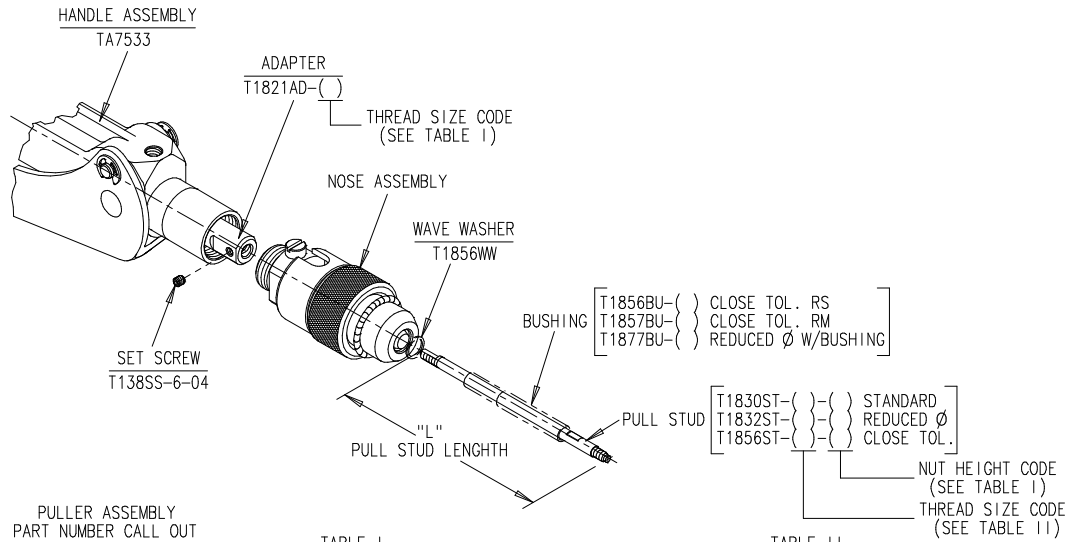
NOSE PIECE ASSEMBLY

1. PLACE SPRING (T1808SG) ONTO ADAPTER (T1808AD).
2. PLACE SCREW PLUG (T1808SG) OVER SPRING AND ADPTER.
3. SCREW FLARING TIP INTO ADAPTER USING WRENCH.
4. PLACE PRESSURE PAD SECTION (T1808PD-() 4 x) OVER FLARING TIP. *SUGGESTION* HOLD ASSY UPRIGHT ON FLAT SURFACE. COMPRESS THE SCREW PLUG AND "HANG" THE FOUR PRESSURE PAD PIECES ON THE FLARING TIP.
5. SLIDE COLLAR (T1808CO) OVER PRESSURE PAD SECTIONS AND SCREW DOWN ONTO THE SCREW PLUG.
6. PLACE RUBBER RETAINING RING (T1808OR) INTO GROOVE ON PRESSURE PAD.

CHECK FINAL ASSEMBLY:

- A) RETRACT THE PRESSURE PAD BY PULLING IT BACK TO THE STOPPING SCREW (EPOSING FLARING TIP).
- B) SLIDE IT BACK TO THE FOWARD END POSITION.
- C) CHECK FOR SMOOTH OPERATION MOTION.

REVISION				TOLERANCE DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED FRACTIONS ± 1/32 ANGLES ± 2° 2 PLACE DECIMALS ± .02 3 PLACE DECIMALS ± .015		HUCK	Huck International, Inc. Advanced Fastening Systems	
G	5615	6/16/95	JR	MA	PREPARED IN ACCORDANCE WITH ANSI Y14.5M		DATE: 6/16/95	TUCSON DIVISION 3724 E. COLUMBIA ST. TUCSON, AZ 85714
F	4643	8/31/87	Y	MA	THIRD ANGLE PROJECTION DUAL DIMENSIONING IN MM. TOL. MM	DR. BY: [Signature]	UNIVERSAL HAND INSATALLATION TOOL FOR RIVETLESS FLOATING NUT PLATES.	
E	4436A	11/17/86	JR	EK	SCALE NONE	CHK. BY: [Signature]	SIZE A	CODE IDENT NO. OHDW7
D	4291	2/21/86	Y	CS	RL DATE: 10/07/83	APPD. BY: [Signature]	PART NO. D () T860	
C	4167	10/30/85	AS	CS			DWG NO. S-3137	SHEET 3 OF 5



PULLER ASSEMBLY
PART NUMBER CALL OUT

DTP 8623 () - () - ()
BASIC TOOL NUMBER

TABLE I

NUT HEIGHT CODE	THREAD SIZE "L"		
	4, 6	8, 10	12
1	3.094	3.125	3.187
2	3.156	3.187	3.250
3	3.218	3.250	3.312
4	3.281	3.312	3.375
5	3.343	3.375	3.437
6	3.406	3.437	3.500

TABLE II

ASSEMBLY	PULLER	BUSHING
DTP86230L ()-()	T1825ST-()-()	N/A
DTP86230NL ()-()	T1830ST-()-()	N/A
DTP86231L ()-()	T1822ST-()-()	N/A
DTP86231NL ()-()	T1832ST-()-()	N/A
DTP86232 ()-()-()	T1856ST-()-()	T1856BU-()-()
DTP86233 ()-()-()	T1856ST-()-()	T1856BU-()-()
DT86234 ()-()-()	T1856ST-()-()	T1857BU-()-()
DTP86235 ()-()-()	T1856ST-()-()	T1877BU-()-()

THREAD SIZE CODE	THREAD SIZE	LEAD	CODE	
			FF	FHF
4	.112-40 UNJC-3A	SINGLE	02	05
6	.138-32 UNJC-3A		02	01
8	.164-32 UNJC-3A		04	02
10	.190-32 UNJF-3A		04	02
12	.250-28 UNJF-3A		04	03
10C	.190-24 UNC-3A	SINGLE (COARSE)	04	02
12C	.250-20 UNC-3A	(COARSE)	04	03
4F	.112-40 UNF-3A	DOUBLE	02	05
6F	.138-32 UNJC-3A		02	01

THREAD SIZE CODE	THREAD SIZE	LEAD	CODE	
			FF	FHF
6QD	.138-32 UNJC-3A	QUAD	02	01
8F	.164-32 UNJC-3A		04	02
10F	.190-32 UNJF-3A		04	02
12F	.250-28 UNJF-3A		04	03
M3	MJ3 x 0.5-4H6H	METRIC	02	05
M3.5	MJ3.5 x 0.6-4H6H		02	01
M4	MJ4 x 0.7-4H6H		04	02
M5	MJ5 x 0.8-4H6H		04	02
M6	MJ6 x 1.0-4H5H		04	03

CONFIGURATION	
0	STANDARD
1	REDUCED Ø
2	CLOSE TOLERANCE
3	CLOSE TOLERANCE RS
4	CLOSE TOLERANCE RM
5	REDUCED Ø W/BUSHING

MATERIAL:

PULL STUD:
H-11 ALLOY STEEL, HEAT TREAT TO Rc 50 MIN.

ADAPTER:
4130 ALLOY STEEL, HEAT TREAT TO Rc 38-42.

FINISH:

PULL STUD & ADAPTER:
BLACK OXIDE

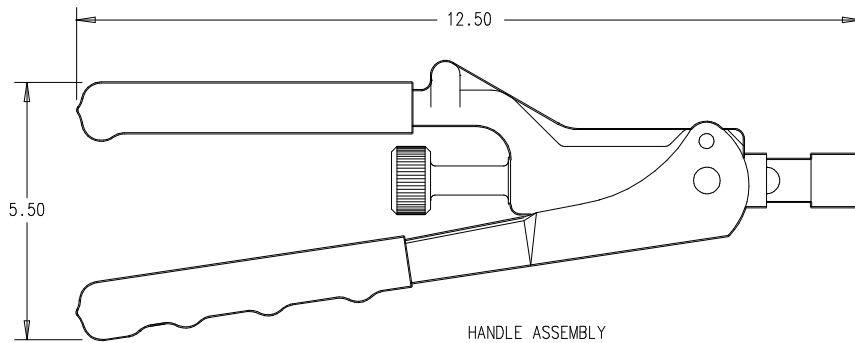
INSTRUCTIONS FOR STADARD AND REDUCED Ø TOOL ASSEMBLY APPLICATIONS

1. SCREW ADAPTER INTO HANDLE ASSEMBLY, USING LOCTITE.
2. SCREW NOSE PIECE ASSEMBLY INTO HANDLE ASSEMBLY UNTIL IT (SEATS OR BOTTOMS OUT) AGAINST END OF TELESCOPING TUBE
3. INSERT PULL STUD INTO NOSE PIECE AND SCREW INTO ADAPTER USING A WRENCH ON ADAPTERS HEX OF FLATS AND TIGHTEN.

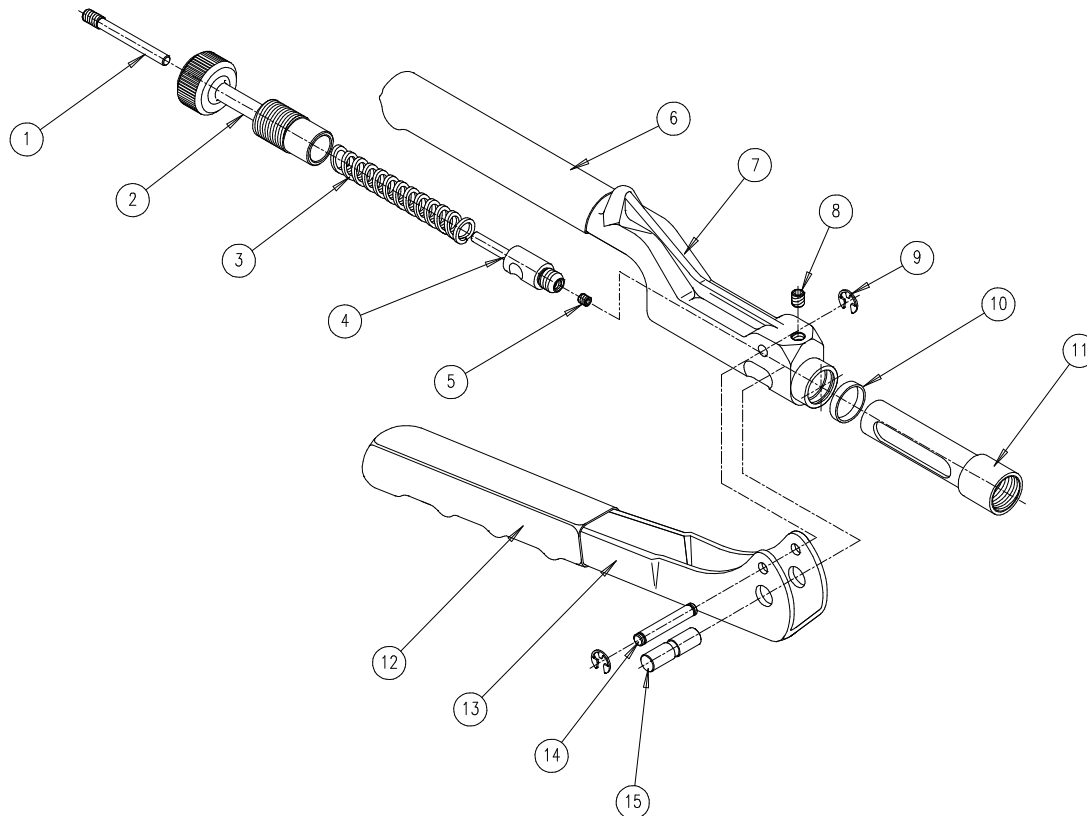
INSTRUCTIONS FOR CLOSE TOLERANCE TOOL ASSEMBLY APPLICATION (BUSHING USAGE ONLY IN CLOSE TOL. APPLICATION)

1. SCREW ADAPTER INTO HANDLE ASSEMBLY, USING LOCTITE.
2. SCREW NOSE PIECE ASSEMBLY INTO HANDLE ASSEMBLY UNTIL IT (SEATS OR BOTTOMS OUT) AGAINST END OF TELESCOPING TUBE
3. INSERT BUSHING ON TO PULL STUD AND INSERT BOTH INTO NOSE PIECE.
4. PLACE WAVE WASHER ON PULL STUD AND SCREW PULL STUD INTO ADAPTER, ALIGN FLAT ON STUD WITH SET SCREW HOLE.
5. TIGHTEN SET SCREW IN ADAPTER SO THAT IT'S TIGHT BITTING DOWN ON FLAT OF PULL STUD. (TO LOCK PULL STUD TO A DESIRED ADJUSTMENT PROTRUSION LENGTH).
6. SCREW NOSE PIECE INTO TOOL HANDLE ASSEMBLY, USING WRENCH ON HEX OR FLATS, TIGHTEN.

G 5615 6/16/95 JR				TOLERANCE DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED FRACTIONS ± 1/32 ANGLES ± 2° 2 PLACE DECIMALS ± .02 3 PLACE DECIMALS ± .015		HUCK		Huck International, Inc. Advanced Fastening Systems TUCSON DIVISION 3724 E. COLUMBIA ST. TUCSON, AZ 85714			
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E 4436A 11/17/86 JR EK				THIRD ANGLE PROJECTION DUAL DIMENSIONING IN MM. TOL. MM		DR. BY: [Signature]		SIZE CODE IDENT NO. PART NO.		D () T860	
D 4291 2/21/86 Y CS				SCALE NONE		CHK. BY: [Signature]		APPD. BY: [Signature]		DWG NO. S-3137 SHEET 4 OF 5	
C 4167 10/30/85 AS CS				REVISION		RL DATE: 10/07/83					
REV E.O. NO. DATE BY APPD											



HANDLE ASSEMBLY
TA7533



PART NUMBER	STYLE	NOSE PIECE ASSY.	FASTENER TYPE
DCBT8600()-()-()	C*BORE	DCBN86130-()	FF6010()-()
DCST8600()-()-()	C*SINK	DCSN86130-()	FF6010()-()
DCBT8601()-()-()	C*BORE	DCBN86131-()	FHF6010()-()
DCST8601()-()-()	C*SINK	DCSN86131-()	FHF6010()-()
DCBT8602()-()-()	C*BORE	DCBN86132-()	FHFCT6010()-()
DCST8602()-()-()	C*SINK	DCSN86132-()	FHFCT6010()-()
DCBT8603()-()-()	C*BORE	DCBN86133-()	RSFCT6010()-()
DCST8603()-()-()	C*SINK	DCSN86133-()	RSFCT6010()-()
DCBT8604()-()-()	C*BORE	DCBN86134-()	RMFCT6010()-()
DCST8604()-()-()	C*SINK	DCSN86134-()	RMFCT6010()-()
DCBT8605()-()-()	C*BORE	DCBN86135-()	FHF6010()-()
DCST8605()-()-()	C*SINK	DCSN86135-()	FHF6010()-()

ITEM NO. #	PART NUMBER	DESCRIPTION	QTY.
1	T1820PG	TRAVEL STOP SCREW	1
2	T1820RE	ADJUSTING KNOB	1
3	T1820SG	SPRING	1
4	T1820AD	GUIDE	1
5	T0138SS-10-08	CROSS PIN LOCK SCREW	1
6	T1618HA-12	UPPER HANDLE	1
7	T1802HO	HANDLE HOUSING	1
8	T1651SS-10-01	LOCK SCREW	1
9	T1598RR-18	RETAINING RING	2
10	T1820IN	TEFLON INSERT	1
11	T1820BL	TELESCOPING TUBE	1
12	T1618HA-11	LOWER GRIP	1
13	T1820HA	LEVER	1
14	T1820PI	HINGE PIN	1
15	T0166P1-BK	CROSS PIN	1

MATERIAL:
LOW CARBON STEEL

FINISH:
BLACK OXIDE

<table border="1"> <thead> <tr> <th>REV</th> <th>E.O. NO.</th> <th>DATE</th> <th>BY</th> <th>APPD</th> </tr> </thead> <tbody> <tr> <td>G</td> <td>5615</td> <td>6/16/95</td> <td>JR</td> <td>MA</td> </tr> <tr> <td>F</td> <td>4643</td> <td>8/31/87</td> <td>Y</td> <td>MA</td> </tr> <tr> <td>E</td> <td>4436A</td> <td>11/17/86</td> <td>JR</td> <td>EK</td> </tr> <tr> <td>D</td> <td>4291</td> <td>2/21/86</td> <td>Y</td> <td>CS</td> </tr> <tr> <td>C</td> <td>4167</td> <td>10/30/85</td> <td>AS</td> <td>CS</td> </tr> </tbody> </table>				REV	E.O. NO.	DATE	BY	APPD	G	5615	6/16/95	JR	MA	F	4643	8/31/87	Y	MA	E	4436A	11/17/86	JR	EK	D	4291	2/21/86	Y	CS	C	4167	10/30/85	AS	CS	<p>TOLERANCE DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED FRACTIONS ± 1/32 ANGLES ± 2° 2 PLACE DECIMALS ± .02 3 PLACE DECIMALS ± .015</p>				<p>Huck International, Inc. Advanced Fastening Systems TUCSON DIVISION 3724 E. COLUMBIA ST. TUCSON, AZ 85714</p>	
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<p>THIRD ANGLE PROJECTION DUAL DIMENSIONING IN MM. TOL. MM</p>				<p>DR. BY: [Signature]</p>		<p>CHK. BY: [Signature]</p>		<p>SIZE CODE IDENT NO. PART NO. D()T860</p>																															
<p>APPD. BY: [Signature]</p>				<p>REL. DATE: 10/07/83</p>		<p>APPD. BY: [Signature]</p>		<p>DWG NO. S-3137 SHEET 5 OF 5</p>																															