



Model: See Affected Units	Apr. 2, 2026
Serial #: N/A	
Product Bulletin # <b>CDS-017 Rev 1</b>	
<b>Alert</b>	



## Retrofit – Add Torque Limiting Mechanism to Casing Drive System Link Tilt Assembly

**NOTICE** This document replaces Tesco Safety Bulletin SB036, which is now withdrawn.

It has come to Canrig's attention that some operational groups and third-party customers continue to operate Mark 1 and/or Mark 2 CDS tools despite the Safety Bulletin SB036 published in 2010.

### Background Information

In the event of a Casing Drive System (CDSTM) actuator bearing failure that results in complete bearing seizure, the CDS link tilt hanger and links have the potential to rotate with the top drive quill if the CDS anti-rotation bracket fails. To address this safety concern, Canrig has created a retrofit kit to add a torque limiting breakaway system on the CDS link tilt assembly. The CDS link tilt breakaway system addresses the hazard of a rotating CDS link tilt system by providing a mechanical "fuse" that will fail before the CDS anti-rotation bracket.

A retrofit kit (Canrig part number 860197) has been created with the additional parts required to retrofit existing link tilt carriers. Please refer to the attached drawing 860197. If the retrofit kit is used in conjunction with non-standard length anti-rotational brackets, contact your local Canrig Service Center and RIGLINE 24/7TM for additional guidance before implementation.

Customers who own Mark 1 and/or Mark 2 CDS tools are required to implement the retrofit kit. They can coordinate with their local Canrig Service Center to complete the necessary modifications, or alternatively, proceed with the retrofit kit implementation themselves.

### Affected Units

All (Mark 1 and/or Mark 2) CDS tools and link tilt assemblies manufactured prior to Dec. 31, 2007.

Affected Part No.	Description
540339, 16057	Carrier, Machined, Link Tilt Hanger, CDS
820052, 15258	Cap, Top, Actuator, CDS





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## Action Required

**NOTICE**

Canrig Service Centers are to use Work Instruction WI-860197 in place of Step 1 and Step 2 outlined in this "Action Required" section.

Refer to attached drawing 860197.

### 1. CDS Link Tilt Hanger Carrier Modifications

Modify carrier (P/N 540339 or 16057) as per drawing 1170004 (drawing attached).

- a. Obtain an existing link tilt hanger carrier, part #540339 or part #16057.
- b. Remove the bolt block by machining as shown in drawing 1170004. Blend out any sharp edges. Torch cutting is not permitted.
- c. Drill and tap the six  $\text{Ø}3/8" - 16 \text{ UNC} \times 1"$  deep holes as shown in drawing 1170004.
- d. Drill and tap the  $\text{Ø}1/4" - \text{NPT} \times 3"$  deep hole as shown in drawing 1170004.
- e. Cross drill the  $\text{Ø}1/4" \times 1-3/8"$  deep hole as shown in drawing 1170004.
- f. Open up the bore of the carrier to  $\text{Ø}13.60"$  as shown in drawing 1170004.
- g. Open up the top 1.29" (REF) of the bore to  $\text{Ø}15.00"$  as shown in drawing 1170004.
- h. Open up 1.53" of the bore to  $\text{Ø}13.93"$  as shown in drawing 1170004.
- i. Spot face the bottom 0.25" of the bore to  $\text{Ø}15.63"$ .
- j. Roller burnish or polish the bottom spot face to 20  $\mu$  inch as shown in drawing 1170004.
- k. MPI machined areas. Bring any indications found to the attention of Canrig Engineering.
- l. Paint TESCO yellow as per Canrig ENG 713.

### 2. CDS Actuator Top Cap Modifications

Modify top cap (P/N 820052 or 15258) as per drawing 860183 (drawing attached).

- a. Obtain an existing top cap, part #15258 (Mark 1) or part #820052 (Mark 2).
- b. Add the retaining ring groove ( $\text{Ø}12.927" \times 0.209"$ ) as shown in drawing 860183.
- c. Add the two  $\text{Ø}5/16" \times 0.494"$  deep drilled holes as shown in drawing 860183.
- d. MPI machined areas. Any indications found will be dispositioned.

e. Zinc phosphate and oil machined areas by immersion process to obtain 1000 – 3000 mg per sq. ft. coverage after MPI.

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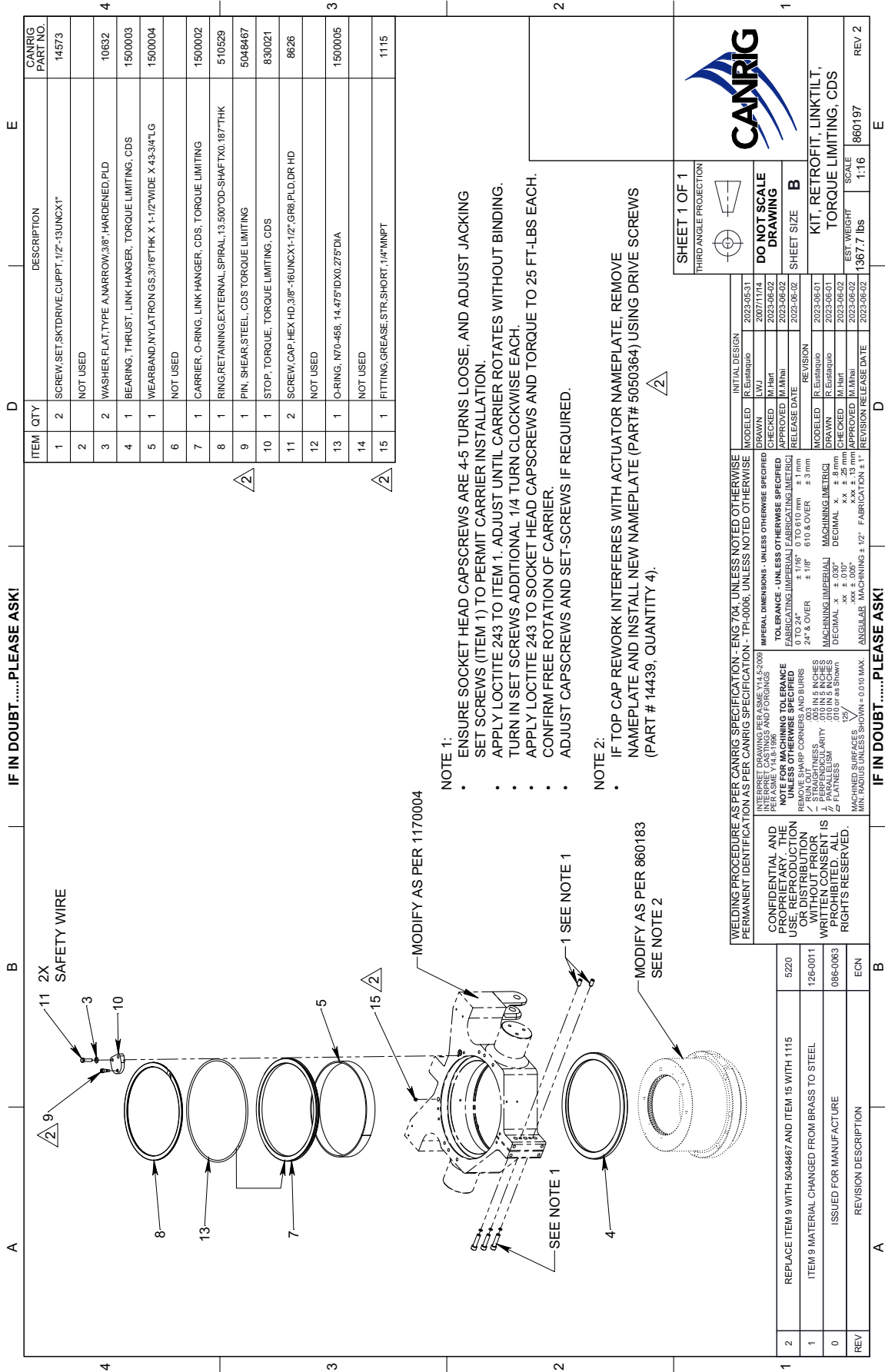
**NOTICE**

If the top cap is removed from the actuator to perform this modification, the actuator shall be retested as per Post-Assembly Actuator Test procedure detailed in 22-026 CDS Product Manual, Chapter 5 Maintenance & Troubleshooting.

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3. After the modification for both carrier and top cap is completed, reassemble the link tilt kit by adding all the parts listed in drawing 860197.
4. See Note 2 in drawing 860197, if the modified top cap interferes with actuator nameplate, replace the old nameplate with P/N 5050364 using four (4) screws P/N 14439.

Contact Canrig Part Sales ([truesupport@canrig.com](mailto:truesupport@canrig.com)) to order parts and RIGLINE 24/7™ if you need further information regarding this bulletin.



IF IN DOUBT.....PLEASE ASK!

ITEM	QTY	DESCRIPTION	CANRIG PART NO.
1	2	SCREW,SET,SKTDRIVE,CUPPT,1/2"-18UNCX1"	14573
2		NOT USED	
3	2	WASHER,FLAT,TYPE A,NARROW,3/8"-HARDENED,PLD	10632
4	1	BEARING,THRUST, LINK HANGER, TORQUE LIMITING, CDS	1500003
5	1	WEAR BAND,NYLON,TRON G.S.3/16"THK X 1-1/2"WIDE X 4.3-3/4"LG	1500004
6		NOT USED	
7	1	CARRIER, O-RING, LINK HANGER, CDS, TORQUE LIMITING	1500002
8	1	RING,RETAINING,EXTERNAL, SPIRAL,13.500"OD-SHAFTX0.187"THK	510529
9	1	PIN, SHEAR,STEEL, CDS TORQUE LIMITING	5048467
10	1	STOP, TORQUE, TORQUE LIMITING, CDS	830021
11	2	SCREW,CAP,HEX HD,3/8"-18UNCX1-1/2",GR8,PLD,DR HD	8626
12		NOT USED	
13	1	O-RING, N70-458, 14.475"IDX0.275"DIA	1500005
14		NOT USED	
15	1	FITTING,GREASE,STR.SHORT,1/4"MNPT	1115

- NOTE 1:
- ENSURE SOCKET HEAD CAPSCREWS ARE 4-5 TURNS LOOSE, AND ADJUST JACKING SET SCREWS (ITEM 1) TO PERMIT CARRIER INSTALLATION.
  - APPLY LOCTITE 243 TO ITEM 1. ADJUST UNTIL CARRIER ROTATES WITHOUT BINDING.
  - TURN IN SET SCREWS ADDITIONAL 1/4 TURN CLOCKWISE EACH.
  - APPLY LOCTITE 243 TO SOCKET HEAD CAPSCREWS AND TORQUE TO 25 FT.-LBS EACH.
  - CONFIRM FREE ROTATION OF CARRIER.
  - ADJUST CAPSCREWS AND SET-SCREWS IF REQUIRED.
- NOTE 2:
- IF TOP CAP REWORK INTERFERES WITH ACTUATOR NAMEPLATE, REMOVE NAMEPLATE AND INSTALL NEW NAMEPLATE (PART# 5050364) USING DRIVE SCREWS (PART # 14439, QUANTITY 4).

WELDING PROCEDURE AS PER CANRIG SPECIFICATION - ENG 704 - UNLESS NOTED OTHERWISE PERMANENT IDENTIFICATION AS PER CANRIG SPECIFICATION - TPI-0006, UNLESS NOTED OTHERWISE

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2	REPLACE ITEM 9 WITH 5048467 AND ITEM 15 WITH 1115	5220
1	ITEM 9 MATERIAL CHANGED FROM BRASS TO STEEL	125-0011
0	ISSUED FOR MANUFACTURE	086-0063
REV	REVISION DESCRIPTION	ECN

MODELED	R. Estarquo	2023-06-31
DRAWN	L.V.J.	2007/11/14
CHECKED	M.H.H.	2023-06-02
APPROVED	M.H.H.	2023-06-02
RELEASE DATE		2022-06-02

MODELED	R. Estarquo	2023-06-01
DRAWN	R. Estarquo	2023-06-01
CHECKED	M.H.H.	2023-06-02
APPROVED	M.H.H.	2023-06-02
RELEASE DATE		2023-06-02

INITIAL DESIGN: 2023-06-31

DO NOT SCALE DRAWING

SHEET SIZE: B

THIRD ANGLE PROJECTION

SCALE: 1:16

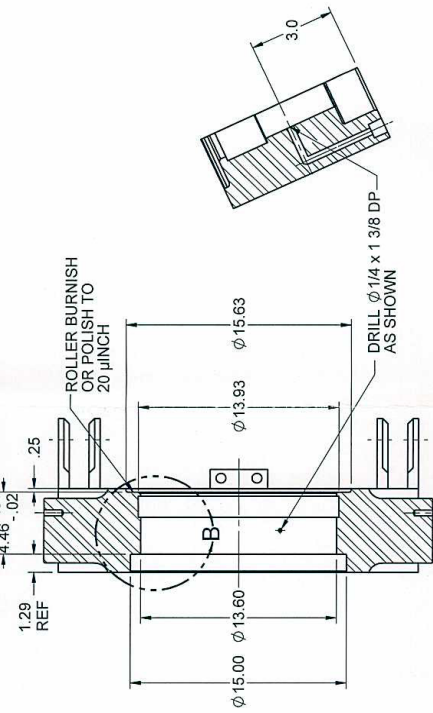
WEIGHT: 1367.7 lbs

KIT, RETROFIT, LINKTILT, TORQUE LIMITING, CDS

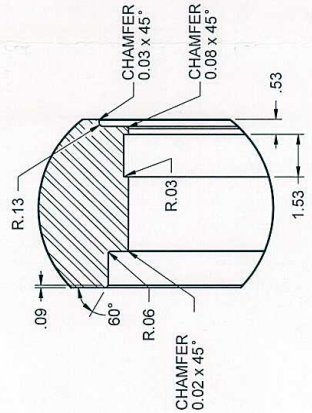
860197

REV 2

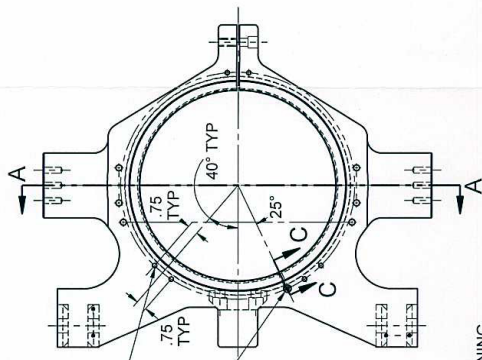
ITEM	PART No.	QTY	DESCRIPTION	SIZE	MATL	WT
1	540339/16057	1	CARRIER, MACHINED LINK TILT HANGER, CDS			412



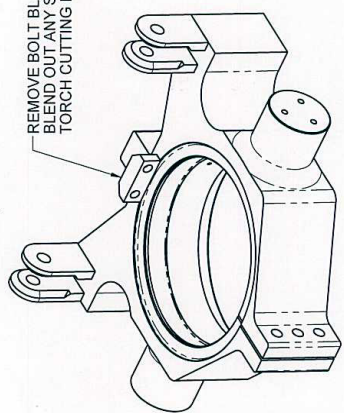
SECTION C-C  
SCALE 1 : 4



DETAIL B  
SCALE 1 : 4



REMOVE BOLT BLOCK BY MACHINING.  
BLEND OUT ANY SHARP EDGES.  
TORCH CUTTING NOT PERMITTED.



DRILL .05/16 x 1 DP  
TAP 3/8 - 16 UNC  
6 PLCS ON 16.25 BCD

DRILL .05/16 x 1 DP  
TAP 3/8 - 16 UNC  
6 PLCS ON 16.25 BCD

SEE NOTE 1

NOTES:

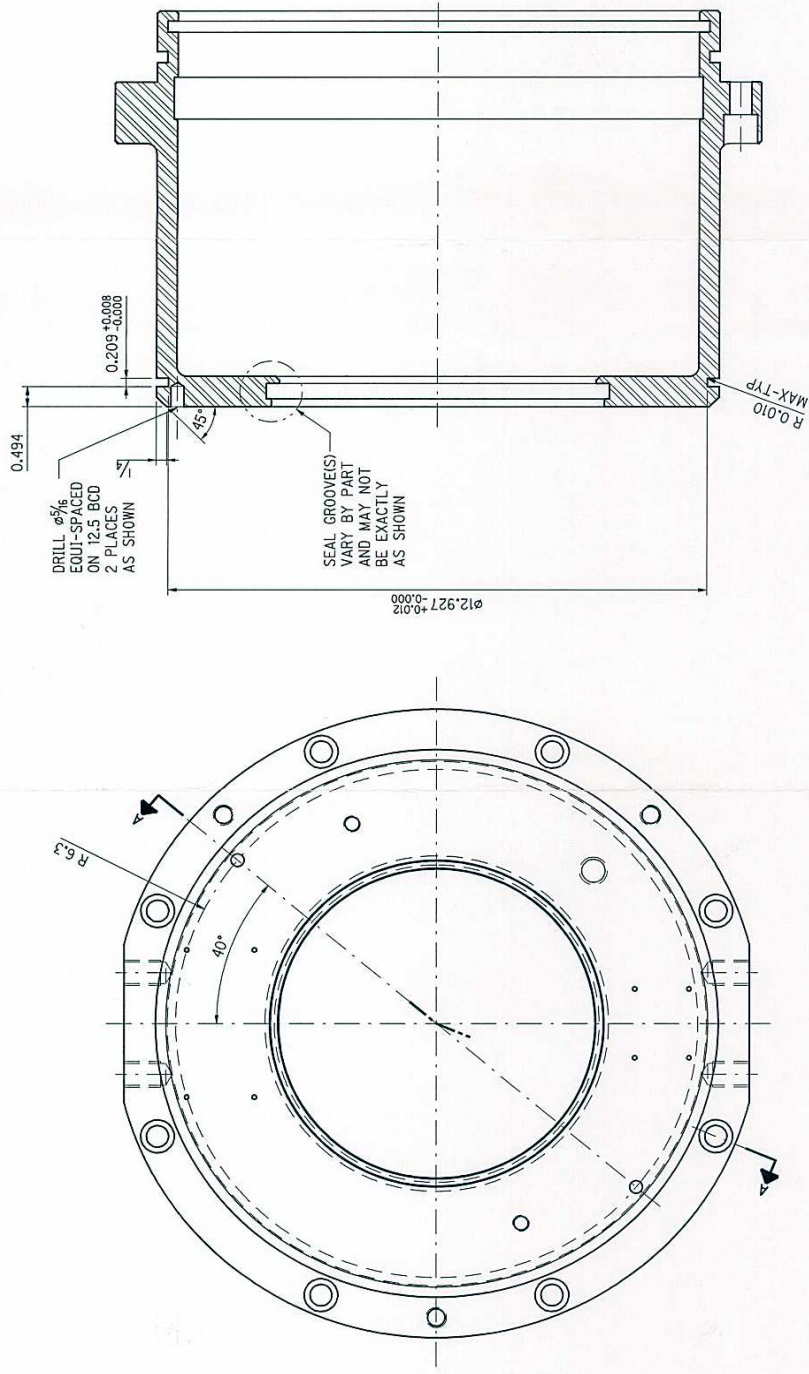
- LUG QUANTITY VARIES BY PART AND MAY NOT BE EXACTLY AS SHOWN.
- MPI AFTER MACHINING (MACHINED SURFACES ONLY).
- TO BE PAINTED TESCO YELLOW AS PER TESCO SPECIFICATION STD0009.

MATERIAL SPECIFICATIONS		HEAT TREATMENT/SPECIAL PROCESS:		TOLERANCES UNLESS OTHERWISE NOTED		MATERIAL SPECIFICATIONS	
REFER TO BOM		N/A		ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED		PROJECT: RETROFIT, CARRIER, TORQUE LIMITING, LINK HANGER, CDS	
COPYRIGHT TESCO CORPORATION. ALL INFORMATION IN THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL AND SHALL REMAIN THE SOLE PROPERTY OF TESCO CORPORATION. NO PART SHALL NOT BE USED, COPIED OR REPRODUCED IN ANY MANNER TO OUTSIDE PARTIES WITHOUT PRIOR WRITTEN PERMISSION FROM TESCO CORPORATION.		THIRD ANGLE PROJECTION DO NOT SCALE DRAWING		ANGULAR DIMENSIONS ±1/2° CONCENTRICITY .005 T.I.R. SURFACE FINISH 125 RMS MINIMUM RADIUS R.010		DATE: 16AUG2007	
ISSUED FOR MANUFACTURE		16AUG2007		X = ±.030 XX = ±.010 XXX = ±.005		MR: RPM	
REV		ICD		DATE		SCALE: 1:8	
0						DFTG CHECK: RPM	
						ENG CHECK: RPM	
						PARTS NO.: 1170004	
						WEIGHT: .354 LBS	
						PAGE: 1 OF 1	



ITEM	PART NO.	QTY	DESCRIPTION
1	1535820262	1	CAP TOP, ACTUATOR, CDS

WT	88
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SECTION A-A

- NOTE
1. MPI MACHINED AREAS.
  2. ZINC PHOSPHATE AND OIL MACHINED AREAS BY IMMERSION PROCESS TO OBTAIN 1000 - 3000 mg PER SQ. FT. COVERAGE AFTER MPI.

NOTES:		WATERLUB SPECIFICATIONS		TITLE	
1. UNLESS NOTED, ALL PARTS SHALL BE PERMANENTLY IDENTIFIED:		REFER TO BOM		RETROFIT, CAP, TOP, TORQUE	
- FABRICATED PARTS AND DIMENSIONS SHALL BE PERMANENTLY IDENTIFIED BY DRAWING NUMBER, REVISION, AND PART NUMBER.		HEAT TREATMENT/SPECIAL PROCESS:		LIMITING, LINK HANGER, CDS	
- DIMENSIONS SHALL BE TO UNLESS OTHERWISE NOTED.		N/A		DRAWN: MK	
- DIMENSIONS SHALL BE TO UNLESS OTHERWISE NOTED.		ALL DIMENSIONS IN INCHES UNLESS OTHERWISE NOTED.		DATE: 16AUG2007	
- DIMENSIONS SHALL BE TO UNLESS OTHERWISE NOTED.		TOLERANCES UNLESS OTHERWISE NOTED:		SCALE: 1:2	
- DIMENSIONS SHALL BE TO UNLESS OTHERWISE NOTED.		MACHINING: XX ± 0.03		SHEET NO. 1	
- DIMENSIONS SHALL BE TO UNLESS OTHERWISE NOTED.		ANGULAR DIMENSIONS: 1/2°		CONCENTRICITY AND TIR: C	
- DIMENSIONS SHALL BE TO UNLESS OTHERWISE NOTED.		SURFACE FINISH: 125 RMS		DATE: 16AUG2007	
- DIMENSIONS SHALL BE TO UNLESS OTHERWISE NOTED.		BREAK EDGES: 0.015 ± 0.2		DATE: 16AUG2007	
- DIMENSIONS SHALL BE TO UNLESS OTHERWISE NOTED.		MINIMUM PROTECTIVE FILM: 0.0005 ± 0.0005		DATE: 16AUG2007	
- DIMENSIONS SHALL BE TO UNLESS OTHERWISE NOTED.		PUBLICATION: 860183		REV: 0	
- DIMENSIONS SHALL BE TO UNLESS OTHERWISE NOTED.		9" TO 24" - 8118		PAGE: 1 OF 1	
- DIMENSIONS SHALL BE TO UNLESS OTHERWISE NOTED.		9" TO 24" - 8118		PAGE: 1 OF 1	

