

CATALOG CODE

TI-330-X.XX-XX

TORQUE Nm

1.00
1.50
2.00
2.50

SHAFT-END TYPE

01 - KNURLED SHAFT
02 - KNURLED ADAPTER
05 - DUAL ENDED KNURLED SHAFT

NOTES:

1. USER MUST DETERMINE FITNESS FOR USE IN APPLICATION.
 2. ENVIRONMENTAL CONDITIONS:
-20°C TO +80°C .
 3. PRODUCT TORQUE SPECIFICATION:
±20% DYNAMIC
 4. LIFE: 50,000 CYCLES.
ONE CYCLE CONSISTS OF 120° CW
AND 120° CCW AT 10% DUTY CYCLE
FOR SPEEDS LESS THAN 100 RPM.
 5. MATERIALS:
PLATED POWDERED METAL HOUSINGS
HARDENED STEEL TORQUE ELEMENT
DIECAST KNURLED ZINC SHAFT END
MINERAL OIL BASED LUBRICANT
HARDENED STEEL SHAFT
 6. FINISH:
NON-COSMETIC.
 7. TORQUE INSERT DESIGNED FOR USE IN PLASTIC
OR METAL. SEE INDIVIDUAL CONFIGURATION
DRAWINGS FOR ADDITIONAL DETAIL.
 - [8] HINGE DESIGNED TO SUPPORT A MINIMAL
AXIAL FORCE IN DIRECTION SHOWN, NOT
DESIGNED TO SUPPORT AXIAL FORCE IN THE
OPPOSITE DIRECTION.
 9. CUSTOMER IS RESPONSIBLE FOR CHECKING
COMPATIBILITY OF REELL LUBRICANTS WITH
PLASTICS USED.
 10. OVERALL LENGTH MAY CHANGE DURING
SHIPPING.
- [11] NUMBER OF TORQUE ELEMENTS MAY VARY.



REELL PRECISION MANUFACTURING
1259 WILLOW LAKE BOULEVARD
SAINT PAUL, MINNESOTA 55110-5103, USA

THIS PRINT IS THE CONFIDENTIAL PROPERTY
OF REELL PRECISION MFG.

INTERPRET PRINT PER ASME Y14.5M-2009

ECO NO: 08271

APPROVED BY: CHRISTOPHER HAHN

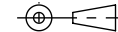
APPROVED DATE: 25JUL25

PROJECT NO: 10619

ENGINEER: TIM JENUM

DRAWN BY: TIM JENUM

THIRD ANGLE PROJECTION



DIMENSIONS: mm

PART LIFECYCLE: RELEASED

DEVELOPMENT CYCLE: PRODUCTION

DESCRIPTION:

SALES DRAWING

PART NO:

TI-330

REV:

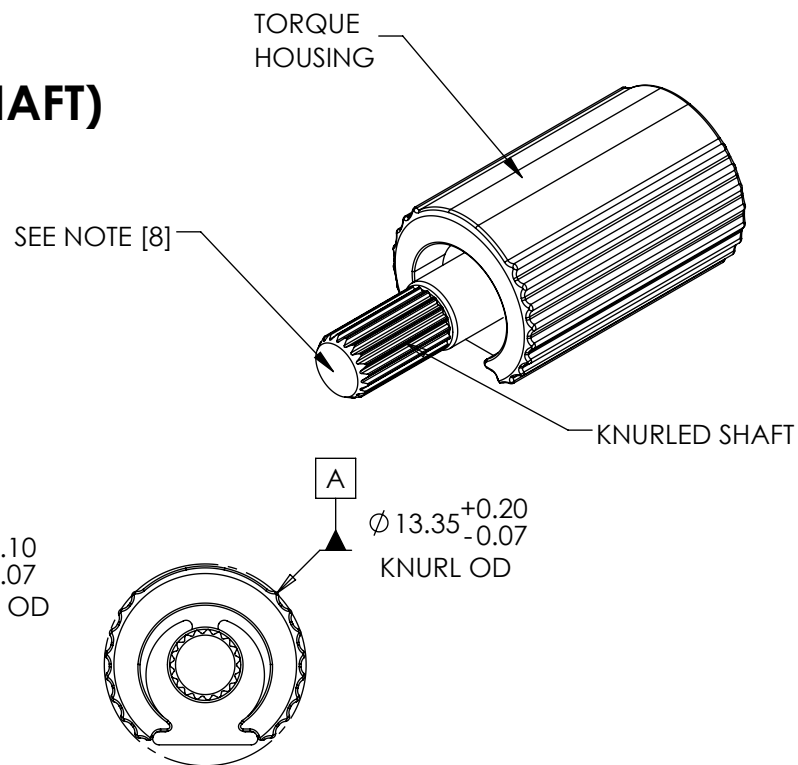
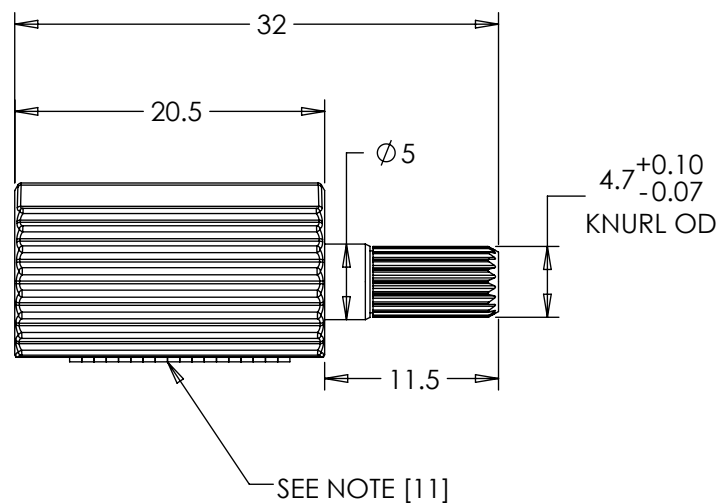
B

SCALE: 2:1

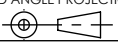
DO NOT SCALE DRAWING

SHEET 1 OF 8

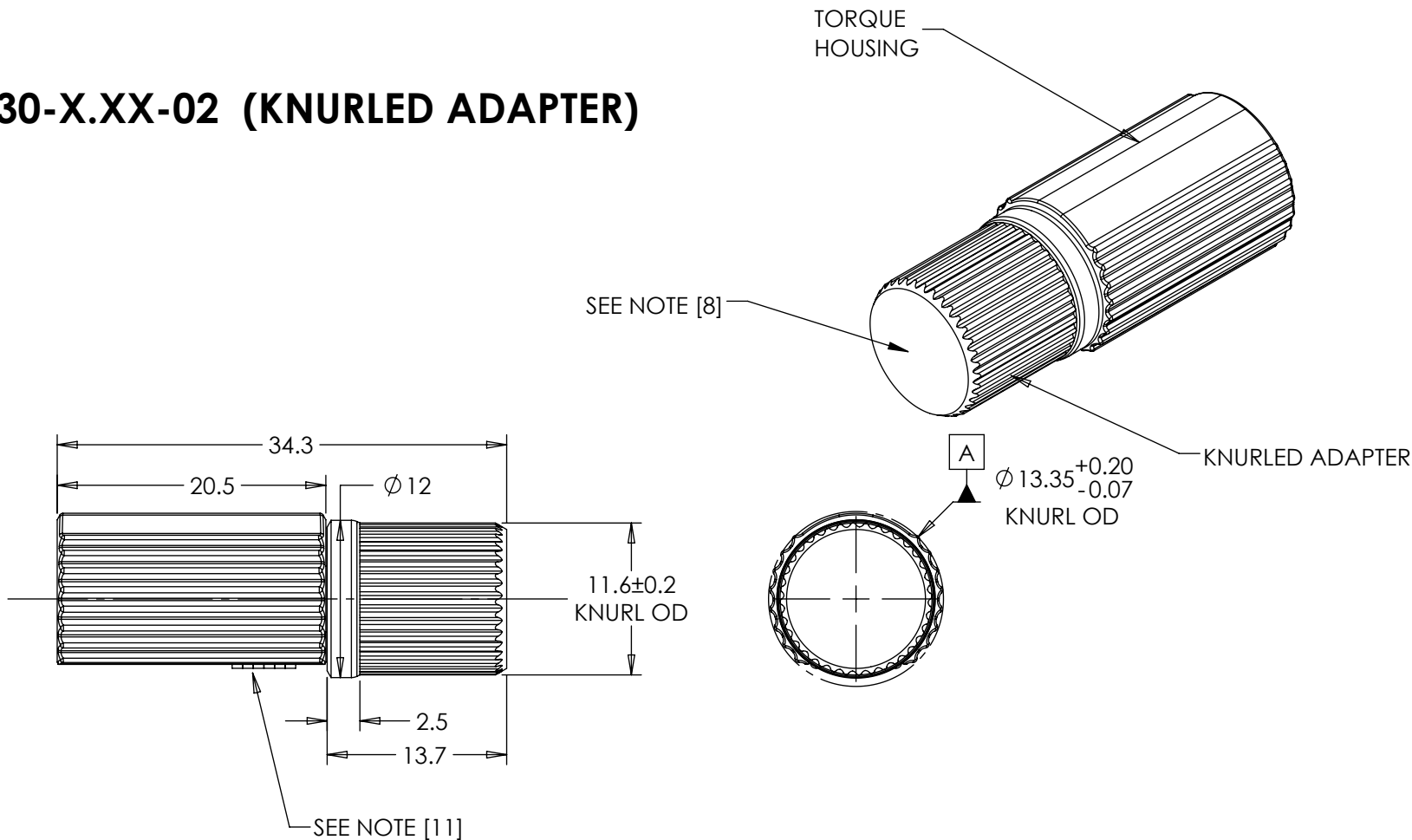
TI-330-X.XX-01 (KNURLED SHAFT)



- INTENDED FOR PRESS FIT INTO METALS. CONTACT REELL FOR OTHER MOUNTING OPTIONS.
- APPROXIMATE WEIGHT: 17.03g

REELL PRECISION MANUFACTURING 1259 WILLOW LAKE BOULEVARD SAINT PAUL, MINNESOTA 55110-5103, USA THIS PRINT IS THE CONFIDENTIAL PROPERTY OF REELL PRECISION MFG. INTERPRET PRINT PER ASME Y14.5M-2009	ECO NO: 08271	PART LIFECYCLE: RELEASED	
	APPROVED BY: CHRISTOPHER HAHN	DEVELOPMENT CYCLE: PRODUCTION	
	APPROVED DATE: 25JUL25	DESCRIPTION: SALES DRAWING	
	PROJECT NO: 10619		
	ENGINEER: TIM JENUM	PART NO: TI-330	
	DRAWN BY: TIM JENUM		
	THIRD ANGLE PROJECTION 	SCALE: 2:1	DO NOT SCALE DRAWING
	DIMENSIONS: mm	SHEET 2 OF 8	REV: B

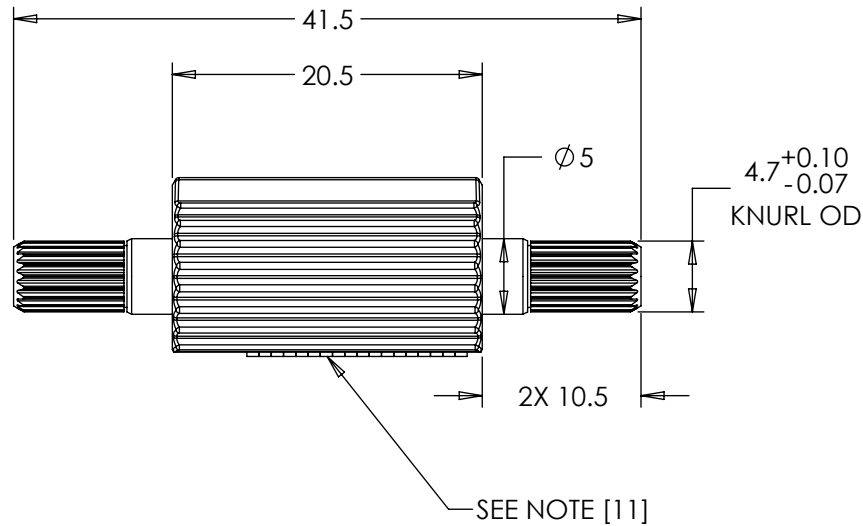
TI-330-X.XX-02 (KNURLED ADAPTER)



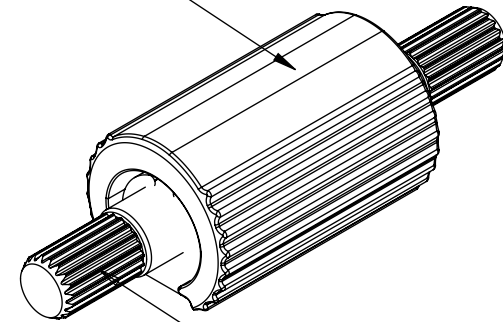
- INTENDED FOR PRESS FIT INTO PLASTICS. CONTACT REELL FOR OTHER MOUNTING OPTIONS.
- APPROXIMATE WEIGHT: 22.43g

REELL PRECISION MANUFACTURING 1259 WILLOW LAKE BOULEVARD SAINT PAUL, MINNESOTA 55110-5103, USA	ECO NO: 08271	PART LIFECYCLE: RELEASED	
	APPROVED BY: CHRISTOPHER HAHN	DEVELOPMENT CYCLE: PRODUCTION	
	APPROVED DATE: 25JUL25	DESCRIPTION: SALES DRAWING	
	PROJECT NO: 10619		
THIS PRINT IS THE CONFIDENTIAL PROPERTY OF REELL PRECISION MFG.	ENGINEER: TIM JENUM	PART NO: TI-330	
	DRAWN BY: TIM JENUM		
	THIRD ANGLE PROJECTION 	SCALE: 2:1	DO NOT SCALE DRAWING
INTERPRET PRINT PER ASME Y14.5M-2009	DIMENSIONS: mm	REVISION: B	SHEET 3 OF 8

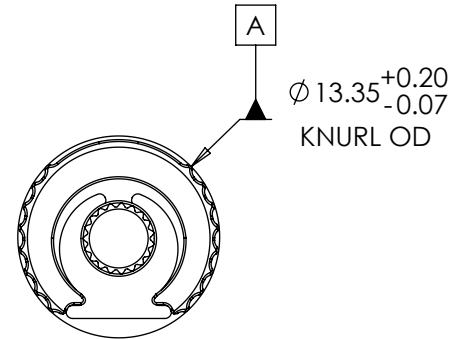
TI-330-X.XX-05 (DUAL ENDED KNURLED SHAFT)



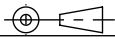
TORQUE HOUSING



DUAL ENDED KNURLED SHAFT



- INTENDED FOR PRESS FIT INTO METALS. CONTACT REELL FOR OTHER MOUNTING OPTIONS.
- APPROXIMATE WEIGHT: 18.06g

	ECO NO: 08271	PART LIFECYCLE: RELEASED	
	APPROVED BY: CHRISTOPHER HAHN	DEVELOPMENT CYCLE: PRODUCTION	
	APPROVED DATE: 25JUL25	DESCRIPTION:	
	PROJECT NO: 10619		
REELL PRECISION MANUFACTURING 1259 WILLOW LAKE BOULEVARD SAINT PAUL, MINNESOTA 55110-5103, USA	ENGINEER: TIM JENUM	SALES DRAWING	
	DRAWN BY: TIM JENUM		
THIS PRINT IS THE CONFIDENTIAL PROPERTY OF REELL PRECISION MFG.	THIRD ANGLE PROJECTION	PART NO: TI-330	
		SCALE: 2:1	REV: B
INTERPRET PRINT PER ASME Y14.5M-2009	DIMENSIONS: mm	DO NOT SCALE DRAWING	SHEET 4 OF 8

TI-330-X.XX-01 CUSTOMER INSTALLATION GEOMETRY															
CUSTOMER MATERIAL	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5	CF1	OD1	OD2	WALL	GAP
DIE CAST ZINC	13.26±0.05	13.7±0.05	5.1±0.05	4.93±0.03	4.5±0.03	22.2±0.1	3±0.1	1.5±0.1	3.5±0.1	11.5 MIN	0.3±0.1 X 45°±5°	18 MIN	8 MIN	2 MIN	(0.3)
DIE CAST ALUMINUM															
MILD STEEL	13.3±0.025			5.05±0.05	4.495±0.015										
WROUGHT ALUMINUM															

TI-330-X.XX-01 (KNURLED SHAFT) MOUNTING RECOMMENDATION

INSTALLATION RAM TO CONTACT BOTH TORQUE HOUSING & SHAFT DURING PRESS. MINIMUM DIAMETER OF 13.5mm.

SCALE 4 : 1

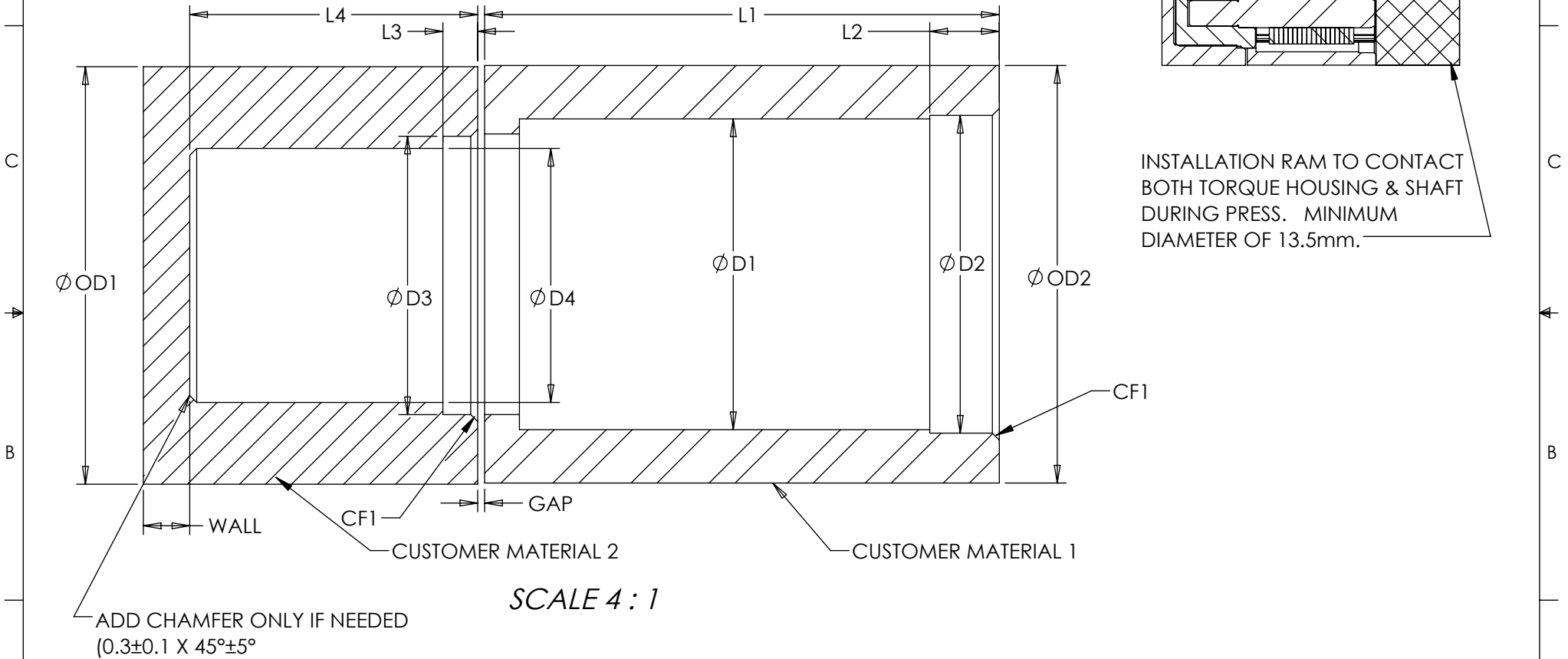
CUSTOMER MATERIAL 1 AND CUSTOMER MATERIAL 2 ALIGNMENT TO BE WITHIN 0.15mm IN ANY DIRECTION TO ENSURE PRODUCT PERFORMANCE.

SPECIFICATIONS SUBJECT TO CHANGE

REEL PRECISION MANUFACTURING 1259 WILLOW LAKE BOULEVARD SAINT PAUL, MINNESOTA 55110-5103, USA	ECO NO: 08271	PART LIFECYCLE: RELEASED	
	APPROVED BY: CHRISTOPHER HAHN	DEVELOPMENT CYCLE: PRODUCTION	
	APPROVED DATE: 25JUL25	DESCRIPTION: SALES DRAWING	
	PROJECT NO: 10619		
THIS PRINT IS THE CONFIDENTIAL PROPERTY OF REEL PRECISION MFG.	ENGINEER: TIM JENUM	PART NO: TI-330	REV: B
	DRAWN BY: TIM JENUM		
	THIRD ANGLE PROJECTION 		
INTERPRET PRINT PER ASME Y14.5M-2009	DIMENSIONS: mm	SCALE: 2:1	DO NOT SCALE DRAWING
			SHEET 5 OF 8

T1-330-X.XX-02 CUSTOMER INSTALLATION GEOMETRY													
CUSTOMER MATERIAL	D1	D2	D3	D4	L1	L2	L3	L4	CF1	OD1	OD2	WALL	GAP
DELTRIN	13.05±0.05	13.7±0.05	12±0.03	11.3±0.03	22.2±0.1	3.0±0.1	1.5±0.1	12.5 MIN	0.3±0.1 X 45°±5°	18 MIN	18 MIN	2 MIN	(0.3)

TI-330-X.XX-02 (KNURLED ADAPTER) MOUNTING RECOMMENDATION



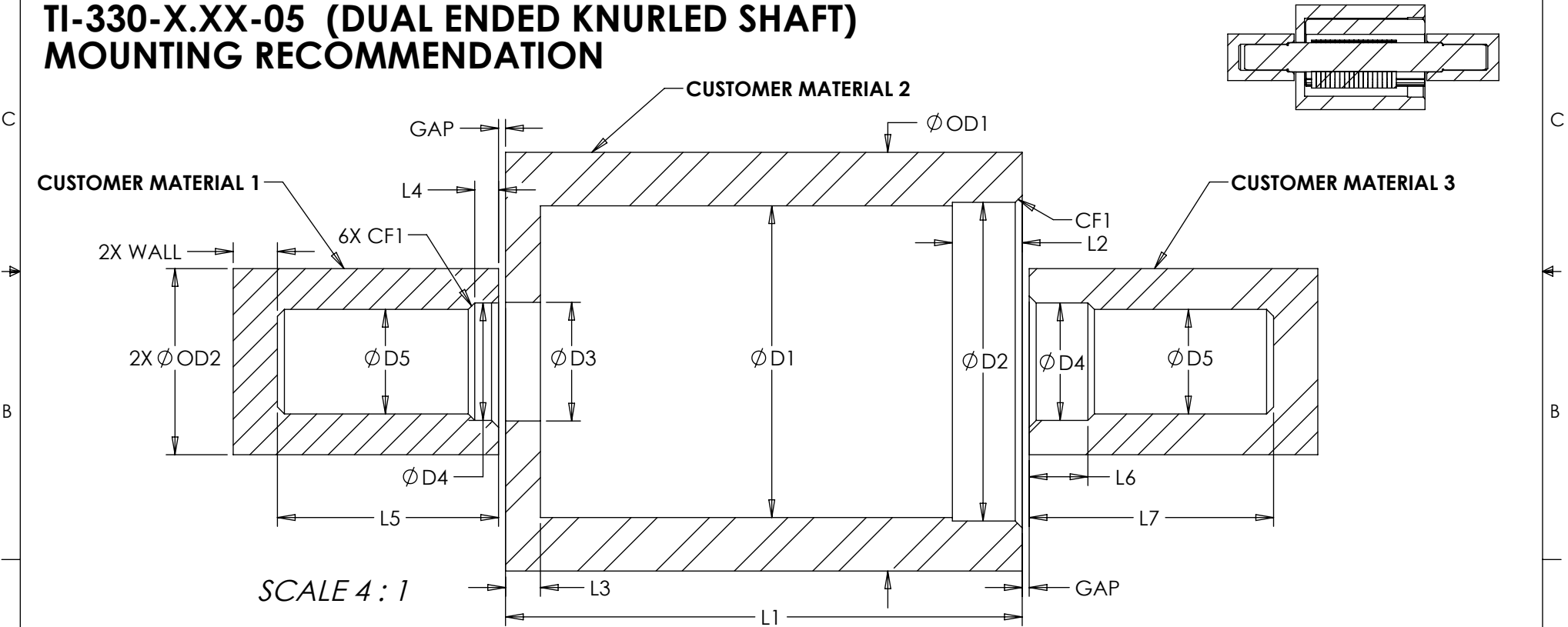
CUSTOMER MATERIAL 1 AND CUSTOMER MATERIAL 2 ALIGNMENT TO BE WITHIN 0.15mm IN ANY DIRECTION TO ENSURE PRODUCT PERFORMANCE.

REELL PRECISION MANUFACTURING 1259 WILLOW LAKE BOULEVARD SAINT PAUL, MINNESOTA 55110-5103, USA	ECO NO: 08271	PART LIFECYCLE: RELEASED	
	APPROVED BY: CHRISTOPHER HAHN	DEVELOPMENT CYCLE: PRODUCTION	
	APPROVED DATE: 25JUL25	DESCRIPTION: SALES DRAWING	
	PROJECT NO: 10619		
THIS PRINT IS THE CONFIDENTIAL PROPERTY OF REELL PRECISION MFG. INTERPRET PRINT PER ASME Y14.5M-2009	ENGINEER: TIM JENUM	PART NO: TI-330 REV: B	
	DRAWN BY: TIM JENUM		
	THIRD ANGLE PROJECTION 	SCALE: 2:1	DO NOT SCALE DRAWING
DIMENSIONS: mm		SHEET 6 OF 8	

TI-330-X.XX-01 CUSTOMER INSTALLATION GEOMETRY

CUSTOMER MATERIAL	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	CF1	OD1	OD2	WALL	GAP
DIE CAST ZINC	13.26±0.05	13.7±0.05	5.1±0.05	4.93±0.03	4.5±0.03	22.2±0.1	3±0.1	1.5±0.1	1±0.1	9.5 MIN	2.5±0.1	11 MIN	0.3±0.1 X 45°±5°	18 MIN	8 MIN	2 MIN	(0.3)
DIE CAST ALUMINUM				5.05±0.05	4.495±0.015												
MILD STEEL	13.3±0.025																
WROUGHT ALUMINUM																	

TI-330-X.XX-05 (DUAL ENDED KNURLED SHAFT) MOUNTING RECOMMENDATION



SCALE 4 : 1

CUSTOMER MATERIAL 1, CUSTOMER MATERIAL 2, AND CUSTOMER MATERIAL 3 ALIGNMENT TO BE WITHIN 0.15mm IN ANY DIRECTION TO ENSURE PRODUCT PERFORMANCE.
SPECIFICATIONS SUBJECT TO CHANGE

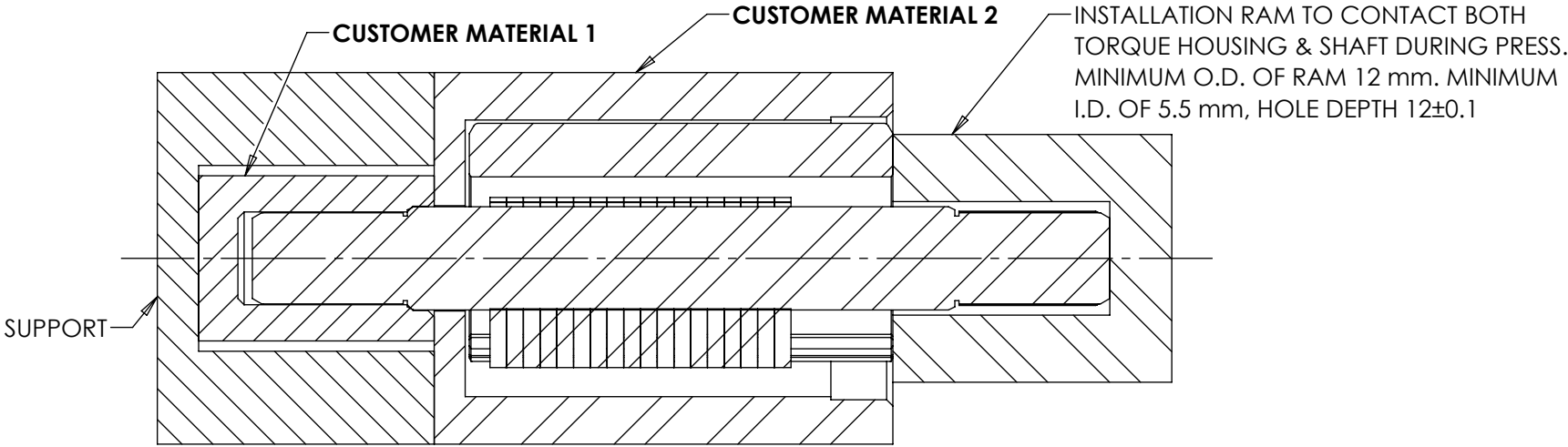


ECO NO: 08271	PART LIFECYCLE: RELEASED
APPROVED BY: CHRISTOPHER HAHN	DEVELOPMENT CYCLE: PRODUCTION
APPROVED DATE: 25JUL25	DESCRIPTION:
PROJECT NO: 10619	SALES DRAWING
ENGINEER: TIM JENUM	PART NO: TI-330
DRAWN BY: TIM JENUM	REV: B
THIS PRINT IS THE CONFIDENTIAL PROPERTY OF REELL PRECISION MFG.	THIRD ANGLE PROJECTION
INTERPRET PRINT PER ASME Y14.5M-2009	DIMENSIONS: mm

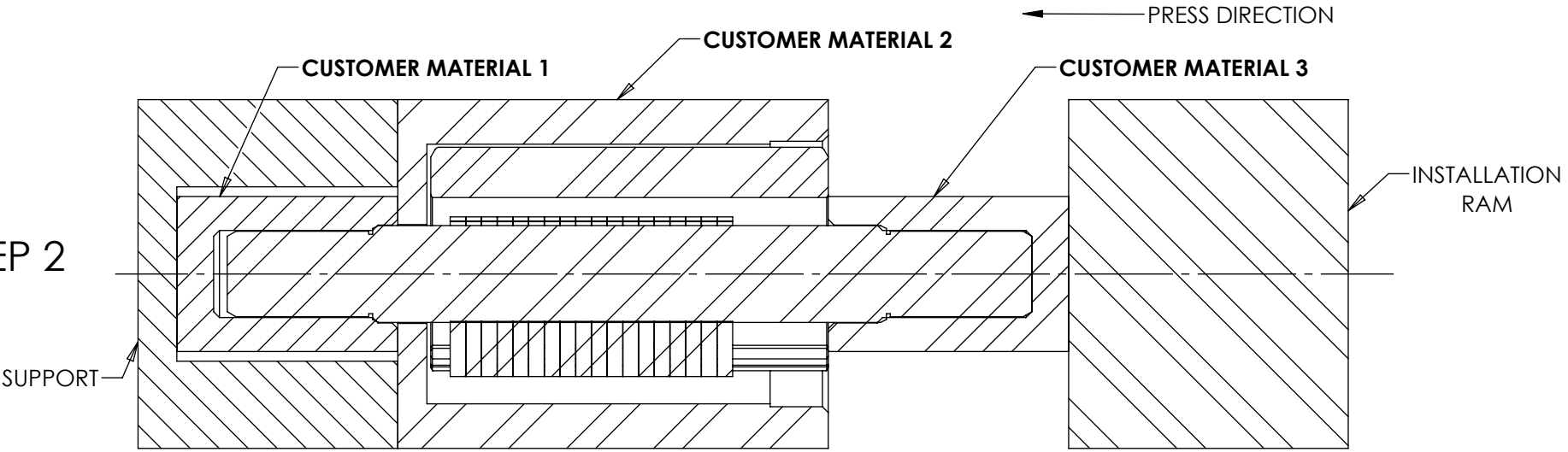
SCALE: 2:1	DO NOT SCALE DRAWING	SHEET 7 OF 8
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TI-330-X.XX-05 (DUAL ENDED KNURLED SHAFT)
INSTALLATION RECOMMENDATION

STEP 1



STEP 2



CUSTOMER MATERIAL 1, CUSTOMER MATERIAL 2, AND CUSTOMER MATERIAL 3 ALIGNMENT TO BE WITHIN 0.15mm IN ANY DIRECTION TO ENSURE PRODUCT PERFORMANCE.
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INTERPRET PRINT PER ASME Y14.5M-2009

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APPROVED BY: CHRISTOPHER HAHN
APPROVED DATE: 25JUL25
PROJECT NO: 10619
ENGINEER: TIM JENUM
DRAWN BY: TIM JENUM

THIRD ANGLE PROJECTION
DIMENSIONS: mm

PART LIFECYCLE: RELEASED
DEVELOPMENT CYCLE: PRODUCTION
DESCRIPTION:
SALES DRAWING
PART NO: TI-330
REV: B
SCALE: 2:1
DO NOT SCALE DRAWING
SHEET 8 OF 8