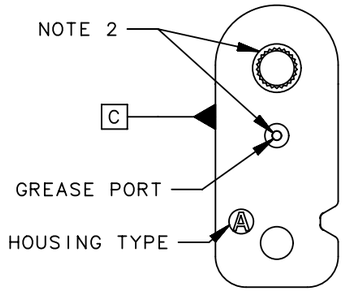
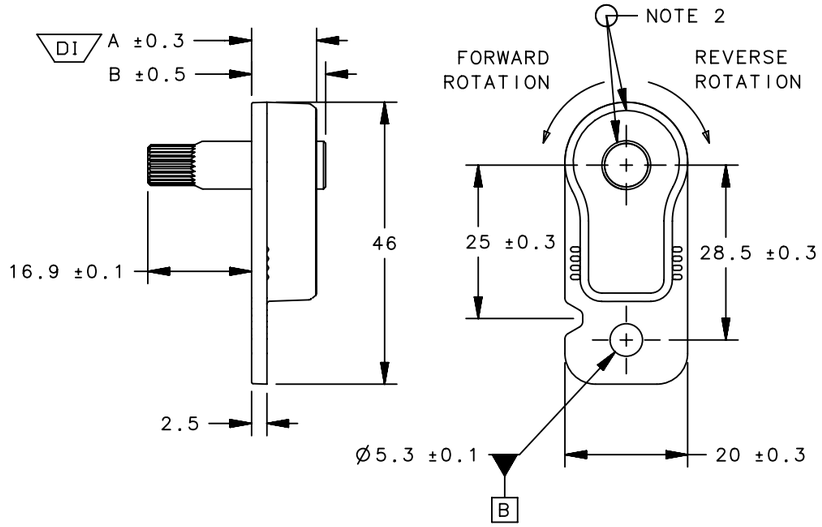
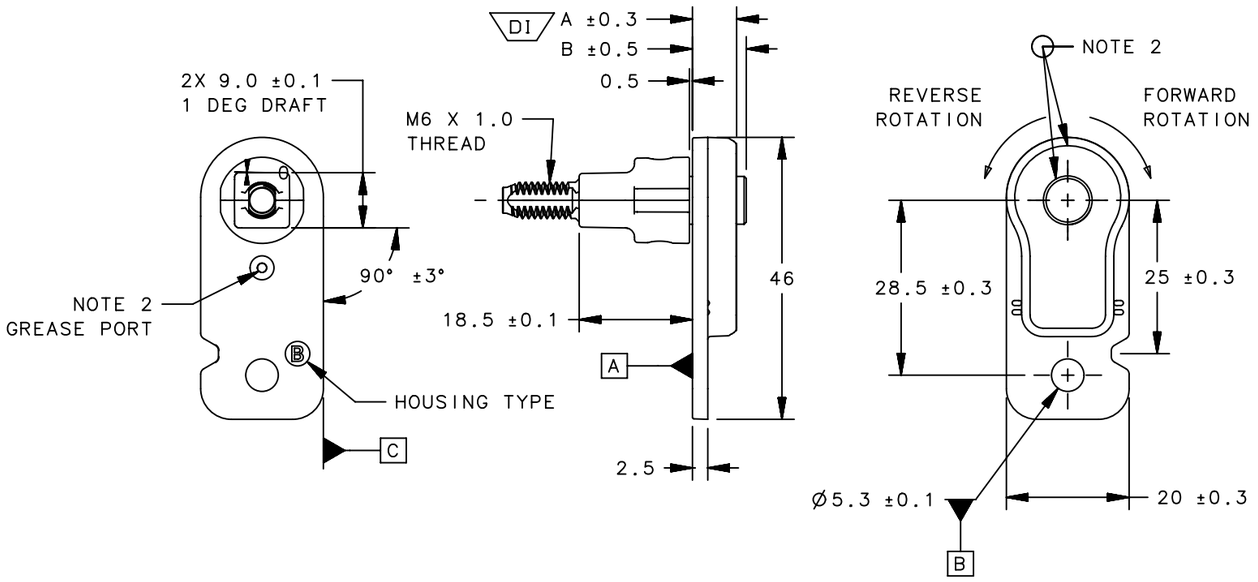
REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
C	18JUL2022	MTH/RMD	PRN: P2022-1311

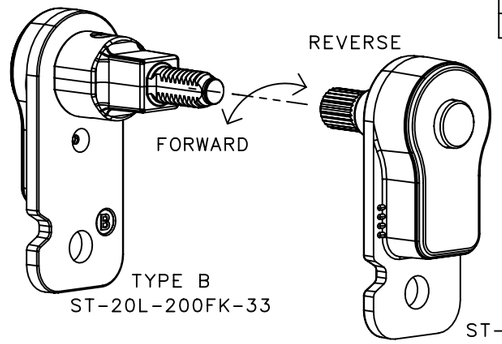
HOUSING TYPE A WITHOUT ADAPTER





HOUSING TYPE B WITH ADAPTER





TYPE B
ST-20L-200FK-33

TYPE A
ST-20L-400FA-33

PART NUMBER	HOUSING	ADAPTER	DIM A mm	DIM B mm	FORWARD ROTATION STATIC TORQUE Nm (in-lb) C1	REVERSE ROTATION STATIC TORQUE Nm (in-lb) C1
ST-20L-100FA-33	A	–	7.2	8.8	1.0 (8.85) ± 20%	0.75 (6.65) ± 25%
ST-20L-100FB-33	B	–	7.2	8.8	1.0 (8.85) ± 20%	0.75 (6.65) ± 25%
ST-20L-100FJ-33	A	YES	7.2	8.8	1.0 (8.85) ± 20%	0.75 (6.65) ± 25%
ST-20L-100FK-33	B	YES	7.2	8.8	1.0 (8.85) ± 20%	0.75 (6.65) ± 25%
ST-20L-100RA-33	A	–	7.2	8.8	0.75 (6.65) ± 25%	1.0 (8.85) ± 20%
ST-20L-100RB-33	B	–	7.2	8.8	0.75 (6.65) ± 25%	1.0 (8.85) ± 20%
ST-20L-100RJ-33	A	YES	7.2	8.8	0.75 (6.65) ± 25%	1.0 (8.85) ± 20%
ST-20L-100RK-33	B	YES	7.2	8.8	0.75 (6.65) ± 25%	1.0 (8.85) ± 20%
ST-20L-200FA-33	A	–	7.2	8.8	2.0 (17.70) ± 20%	1.5 (13.30) ± 25%
ST-20L-200FB-33	B	–	7.2	8.8	2.0 (17.70) ± 20%	1.5 (13.30) ± 25%
ST-20L-200FJ-33	A	YES	7.2	8.8	2.0 (17.70) ± 20%	1.5 (13.30) ± 25%
ST-20L-200FK-33	B	YES	7.2	8.8	2.0 (17.70) ± 20%	1.5 (13.30) ± 25%
ST-20L-200RA-33	A	–	7.2	8.8	1.5 (13.30) ± 25%	2.0 (17.70) ± 20%
ST-20L-200RB-33	B	–	7.2	8.8	1.5 (13.30) ± 25%	2.0 (17.70) ± 20%
ST-20L-200RJ-33	A	YES	7.2	8.8	1.5 (13.30) ± 25%	2.0 (17.70) ± 20%
ST-20L-200RK-33	B	YES	7.2	8.8	1.5 (13.30) ± 25%	2.0 (17.70) ± 20%
ST-20L-200SA-33	A	–	7.2	8.8	1.75 (15.50) ± 20%	
ST-20L-200SB-33	B	–	7.2	8.8	1.75 (15.50) ± 20%	
ST-20L-200SJ-33	A	YES	7.2	8.8	1.75 (15.50) ± 20%	
ST-20L-200SK-33	B	YES	7.2	8.8	1.75 (15.50) ± 20%	
ST-20L-300FA-33	A	–	8.9	12.1	3.0 (26.55) ± 20%	2.25 (19.90) ± 25%
ST-20L-300FB-33	B	–	8.9	12.1	3.0 (26.55) ± 20%	2.25 (19.90) ± 25%
ST-20L-300FJ-33	A	YES	8.9	12.1	3.0 (26.55) ± 20%	2.25 (19.90) ± 25%
ST-20L-300FK-33	B	YES	8.9	12.1	3.0 (26.55) ± 20%	2.25 (19.90) ± 25%
ST-20L-300RA-33	A	–	8.9	12.1	2.25 (19.90) ± 25%	3.0 (26.55) ± 20%
ST-20L-300RB-33	B	–	8.9	12.1	2.25 (19.90) ± 25%	3.0 (26.55) ± 20%
ST-20L-300RJ-33	A	YES	8.9	12.1	2.25 (19.90) ± 25%	3.0 (26.55) ± 20%
ST-20L-300RK-33	B	YES	8.9	12.1	2.25 (19.90) ± 25%	3.0 (26.55) ± 20%
ST-20L-400FA-33	A	–	10.6	12.1	4.0 (35.40) ± 20%	3.0 (26.55) ± 25%
ST-20L-400FB-33	B	–	10.6	12.1	4.0 (35.40) ± 20%	3.0 (26.55) ± 25%
ST-20L-400FJ-33	A	YES	10.6	12.1	4.0 (35.40) ± 20%	3.0 (26.55) ± 25%
ST-20L-400FK-33	B	YES	10.6	12.1	4.0 (35.40) ± 20%	3.0 (26.55) ± 25%
ST-20L-400RA-33	A	–	10.6	12.1	3.0 (26.55) ± 25%	4.0 (35.40) ± 20%
ST-20L-400RB-33	B	–	10.6	12.1	3.0 (26.55) ± 25%	4.0 (35.40) ± 20%
ST-20L-400RJ-33	A	YES	10.6	12.1	3.0 (26.55) ± 25%	4.0 (35.40) ± 20%
ST-20L-400RK-33	B	YES	10.6	12.1	3.0 (26.55) ± 25%	4.0 (35.40) ± 20%
ST-20L-400SA-33	A	–	10.6	12.1	3.5 (31.00) ± 20%	
ST-20L-400SB-33	B	–	10.6	12.1	3.5 (31.00) ± 20%	
ST-20L-400SJ-33	A	YES	10.6	12.1	3.5 (31.00) ± 20%	
ST-20L-400SK-33	B	YES	10.6	12.1	3.5 (31.00) ± 20%	

NOTES:
1 MATERIAL & FINISH
HOUSING AND ADAPTER - ZINC ALLOY
SHAFTS AND TORQUE ELEMENT - HARDENED STEEL
COVER PLATE - GALVANIZED STEEL
2. LUBRICANT MAY BE PRESENT ON EXPOSED SURFACES.
3. LUBRICANT IS HYDRO-CARBON BASED.
4. LIMIT INSTALL TORQUE ON M6 NUT OF ADAPTER TO 3 ± 0.4 Nm.

CPB NUMBER 2019-0663

SURFACE AREA

VOLUME

PROPRIETARY ITEM

THIRD ANGLE PROJECTION

MILLIMETERS [IN]

TOLERANCES UNLESS OTHERWISE NOTED

ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.

PER ASME Y14.5M-1994

southco®
CONNECT·CREATE·INNOVATE

DESCRIPTION
HINGE & CONTROLLED MOTION DEVICE

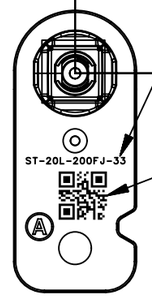
SIZE	SYSTEM	DWG NO.
A3	NX	J-ST-20L

DRAWN BY	DATE	SCALE	SHEET
MTH	18SEP2020	1:1	1 OF 2

NOTES: 1. ASSEMBLY
A. CUSTOMER ASSEMBLY DESIGN MUST LIMIT AXIAL TRAVEL TO 0.5 mm.
2. HINGE HOUSING DESIGN CONSTRAINTS
A. SECURE HINGE HOUSING A DATUM TO SUBSTRUCTURE WITH FASTENER TO PREVENT ROTATION, MAINTAIN AXIAL ALIGNMENT AND PREVENT HOUSING FROM MOVING AXIALLY ON SHAFT.
RECOMMEND M5 OR 5/16 INCH FASTENERS.
B. INCLUDE FEATURES TO PREVENT HOUSING FROM ROTATING.
1. FOR PLASTIC AND DIE CAST MATERIALS, USE (A) HARD STOP AND (B) CRUSH RIBS RPRESSED-IN PIN TO PREVENT HINGE HOUSING FROM ROTATING.
2. FOR SHEET METAL MATERIAL, USE LANCE AND/OR PRESSED-IN PINS TO PREVENT HINGE HOUSING FROM ROTATING.
C. USE POKA-YOKE FEATURE TO IDENTIFY PROPER DIRECTION OF HINGE AND TORQUE DIRECTION.
3. HINGE ROTATING ARM DESIGN CONSTRAINT
A. HINGE WITH ADAPTER - INTENDED FOR PLASTIC MATERIAL.
UTILZE 2 SIDES OF SQUARE ADAPTER AS HARD STOPS AND CRUSH RIBS ON OPPOSING SURFACES.
B. HINGE WITHOUT ADAPTER - INTENDED FOR SHEET METAL AND DIE CAST MATERIALS.
USE SUGGESTED INTERFERENCE HOLE TO PRESS KNURLED SHAFT INTO. WE RECOMMEND USERS REQUEST PRODUCT SAMPLE FOR TESTING TO DETERMINE SUITABILITY OF PRODUCT IN PARTICULAR APPLICATION.

REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
C	18JUL2022	MTH/RMD	PRN: P2022-1311

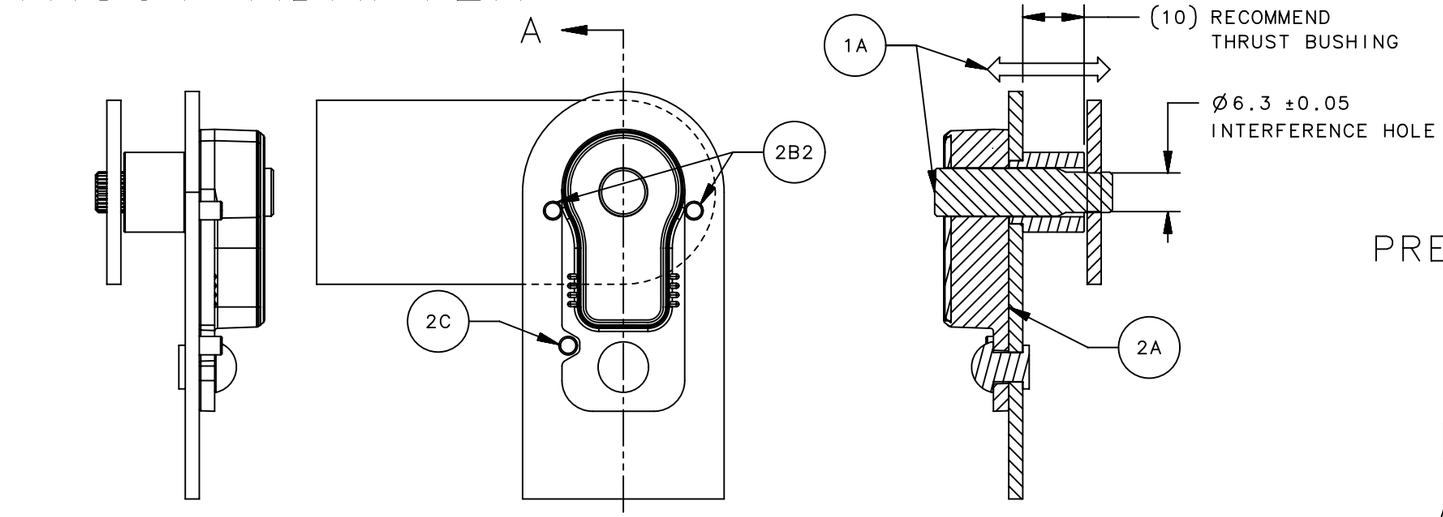
PART MARKING



READABLE TEXT, 1mm HEIGHT MIN
ST-20L-X00YZ-33
X = TARGET TORQUE
Y = F, R, OR S
Z = A. B. J, OR K

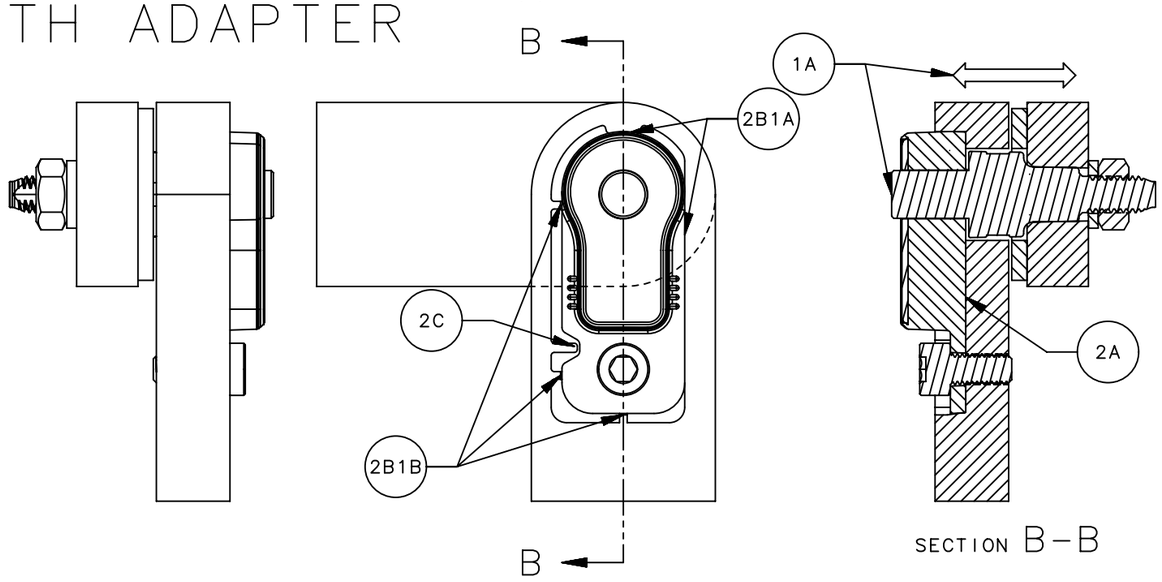
QR CODE 8.0mm X 8.0mm MIN
YYMMDDHHMMSS1234567890<u>20LX00YZ</u>
(SOUTHCO SERIAL NUMBER+<u>TRUNCATED PART NUMBER</u>)

WITHOUT ADAPTER



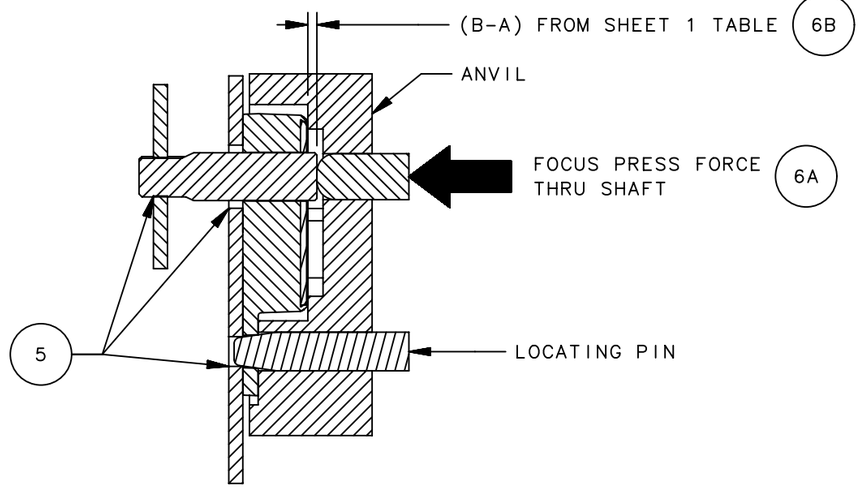
SECTION A-A

WITH ADAPTER



SECTION B-B

PRESS KNURLED SHAFT



PRESS NON-ADAPTER ASSEMBLIES NOTES:
4. FOR INITIAL PROGRAMS, CONTACT SOUTHCO ENGINEERING FOR DESIGN SUPPORT.
5. LOCATE BASE AND ARM FOR PROPER HINGE ALIGNMENT.
6. ANVIL/PUNCH GEOMETRY TO:
A. FOCUS PRESS FORCE THROUGH SHAFT
B. KEEP HINGE ASSEMBLY DIMENSION IN ANVIL GEOMETRY AND SHAFT RAM POSITION.

CPB NUMBER 2019-0663	THIRD ANGLE PROJECTION	southco® CONNECT·CREATE·INNOVATE
	MILLIMETERS [IN]	DESCRIPTION HINGE & CONTROLLED MOTION DEVICE
SURFACE AREA XXXXXmm²	TOLERANCES UNLESS OTHERWISE NOTED	SIZE A3 / SYSTEM NX / DWG NO. J-ST-20L
VOLUME XXXXXmm³	ALL DIMENSIONS WITHOUT TOLERANCES ARE FOR REFERENCE ONLY.	DRAWN BY MTH / DATE 18SEP2020 / SCALE 1:1 / SHEET 2 OF 2
PROPRIETARY ITEM	PER ASME Y14.5M-1994	