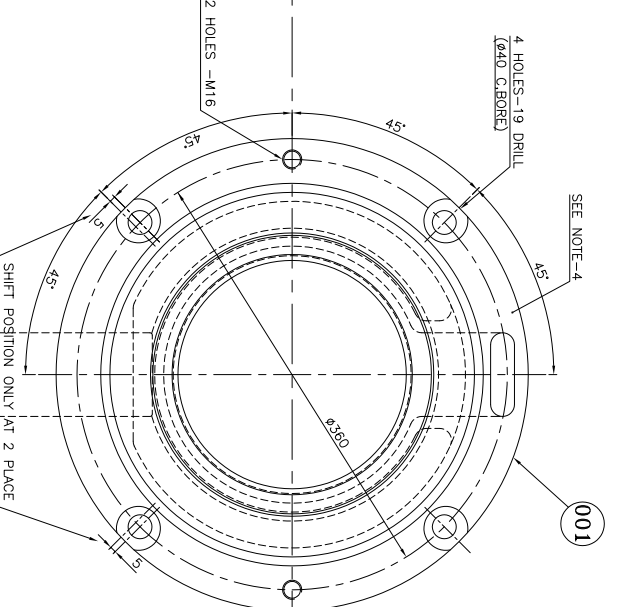
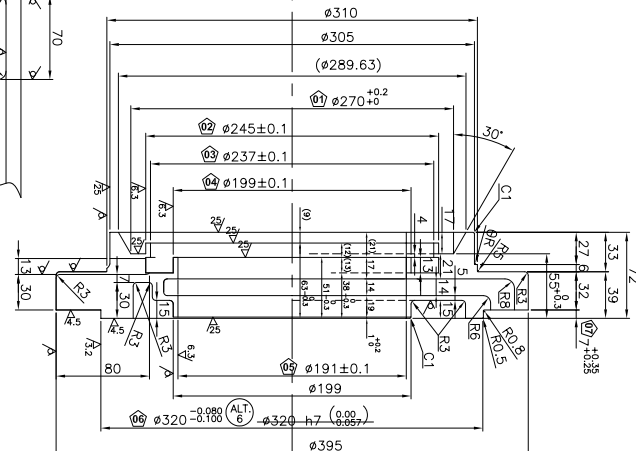
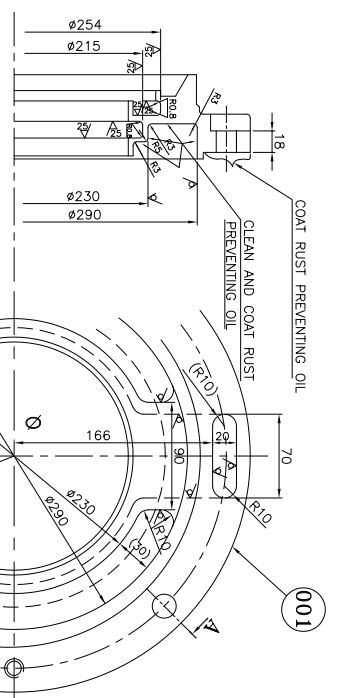
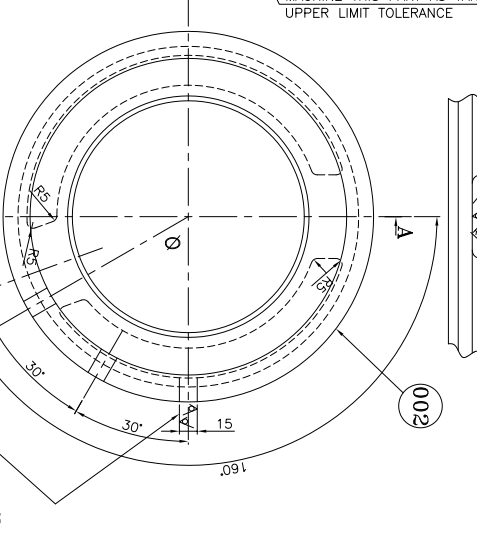
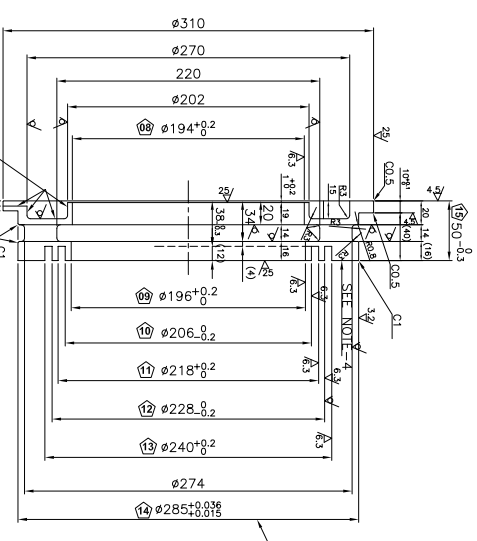


150 08 67 637 1 ON 380



| ITEM NO. | TOOL NO. | DESCRIPTION |
|----------|-------------------------|-------------|
| 1414336 | SNIP GAUGE 7.0/2.5 | |
| 1414337 | SNIP GAUGE 1MM | |
| 1414338 | TRAINING SPIGOT | |
| 1414340 | GROOVE GAUGE EXT DEEP | |
| 1414341 | PROFILE GAUGE 30° TAPER | |
| 1414344 | GROOVE GAUGE EXT DEEP | |
| 1414346 | GROOVE GAUGE 4X12 DEEP | |
| 1414348 | DIL. JIG (FOR 11 HOLES) | |
| 1414350 | SNIP GAUGE 22.5 | |
| 1414352 | CALIPER GAUGE 285.2/200 | |
| 1414354 | GROOVE GAUGE 6.5X12 | |
| 1414355 | GROOVE GAUGE 4X13 DEEP | |
| 1414359 | SNIP GAUGE 50.2 | |
| 1414360 | SNIP GAUGE 4MM | |
| 1414361 | MILLING FIX. FOR 3 SLOT | |
| 1414362 | SNIP GAUGE 200W/2.0MM | |
| 1414363 | SNIP GAUGE 245X1 | |
| 1414364 | SNIP GAUGE 192X1 | |
| 1414365 | SNIP GAUGE 51.4 | |
| 1414366 | SNIP GAUGE 63.2 | |
| 1414367 | SNIP GAUGE 100.2 | |
| 1414368 | SNIP GAUGE 200.2 | |






| SURFACE ROUGHNESS | |
|-------------------|-----------------|
| FIELD OR ROUGH | MACHINED |
| 25/ | 6.3/ |
| 26/ | 2.5/ |
| 27/ | 1.6/ |
| 28/ | 0.8/ |
| 29/ | 0.4/ |
| 30/ | 0.2/ |
| 31/ | 0.1/ |
| 32/ | 0.05/ |
| 33/ | 0.025/ |
| 34/ | 0.0125/ |
| 35/ | 0.00625/ |
| 36/ | 0.003125/ |
| 37/ | 0.0015625/ |
| 38/ | 0.00078125/ |
| 39/ | 0.000390625/ |
| 40/ | 0.0001953125/ |
| 41/ | 0.00009765625/ |
| 42/ | 0.000048828125/ |

| MACHINING TOLERANCE | |
|---------------------|-----------|
| DIMENSION | TOLERANCE |
| 1 ≤ L ≤ 100 | ±0.3 |
| 100 < L ≤ 500 | ±0.5 |
| 500 < L ≤ 1000 | ±1.5 |
| 1000 < L | ±2.5 |

| REV. | DATE | CHANGED | BY | REASON |
|------|----------|---------|----|-----------------------------|
| 05 | 30.08.21 | CHANGED | 04 | REVISED TO NEW PATTERN NOS. |
| 04 | 17.08.13 | CHANGED | 04 | REVISED TO NEW PATTERN NOS. |
| 03 | 22.11.12 | CHANGED | 04 | REVISED TO NEW PATTERN NOS. |
| 02 | 13.10.12 | CHANGED | 04 | REVISED TO NEW PATTERN NOS. |
| 01 | 13.10.12 | CHANGED | 04 | REVISED TO NEW PATTERN NOS. |

| AFTER INSPECTION | |
|------------------|---------------------|
| RAW WT. | INNER BEARING COVER |
| 001 | 19.10 kg |
| 002 | 19.10 kg |
| 003 | 19.10 kg |
| 004 | 19.10 kg |
| 005 | 19.10 kg |
| 006 | 19.10 kg |
| 007 | 19.10 kg |
| 008 | 19.10 kg |
| 009 | 19.10 kg |
| 010 | 19.10 kg |
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| 012 | 19.10 kg |
| 013 | 19.10 kg |
| 014 | 19.10 kg |
| 015 | 19.10 kg |
| 016 | 19.10 kg |
| 017 | 19.10 kg |
| 018 | 19.10 kg |
| 019 | 19.10 kg |
| 020 | 19.10 kg |
| 021 | 19.10 kg |
| 022 | 19.10 kg |
| 023 | 19.10 kg |
| 024 | 19.10 kg |
| 025 | 19.10 kg |
| 026 | 19.10 kg |
| 027 | 19.10 kg |
| 028 | 19.10 kg |
| 029 | 19.10 kg |
| 030 | 19.10 kg |
| 031 | 19.10 kg |
| 032 | 19.10 kg |
| 033 | 19.10 kg |
| 034 | 19.10 kg |
| 035 | 19.10 kg |
| 036 | 19.10 kg |
| 037 | 19.10 kg |
| 038 | 19.10 kg |
| 039 | 19.10 kg |
| 040 | 19.10 kg |
| 041 | 19.10 kg |
| 042 | 19.10 kg |
| 043 | 19.10 kg |
| 044 | 19.10 kg |
| 045 | 19.10 kg |
| 046 | 19.10 kg |
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| 080 | 19.10 kg |
| 081 | 19.10 kg |
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| 099 | 19.10 kg |
| 100 | 19.10 kg |
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| 404 | 19.10 kg |
| 405 | 19.10 kg |
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| 407 | 19.10 kg |
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| 409 | 19.10 kg |
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| 415 | 19.10 kg |
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| 417 | 19.10 kg |
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| 419 | 19.10 kg |
| 420 | 19.10 kg |
| 421 | 19.10 kg |
| 422 | 19.10 kg |
| 423 | 19.10 kg |
| 424 | 19 |

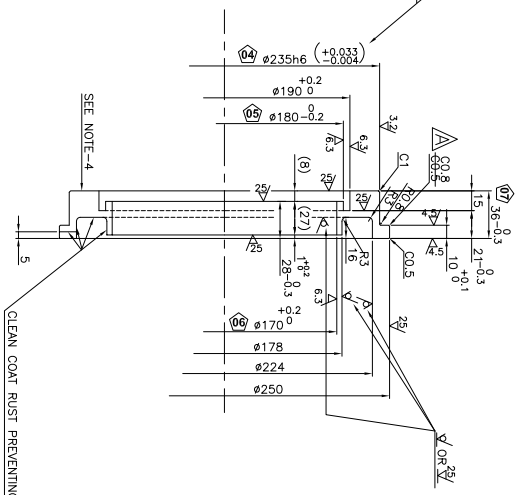
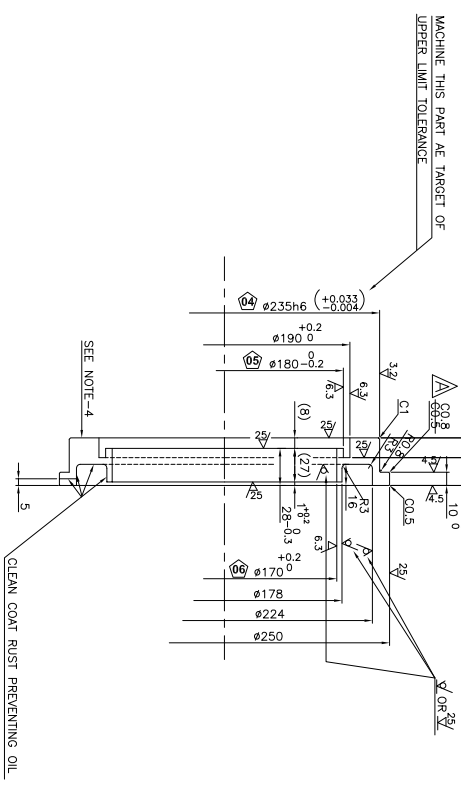
| SURFACE ROUGHNESS | | | |
|--------------------------|---|---|---|
| FIELD OR ROUGH GROUND |  |  |  |
| | 25 | 6.3 | 2.5 |
| | ROUGH | FINISHED | FINE FINISHED |
| | MACHINED | MACHINED | MACHINED |

Technical drawing of a circular plate with the following features:

- Overall Dimensions:** Outer diameter $\phi 300$, inner diameter $\phi 35 \pm 0$.
- Holes:**
 - 4 HOLES-19 DRILL ($\phi 40$ C.BORE)
 - 2 HOLES M-16
 - HOLE #6
- Dimensions and Radii:**
 - R106 (radius from center to outer edge)
 - R10 (radius from center to inner hole)
 - 5 (thickness)
 - 51 (distance from center to hole center)
 - 45° (angle between lines)
- Notes:**
 - SEE NOTE-4
 - SHIFT POSITION ONLY AT 2 PLACE
- Material:** AL7

Technical drawing of a shaft assembly. The drawing shows a shaft with various diameters, lengths, and tolerances. Key features include:

- Overall Dimensions:**
 - Total length: 43
 - Shaft diameter: $\phi 252$
 - Inner hole diameter: $\phi 260$ with tolerances -0.080 to -0.100 and 0 to 0.032 .
- Surface Features:**
 - Surface texture: $R_{a} 3.2$
 - Surface texture: $R_{a} 6.3$
 - Surface texture: $R_{a} 12.5$
 - Surface texture: $R_{a} 25$
 - Surface texture: $R_{a} 50$
 - Surface texture: $R_{a} 100$
 - Surface texture: $R_{a} 200$
 - Surface texture: $R_{a} 400$
 - Surface texture: $R_{a} 800$
 - Surface texture: $R_{a} 1600$
 - Surface texture: $R_{a} 3200$
 - Surface texture: $R_{a} 6400$
 - Surface texture: $R_{a} 12800$
 - Surface texture: $R_{a} 25600$
 - Surface texture: $R_{a} 51200$
 - Surface texture: $R_{a} 102400$
 - Surface texture: $R_{a} 204800$
 - Surface texture: $R_{a} 409600$
 - Surface texture: $R_{a} 819200$
 - Surface texture: $R_{a} 1638400$
 - Surface texture: $R_{a} 3276800$
 - Surface texture: $R_{a} 6553600$
 - Surface texture: $R_{a} 13107200$
 - Surface texture: $R_{a} 26214400$
 - Surface texture: $R_{a} 52428800$
 - Surface texture: $R_{a} 104857600$
 - Surface texture: $R_{a} 209715200$
 - Surface texture: $R_{a} 419430400$
 - Surface texture: $R_{a} 838860800$
 - Surface texture: $R_{a} 1677721600$
 - Surface texture: $R_{a} 3355443200$
 - Surface texture: $R_{a} 6710886400$
 - Surface texture: $R_{a} 13421772800$
 - Surface texture: $R_{a} 26843545600$
 - Surface texture: $R_{a} 53687091200$
 - Surface texture: $R_{a} 107374182400$
 - Surface texture: $R_{a} 214748364800$
 - Surface texture: $R_{a} 429496729600$
 - Surface texture: $R_{a} 858993459200$
 - Surface texture: $R_{a} 1717986918400$
 - Surface texture: $R_{a} 3435973836800$
 - Surface texture: $R_{a} 6871947673600$
 - Surface texture: $R_{a} 13743895347200$
 - Surface texture: $R_{a} 27487790694400$
 - Surface texture: $R_{a} 54975581388800$
 - Surface texture: $R_{a} 109951162777600$
 - Surface texture: $R_{a} 219902325555200$
 - Surface texture: $R_{a} 439804651110400$
 - Surface texture: $R_{a} 879609302220800$
 - Surface texture: $R_{a} 1759218604441600$
 - Surface texture: $R_{a} 3518437208883200$
 - Surface texture: $R_{a} 7036874417766400$
 - Surface texture: $R_{a} 14073748835532800$
 - Surface texture: $R_{a} 28147497671065600$
 - Surface texture: $R_{a} 56294995342131200$
 - Surface texture: $R_{a} 112589990684262400$
 - Surface texture: $R_{a} 225179981368524800$
 - Surface texture: $R_{a} 450359962737049600$
 - Surface texture: $R_{a} 900719925474099200$
 - Surface texture: $R_{a} 1801439850948198400$
 - Surface texture: $R_{a} 3602879701896396800$
 - Surface texture: $R_{a} 7205759403792793600$
 - Surface texture: $R_{a} 14411518807585587200$
 - Surface texture: $R_{a} 28823037615171174400$
 - Surface texture: $R_{a} 57646075230342348800$
 - Surface texture: $R_{a} 115292150460684697600$
 - Surface texture: $R_{a} 230584300921369395200$
 - Surface texture: $R_{a} 461168601842738790400$
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 - Surface texture: $R_{a} 3689348814741910323200$
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 - Surface texture: $R_{a} 14757395258967641292800$
 - Surface texture: $R_{a} 29514790517935282585600$
 - Surface texture: $R_{a} 59029581035870565171200$
 - Surface texture: $R_{a} 118059162071741130342400$
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 - Surface texture: $R_{a} 472236648286964521369600$
 - Surface texture: $R_{a} 944473296573929042739200$
 - Surface texture: $R_{a} 1888946593147858085478400$
 - Surface texture: $R_{a} 3777893186295716170956800$
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 - Surface texture: $R_{a} 15111572745182864683827200$
 - Surface texture: $R_{a} 30223145490365729367654400$
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 - Surface texture: $R_{a} 120892581961462917470617600$
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 - Surface texture: $R_{a} 483570327845851669882470400$
 - Surface texture: $R_{a} 967140655691703339764940800$
 - Surface texture: $R_{a} 1934281311383406679529881600$
 - Surface texture: $R_{a} 3868562622766813359059763200$
 - Surface texture: $R_{a} 7737125245533626718119526400$
 - Surface texture: $R_{a} 15474250491067253436239052800$
 - Surface texture: $R_{a} 30948500982134506872478105600$
 - Surface texture: $R_{a} 61897001964269013744956211200$
 - Surface texture: $R_{a} 123794003928538027489912422400$
 - Surface texture: $R_{a} 247588007857076054979824844800$
 - Surface texture: $R_{a} 495176015714152109959649689600$
 - Surface texture: $R_{a} 990352031428304219919299379200$
 - Surface texture: $R_{a} 1980704062856608439838598758400$
 - Surface texture: $R_{a} 3961408125713216879677197516800$
 - Surface texture: $R_{a} 7922816251426433759354395033600$
 - Surface texture: $R_{a} 15845632502852867518708790067200$
 - Surface texture: $R_{a} 31691265005705735037417580134400$
 - Surface texture: $R_{a} 63382530011411470074835160268800$
 - Surface texture: $R_{a} 126765060022822940149670320537600$
 - Surface texture: $R_{a} 253530120045645880299340641075200$
 - Surface texture: $R_{a} 507060240091291760598681282150400$
 - Surface texture: $R_{a} 1014120480182583521197362564300800$
 - Surface texture: $R_{a} 2028240960365167042394725128601600$
 - Surface texture: R_{a}

[illegible][illegible]

| | | | | | | | | | | | |
|------------------------------|-----|---------|----|------|------|-----|-------|--------|--------------------|----------|--------------|
| DATE | REV | CHANGED | BY | DATE | UNIT | QTY | SCALE | WEIGHT | REF. TO ASSY. Dwg. | ITEM NO. | NO. OF PAGES |
| 01/07/01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 | 01 |
| TOOL LIST WAS NOT ON | | | | | | | | | | | |
| MODIFIED | | | | | | | | | | | |
| TITLE | | | | | | | | | | | |
| BEARING COVER | | | | | | | | | | | |
| (COMPARATOR SIDE) | | | | | | | | | | | |
| DRAWING NO. 1 439 44 60 052 | | | | | | | | | | | |
| SHEET NO. 01 NO. OF SHEET 07 | | | | | | | | | | | |

NOTES:-

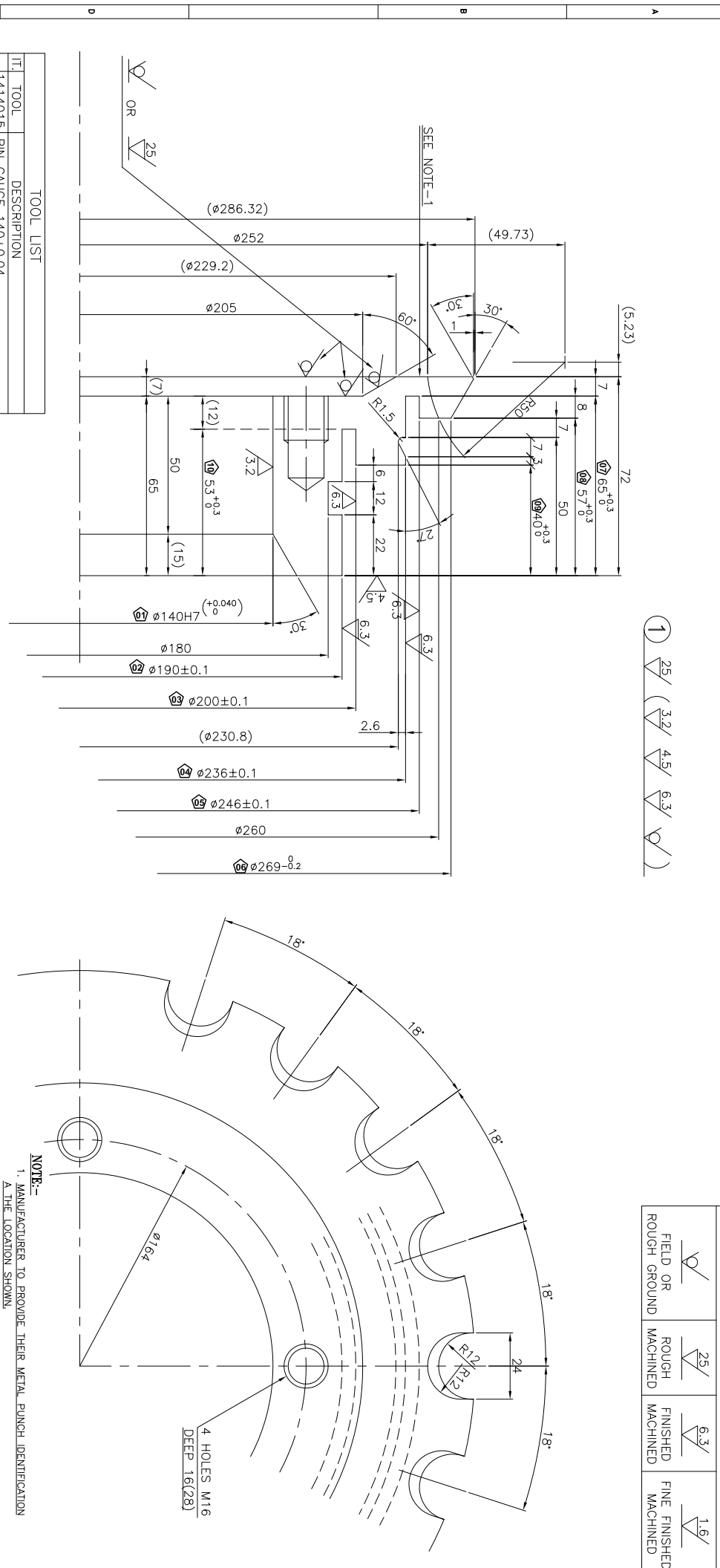
1. MATERIAL OF ITEM NO. 1&2 - CARBON STEEL CASTING TO JIS:G5101 Q.3, SC46 OR IS:1030, 88, G-230-454W,
2. MANUFACTURING, PROCEDURES, TESTS, INSPECTION ETC. SHALL CONFORM TO SPEC TMD5616A1(EST REC)
3. FINISHED PRODUCT SHALL BE COATED WITH ANTI-RUST VARNISH/ COMPOUND AFTER INSPECTION AND SUITABLY PACKED TO PREVENT TRANSIT AND LONG-TIME STORING-DAMAGE.
4. MANUFACTURER TO PROVIDE THEIR METAL PLANCH IDENTIFICATION MARK AT THE LOCATION SHOWN ON IT. 001 & 002.
5. METALLURGICAL TEST FOR PROTOTYPE AND SHALL BE CARRIED OUT BY BHFL AND FOR BULK SUPPLIES METALLURGICAL TEST SHALL BE DONE BY Q. BHFL OR BHFLR OR BHFL APPROVED LABORATORY TO BE WITNESSED BY REPRESENTATIVE OF BHFL INSPECTION CELL IN CASE OF DO.
6. ALL 7 TYPES OF MARKED DIMENSION ARE CRITICAL TO QUALITY(CRQ) & NO. OF CTD DIMENSION ARE INSCRIBED IN \triangle 0.001/0.07

NOTES:-

| | |
|-------------------------|-----|
| 723604/2022/HEP-MNX3540 | |
| INVENTORY NO. | SIG |

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SIZE ALL



| IT | TOOL | DESCRIPTION |
|---------|------------------------|----------------------------------|
| 1414015 | PIN GAUGE | 140±0.04 |
| 1414915 | 30° PROFILE GAUGE | FOR O/D |
| 1414916 | 30° DEG. PROFILE GAUGE | FOR I/D |
| 1414917 | PROFILE GAUGE | 27x1.5Px2.6 DEEP |
| 1414923 | SNAP GAUGE | 72 ±0.1 |
| 1414924 | PROFILE GAUGE | 60° |
| 1414925 | SNAP GAUGE | 65 MM |
| 1414926 | MILLING FIXTURE | |
| 1579365 | LENGTH GAUGE | 65 ^{+0.3} ₋₀ |
| 1579366 | LENGTH GAUGE | 57 ^{+0.3} ₋₀ |
| 1579351 | LENGTH GAUGE | 40 ^{+0.3} ₋₀ |
| 1579368 | LENGTH GAUGE | 53 ^{+0.3} ₋₀ |
| 1579369 | CAL. GAUGE | 236±0.1 |
| 1579370 | CAL. GAUGE | 190±0.1 |
| 1414920 | GROOVE CHECKING GAUGE | |
| 1471015 | DRILL JIG | |

| REV. | DATE | ALTERED | CHK. | REV. | DATE | ALTERED | CHK. |
|------------------------------------|----------|---------|------|-----------------------------|----------|---------|----------|
| 03 | 17.06.13 | CHECKED | 02 | 21.09.10 | APPROVED | 01 | 30.06.11 |
| ZONE | | | | ZONE | | | |
| CRITICAL TO QUALITY DIMENSIONS ARE | | | | TOOL NO.1579351 WAS NOT ON. | | | |
| MARKED & NUMBERED. NOTE-9 ADDED | | | | | | | |

| | | | |
|--|-----------|--|-----------|
| ROLLED STEEL TO IS:2062-92 GR. B (NORMALISED) -Gr.410-WSH-42W- OR- CARBON STEEL TO IS:7283-74 MATERIAL COMPOSITION TO IS:5517-66 Gr-C45 | | IS:2062-92 GR. B (NORMALISED) -Gr.410-WSH-42W- OR- CARBON STEEL TO IS:7283-74 MATERIAL COMPOSITION TO IS:5517-66 Gr-C45 | |
| VAR. NO. | ITEM NO. | VAR. NO. | ITEM NO. |
| 59 | 001 | 59 | 001 |
| QTY | REMARKS | QTY | REMARKS |
| 64 | DEFLECTOR | 64 | DEFLECTOR |

| REV. | DATE | ALTERED | CHK. | REV. | DATE | ALTERED | CHK. |
|-----------------------|----------|----------|------|-----------------------|----------|---------|----------|
| 01 | 30.06.11 | APPROVED | 01 | 30.06.11 | APPROVED | 01 | 30.06.11 |
| ZONE | | | | ZONE | | | |
| TOOL LIST WAS NOT ON. | | | | TOOL LIST WAS NOT ON. | | | |

| DEFLECTOR | | TRACTION MOTOR | |
|--------------------------------------|--|--------------------------------------|--|
| HS-15250A | | HS-15250A | |
| NAME OF PRODUCT OR STATUS OF DRAWING | | NAME OF PRODUCT OR STATUS OF DRAWING | |
| DISTRIBUTION OF PRINTS | | DISTRIBUTION OF PRINTS | |
| TIME-1, TMM-3, TNX-1 | | TIME-1, TMM-3, TNX-1 | |
| BHPAL | | BHPAL | |
| BHARAT HEAVY ELECTRICALS LTD. | | BHARAT HEAVY ELECTRICALS LTD. | |
| BHPAL | | BHPAL | |
| NAME | | NAME | |
| S.D.BHAGAT | | S.D.BHAGAT | |
| CHD. D.K. | | CHD. D.K. | |
| S.SANAND | | S.SANAND | |
| -SD- | | -SD- | |
| 15/09/10 | | 15/09/10 | |
| REF. TO ASSY. DRG. | | REF. TO ASSY. DRG. | |
| 1 439 43 60 052 | | 1 439 43 60 052 | |
| 006 | | 006 | |
| 001 | | 001 | |
| REV. | | REV. | |
| 03 | | 03 | |

B1

| | |
|-----|----|
| 59 | 64 |
| QTY | |
| VAR | |
| 00 | |

| | | |
|------------------------|----------|----------------|
| RAW.MT. -6.0K9 | 001 | OUTER BE |
| | (CE) | |
| 55 | 75 | 78 79 25 27 29 |
| REMARKS | VAR. NO. | ITEM NO. |
| D | | |
| ADDITIONAL INFORMATION | | |
| 105.778.663, (ALT.E) | | |

| DRAWING STOPPER | | |
|-----------------|----------|-------------|
| DESCRIPTION | 58 59 60 | DRAWING NO. |
| TYPE OF PRODUCT | STD | |
| OR | | |

| | | | | | | | |
|----|--------|----|--------------|----|----|------|----------|
| | | | SF45A-180 | | | 2.10 | |
| | | | JISG3201 | | | | |
| 77 | 29 | 31 | 34 | 45 | 55 | 56 | 58 |
| | IT.NO. | | MATL. CODE | | A | 57 | UNIT WT. |
| | VAR. | 32 | 33 | 46 | 54 | C | 68 |
| | | | MATL. SPECN. | | | | QTY. |
| | | | | | | | 71 |
| | | | | | | | SO |
| | | | | | | | ZONE |

Technical drawing of a circular part with three holes. The part has an outer diameter of 120 mm with a tolerance of -0.2 to -0.5 mm. It features three holes with a diameter of 19 mm, spaced 120 degrees apart from each other and from the center. The holes are labeled 'A1' and '3 HOLES Ø19 DRILL'. The drawing includes a dashed circle with a diameter of 70 mm and a tolerance of +0.054 mm. The holes are labeled '01', '02', and '03'.

[illegible]

| TOOL LIST | | |
|-----------|----------|---|
| TR. NO. | TOOL NO. | DESCRIPTION |
| | 1414043 | DRILL JIG FOR 3 HOLES Ø19 |
| | 1414898 | PIN GAUGE Ø144 |
| | 1414747 | SNAP GAUGE 21.5 |
| | 1414899 | CALLIPER GAUGE 120 ^{+0.2} _{-0.6} |
| | 1414900 | DEPTH GAUGE 7.0 ^{+0.0} _{-0.3} |
| | 1414746 | DEPTH GAUGE 4.0 ^{+0.3} _{-0.0} |
| | 1579376 | OFFSET PIN GAUGE 100 H8 ^{+0.054} _{-0.0} |
| | 1579377 | CALLIPER GAUGE 15441 |

NOTE:—

1. FINISHED PRODUCT SHALL BE COATED WITH ANTI-RUST VARNISH/COMPOUND & SUITABLY PACKED TO PREVENT TRANSIT & LONG TIME STORING DAMAGE.
2. MANUFACTURER TO PROVIDE THEIR METAL PUNCH IDENTIFICATION MARK AT THE LOCATION SHOWN
3. METALLURGICAL TESTING FOR BOTH PROTOTYPE AND BULK SUPPLIES SHALL BE CARRIED OUT BY BHEL AND FOR BULK SUPPLIES METALLURGICAL TEST SHALL BE DONE BY d) BHEL OR b)NABL OR BHEL APPROVED LABORATORY TO BE WITNESSED BY REPRESENTATIVE OF BHEL ZONAL INSPECTION CELL IN CASE OF(b).
4. ALL 5 NOS."O" MARKED DIMENSION ARE CRITICAL TO QUALITY(CTQ) & NO. OF CTQ DIMENSION ARE INSCRIBED IN O e.g. 52

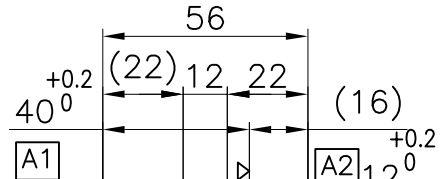
4. ALL 5 NOS. "◇" MARKED DIMENSION ARE CRITICAL TO QUALITY(CTQ) & NO. OF CTQ DIMENSION ARE INSCRIBED IN ◇ e.g. 109.

NO. OF CTQ DIMENSION ARE INSCRIBED IN e.g. 05

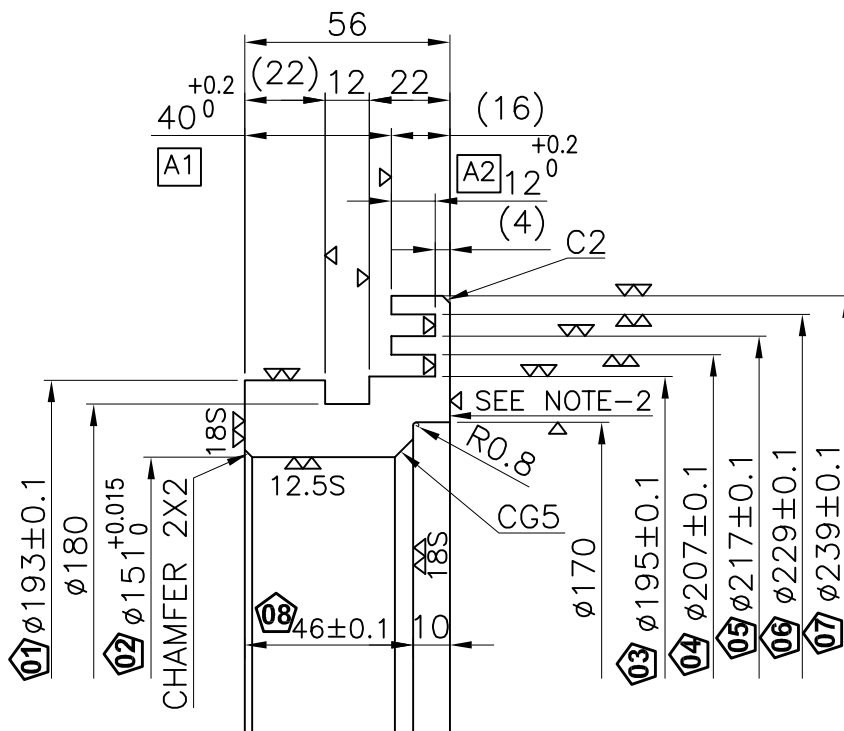
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723604/2022/HEP-MNX35408

(ALL DIMENSIONS ARE IN mm) 40/56

| 1022/HEP-MNX-35408 | | | | | | |
|---|--|---------------|--|--|----------|--|
| REV. | DATE | ALTERED | REV. | DATE | ALTERED | ADDITIONAL INFORMATION 10T.806.918 (ALT.-04) |
| 03 | 17.11.12 | CHECKED | 04 | 17.05.13 | CHECKED | |
| | | APPROVED | | | APPROVED | |
| ZONE | DIM. $\phi 151H7^{+0.040}_0$ WAS CHANGED TO $\phi 151^{+0.015}_0$ AS PER RDSO MODIFICATION SHEET NO. RDSO/2010/ELRS/MS/0414 DT: 03.10.12. DRG. DIGITIZED & UPLOADED. | | ZONE | CRITICAL TO QUALITY DIMS. ARE "◻" MARKED & NUMBERED. NOTE-4 ADDED. | | STATUS OF DRAWING |
| | | | | | | DISTRIBUTION OF PRINTS TME-1, TXM-3, TNX-1 |
| REV. | DATE | ALTERED |  | | | |
| 05 | 05.08.21 | ALTERED A.J. | | | | |
| | | CHECKED A.S. | | | | |
| | | APPROVED A.S. | | | | |
| IN TOOL LIST TOOL NO.1579403 & 1579401 ADDED. | | | | | | |

| TOOL LIST | |
|-----------|-------------------------------------|
| TOOL NO. | DESCRIPTION |
| 1414174 | PIN GAUGE 170 |
| 1414890 | SNAP GAUGE 57.5 ± 0.1 |
| 1579350 | CALIPER GAUGE 239 ± 0.1 |
| 1579351 | LENGTH GAUGE $40^{+0.2}_0$ |
| 1579352 | CALIPER GAUGE 195 ± 0.1 |
| 1579353 | CALIPER GAUGE 217 ± 0.1 |
| 1579354 | CALIPER GAUGE 193 ± 0.1 |
| 1579355 | GROOVE GAUGE 6.5×12 |
| 1579356 | PIN GAUGE $\phi 151^{+0.015}_0$ |
| 1579357 | SNAP GAUGE 56 |
| 1579358 | SNAP GAUGE 46 ± 0.1 |
| 1579363 | GROOVE GAUGE $6 \times 12^{+0.2}_0$ |
| 1579403 | SNAP GAUGE 229 ± 0.1 |
| 1579401 | SNAP GAUGE 207 ± 0.1 |



NOTES:-

- FINISHED PRODUCT SHALL BE COATED WITH ANTI-RUST VARNISH/COMPOUND SUITABLY PACKED TO PREVENT TRANSIT AND LONG TIME STORING DAMAGE.
- MANUFACTURER TO PROVIDE THEIR METAL PUNCH IDENTIFICATION MARK AT THE LOCATION SHOWN.
- METALLURGICAL TEST FOR PROTOTYPE SUPPLIES SHALL BE CARRIED OUT BY BHEL AND FOR BULK SUPPLIES METALLURGICAL TEST SHALL BE DONE BY a) BHEL OR b)NABL OR BHEL APPROVED LABORATORY TO BE WITNESSED BY REPRESENTATIVE OF BHEL ZONAL INSPECTION CELL IN CASE OF(b).
- ALL 8 NOS. "C" MARKED DIMENSION ARE CRITICAL TO QUALITY(CTQ) & NO. OF CTQ DIMENSION ARE INSCRIBED IN "Q" e.g. 08.

CARBON STEEL FORGINGS TO IS:2004'78,CL-2A TO SPECN. NO. TM-10457
ALT. MTL

| | | | | | | | |
|-------------|---------|----------------------------|----------|------------------------|----|-------------|----|
| RAW WT.23Kg | | INNER BEARING STOPPER (PE) | | SF45A-250 JIS G3201 | | 5.50 | |
| 59 | 64 | 65 | 75 | 25 | 27 | 29 | 58 |
| VAROO QTY. | REMARKS | | ITEM NO. | DESCRIPTION | | STD | 59 |
| 28 | | CARD TYPE-3 | | 28 | | CARD TYPE-1 | |
| 28 | | CARD TYPE-3 | | 28 | | CARD TYPE-2 | |



BHARAT HEAVY ELECTRICALS LTD.
BHOPAL

| | NAME | SIGN | DATE | NO. OF VAR. |
|-------|------------|------|----------|-------------|
| DRN. | S.D.BHAGAT | -sd- | 13/09/10 | |
| CHD. | D.K. | -sd- | 13/09/10 | |
| APPD. | S.ANAND | -sd- | 13/09/10 | |

| | | | | | | | |
|---------------------------|-----|------------------|-------|---------------|--------------------|-------------|-------------|
| DEPT. | TME | UNTOL. DIMS. GR. | SCALE | WEIGHT (K.G.) | REF. TO ASSY. DRG. | ITEM NO. | NO. OF ITEM |
| CODE | 405 | | NTS | 5.50 | 04394060052 | 008 | 001 |
| TITLE | | | | | DRAWING NO. | REV. | |
| INNER BEARING STOPPER(PE) | | | | | 4 439 43 60 053 | 05 | |
| HS:15250A | | | | | SHT. NO. | NO. OF SHT. | |
| | | | | | 01 | 01 | |

SIZE A4

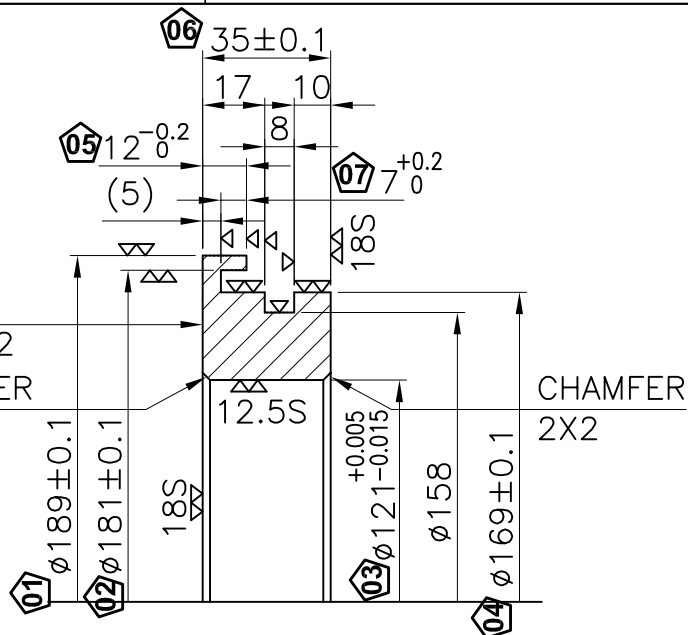
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723604/2022/HEP-MNX35408 FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm) 41/56

| | | | | | | |
|------|---|----------|------|---------|----------|--------------------------------|
| REV. | DATE | ALTERED | REV. | DATE | ALTERED | ADDITIONAL INFORMATION |
| 03 | 17.11.12 | CHECKED | 02 | 14.9.11 | CHECKED | 10T.806.919 (ALT.- 01) |
| | | APPROVED | | | APPROVED | |
| ZONE | DIM. $\phi 121^{+0.005}_{-0.015}$ WAS CHANGED TO $\phi 121^{+0.012}_{-0.015}$ AS PER REQUIREMENT OF RDSO MODIFICATION SHEET NO. RDSO/2012/ELRS/MS/0414 DATED 03.10.12. DRG. DIGITIZED & UPLOADED. | | | | ZONE | DIM. $12^{-0.2}_0$ WAS NOT ON. |
| | | | | | | STATUS OF DRAWING |
| | | | | | | DISTRIBUTION OF PRINTS |
| | | | | | | TME-1, TXM-3 TNX-1 |
| REV. | DATE | ALTERED | | | | |
| 04 | 17.05.13 | CHECKED | | | | |
| | | APPROVED | | | | |
| ZONE | CRITICAL TO QUALITY DIMENSIONS ARE "◇" MARKED & NUMBERED. NOTE-6 ADDED. | | | | | |

| TOOL LIST | |
|-----------|--|
| TOOL NO. | DESCRIPTION |
| 1414023 | SNAP GAUGE 35 ± 0.1 |
| 1414741 | DEPTH GAUGE $7^{+0}_{-0.1}$ |
| 1414019 | GROOVE GAUGE 5.55×8 |
| 1014021 | PIN GAUGE (S/F) $120.6/60$ NO GO |
| 1579359 | PIN GAUGE $\phi 121^{+0.005}_{-0.015}$ |
| 1579360 | SNAP GAUGE 169 ± 0.1 |
| 1579361 | GROOVE GAUGE $6 \times 7^{+0.2}_0$ |

SEE
NOTE-2
CHAMFER
2X2



NOTE:-

1. FINISHED PRODUCT SHALL BE COATED WITH ANTI-RUST VARNISH/COMPOUND & SUITABLY PACKED TO PREVENT TRANSIT AND LONG TIME STORING DAMAGE.
2. MANUFACTURER TO PROVIDE THEIR METAL PUNCH IDENTIFICATION MARK AT THE LOCATION SHOWN.
3. METALLURGICAL TESTING FOR PROTOTYPE SUPPLIES SHALL BE CARRIED OUT BY BHEL AND FOR BULK SUPPLIES METALLURGICAL TEST SHALL BE DONE BY a) BHEL OR b) NABL APPROVED LABORATORY TO BE WITNESSED BY REPRESENTATIVE OF BHEL INSPECTION CELL IN CASE OF (b).
4. ALL CORNERS RADIUS SHALL BE $0.5 \pm$ EXCEPT WHERE STATED.
5. MATERIAL:- TO IS:2004'91, CLASS 2A (CARBON STEEL FORGING TO SPECN. NO. TM-10457).
6. ALL 7 NOS. "◇" MARKED DIMENSION ARE CRITICAL TO QUALITY (CTQ) & NO. OF CTQ DIMENSION ARE INSCRIBED IN ◇ e.g. ◇.

| | | | | | | | | |
|------------------|---------|------------------|----------------------------|------------------|----|-----|------|----|
| SEE NOTE-5 | | 001 | INNER BEARING STOPPER (CE) | | KG | | 3.43 | |
| 59 | 64 | 65 | 75 | 25 | 27 | 29 | 58 | 59 |
| VAROO QTY. | REMARKS | | ITEM NO. | DESCRIPTION | | STD | 34 | 45 |
| | | | | MATL. CODE | | 55 | 56 | 58 |
| | | | | MATL. SPCN. | | 54 | 56 | 71 |
| 28 → CARD TYPE-3 | | 28 → CARD TYPE-1 | | 28 → CARD TYPE-2 | | | | |



BHARAT HEAVY ELECTRICALS LTD.
BHOPAL

| | NAME | SIGN | DATE | NO. OF VAR. |
|-------|------------|------|----------|-------------|
| DRN. | S.D.BHAGAT | -sd- | 13/09/10 | |
| CHD. | D.K. | -sd- | 13/09/10 | |
| APPD. | S.ANAND | -sd- | 13/09/10 | |

| | | | | | | | | |
|---------------------------|-----|------------------|--|-------|---------------|--------------------|-------------|-------------|
| DEPT. | TME | UNTOL. DIMS. GR. | | SCALE | WEIGHT (K.G.) | REF. TO ASSY. DRG. | ITEM NO. | NO. OF ITEM |
| CODE | 405 | | | NTS | 3.43 | 04394060052 | 011 | 001 |
| TITLE | | | | | | DRAWING NO. | REV. | |
| INNER BEARING STOPPER(CE) | | | | | | 4 439 44 60 051 | 04 | |
| HS:15250A | | | | | | SHT. NO. | NO. OF SHT. | |
| | | | | | | 01 | 01 | |

SIZE A4