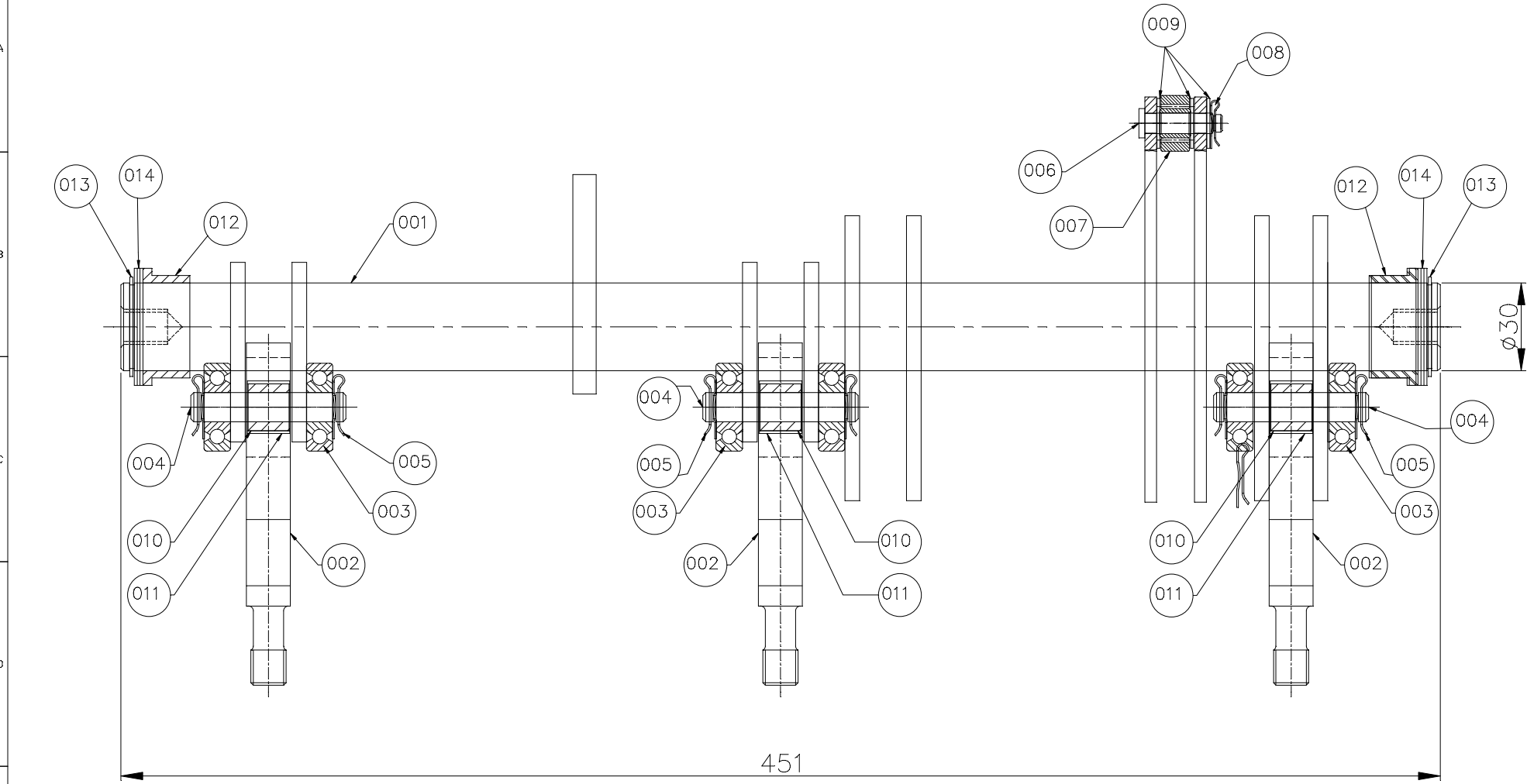


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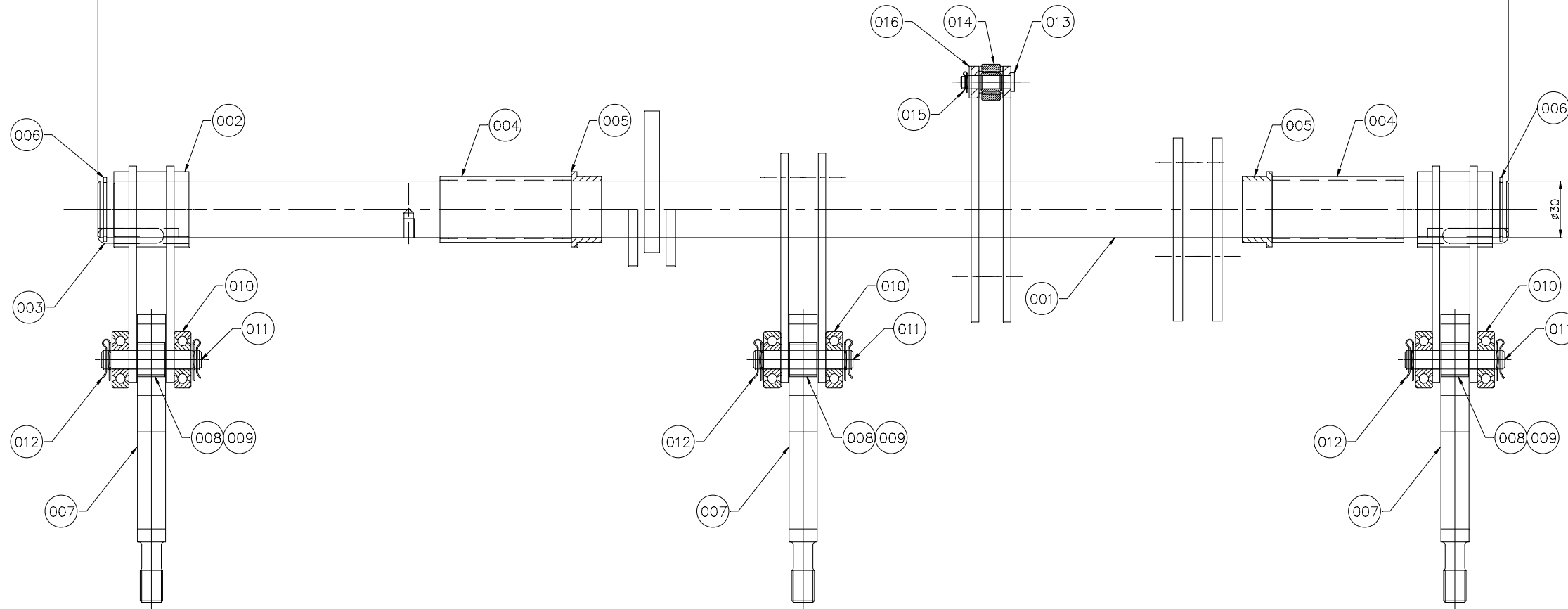
VAR. 00 : CODE NO. BP 9089124888

| | | | | | | | | | | | |
|--------|---------|--------|------------------------|----------------|-----|-------------|-----------|---------------------|--------|--------------|---------|
| 012 | | 014 | WASHER FOR SHAFT | 2 521 10 01586 | 007 | | | KG. | 0.015 | | |
| | | | | | | | | | 001 | | |
| 002 | | 013 | CIRCLIP FOR SHAFT | AA 7167001066 | - | | | KG. | 0.002 | | |
| | | | | | | | | | 001 | | |
| 002 | | 012 | BRASS BUSH | 4 521 10 01505 | 001 | | | KG. | 0.169 | | |
| | | | | | | | | | 001 | | |
| 003 | | 011 | BUSH (M.S.TUBE) | 4 521 10 01545 | 001 | | | KG. | 0.011 | | |
| | | | | | | | | | 001 | | |
| 003 | | 010 | RUBBER SPRING | 4 521 10 01631 | 001 | | | KG. | 0.003 | | |
| | | | | | | | | | 001 | | |
| 003 | | 009 | WASHER | 2 521 10 01586 | 002 | | | KG. | 0.002 | | |
| | | | | | | | | | 001 | | |
| 002 | | 008 | CLIP | 2 521 10 01588 | 002 | | | KG. | 0.002 | | |
| | | | | | | | | | 001 | | |
| 001 | | 007 | SUPPORT ROLLER | 4 521 10 01621 | 001 | | | KG. | 0.018 | | |
| | | | | | | | | | 001 | | |
| 001 | | 006 | PIN FOR SUPPORT ROLLER | 4 521 10 01512 | 001 | | | KG. | 0.02 | | |
| | | | | | | | | | 001 | | |
| 006 | | 005 | CLIP | 2 521 10 01588 | 006 | | | KG. | 0.003 | | |
| | | | | | | | | | 001 | | |
| 003 | | 004 | PIN FOR BEARING | 4 521 10 01595 | 002 | | | KG. | 0.048 | | |
| | | | | | | | | | 001 | | |
| 006 | | 003 | BEARING | 4 521 10 01633 | 001 | | | KG. | 0.075 | | |
| | | | | | | | | | 001 | | |
| 003 | | 002 | SPRING GUIDE | 4 521 10 01544 | 001 | | | KG. | 0.169 | | |
| | | | | | | | | | 001 | | |
| 001 | | 001 | MECHANISM SHAFT | 1 521 90 01503 | | | | KG. | 5.753 | | |
| | | | | | 00 | | | KG. | 001 | | |
| VAR.00 | REMARKS | VAR NO | ITEM NO | DESCRIPTION | CLS | DRAWING NO. | IT.NO VAR | MATL.CODE MATL.SPCN | A UNIT | UNIT WT. QTY | GS ZONE |

| | | | | | | | | | | | |
|------------------------|--|--|--|---|----------|-----------------|--------------------|---------------|--|--|--|
| ADDITIONAL INFORMATION | | | | TYPE OF PRODUCT OR NAME OF CUSTOMER / PROJECT | | | | | | | |
| STATUS OF DRAWING | | | | M | | | | | | | |
| DISTRIBUTION OF PRINTS | | | | O/C-1 SWM-3 TCX-1 | | | | | | | |
| O/C-1 | | | | BHARAT HEAVY ELECTRICALS LTD. BHOPAL. | | | | | | | |
| SWE | | | | DRN. CKD. | NAME MKN | SIGN Sd/- | DATE 21.09.13 | ND. OF VAR | | | |
| 409 | | | | APPD. | AKHL | Sd/- | 21.09.13 | 00 | | | |
| SWE | | | | UNTEL. DIMS. GR. | SCALE | WEIGHT (K.G.) | REF. TO ASSY. DRG. | ND. OF ITEM | | | |
| 409 | | | | M | 1:1 | - | 2 521 90 01013 | 00 | | | |
| TITLE | | | | ASSY. OF MECHANISM SHAFT VM-12 (700) | | | | REV | | | |
| | | | | | | | | 00 | | | |
| | | | | | | | | SHEET NO. 01 | | | |
| | | | | | | | | ND. OF SHEETS | | | |
| | | | | | | | | 01 | | | |

751

VAR.00-BP9099125119


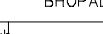


VAR.00

| | | | | | | | | | | | |
|-------------|----|-------------|---------------------------|-------------|-------------|--------------|------------|------|---------------|------|------|
| 003 | | 016 | WASHER MCD 8.4-ST | | | AA7161001056 | NA | kg | 0.001 001 | | |
| 001 | | 015 | CLIP | 25211001588 | 002 | | NA | kg | 0.001 001 | | |
| 001 | | 014 | BEARING SUPPORT ROLLER | 45211001621 | 001 | | NA | kg | 0.018 001 | | |
| 001 | | 013 | PIN | 45211001512 | 001 | | NA | kg | 0.020 001 | | |
| 006 | | 012 | CLIP | 25211001588 | 006 | | NA | kg | 0.003 001 | | |
| 003 | | 011 | PIN | 45211001595 | 002 | | NA | kg | 0.0489 001 | | |
| 006 | | 010 | BALL BEARING | 45211001633 | 001 | | NA | kg | 0.075 001 | | |
| 003 | | 009 | BUSH | 45211001545 | 001 | | NA | kg | 0.011 001 | | |
| 003 | | 008 | RUBBER SPRING | 45211001631 | 001 | | NA | kg | 0.003 001 | | |
| 003 | | 007 | SPRING GUIDE | 45211001544 | 003 | | NA | kg | 0.232 001 | | |
| 002 | | 006 | CIRCLIP L/T A30-ST | | | AA7167001066 | NA | kg | 0.001 001 | | |
| 002 | | 005 | BUSH | 45211001505 | 001 | | NA | kg | 0.169 001 | | |
| 002 | | 004 | SPACER | 25211001585 | 007 | | NA | kg | 0.104 001 | | |
| 002 | | 003 | KEY | 45211001649 | 001 | | NA | kg | 0.070 001 | | |
| 002 | | 002 | LEVER | 35211001523 | 01 | | NA | kg | 0.874 001 | | |
| 001 | | 001 | SHAFT | 15211001502 | 01 | | NA | kg | 7.105 001 | | |
| VAR. 00. | 65 | VAR. ND. | ITEM NL | DESCRIPTION | DRAWING NO. | IT.NL | MATL. CODE | UNIT | W.T. | QTY. | ZONE |

| | |
|--|---|
| | -NOTE WT.OF ITEM 001&002 ADDED. (DCA. NO. 38330 |
|--|---|

VM-36

| | | | | | |
|---|--|---|--|---|--|
|  | | HAKjr gsoh bysfDV&dYl fyfeVSM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | uke@NAME gLrk_@IGN. fnuak@DATE osfj_@ | |
| foHAKx DEPT SWE | | vu_Vky_uki dh Js.kh UNTOIL. DIMS. GR. | |  | |
| dksM CODE 409 | | vuqikr SCALE | | HAKjg fd_@ WEIGHT <KG> | |
| "kh"AZ@LE | | M&kbZax dk lanHAZ REF. TO ASSY. DRG. 15222001512 | | en d_— ITEM NO. — | |
| MECHANISM SHAFT ASSY. | | M&kbZax @RAYONG NO. 15222001512 | | iqu_— REV. 01 | |
| | | i="B d_@HT. NO. 01 | | i="Bkso dh la;_@ OF SHT.01 | |

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5222001512 -03 -01
REF. DRG. NO.

SIGN AND DATE

INVENTORY NO. _____

| |
|---|
| A |
|---|

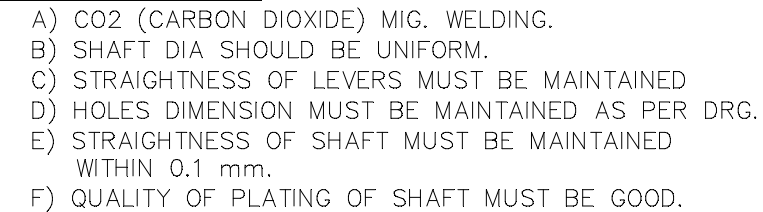
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

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| E | |
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| | F | |
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| | | | | | | | | | | | |
|------------------------|-------|----------|---|-----|--|---|---------------|--------------------|--------------------|------------------|----------------|
| ADDITIONAL INFORMATION | | | TYPE OF PRODUCT OR NAME OF CUSTOMER / PROJECT | | VM12 (820) | | | | | | |
| STATUS OF DRAWING M | | | | | | | | | | | |
| DISTRIBUTION OF PRINTS | | |  | | BHARAT HEAVY ELECTRICALS LTD. BHOPAL. | | DRN. | NAME MRN | SIGN Sd/- | DATE 08.01.14 | NO. OF VAR |
| O/C-1 | SWM-3 | | | | KCD. | AKHL | Sd/- | 08.01.14 | 00 | | |
| TCX-1 | | | | | APPD. | MAK | Sd/- | 08.01.14 | | | |
| REV | DATE | ALTERED | DEPT | SWT | UNITS. DIMS. GR. |  | SCALE | WEIGHT (K.G.) | REF. TO ASSY. DRG. | ITEM NM | NO. OF ITEM |
| | | CHECKED | | M | | | 1:1 | — | — | — | |
| | | APPROVED | COD | 409 | AA0621104 | | | | | | 014 |
| ZONE | | | TITLE | | ASSY. OF MECHANISM SHAFT VM-12 (820) | | | | DRAWING NO. | REV | |
| | | | | | 2 521 10 01662 | | | | 00 | | |
| | | | | | SHEET NO. 01 | | NO. OF SHEETS | | 01 | | |

| INVENTORY NO. | SIGN & DATE | REF. DRG. NO. |
|---------------|-------------|---------------|
|---------------|-------------|---------------|

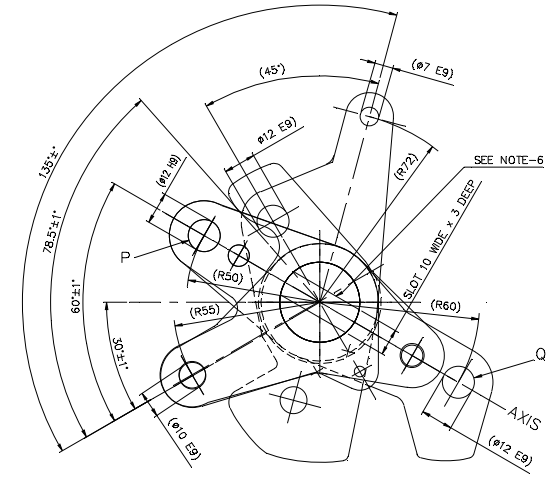
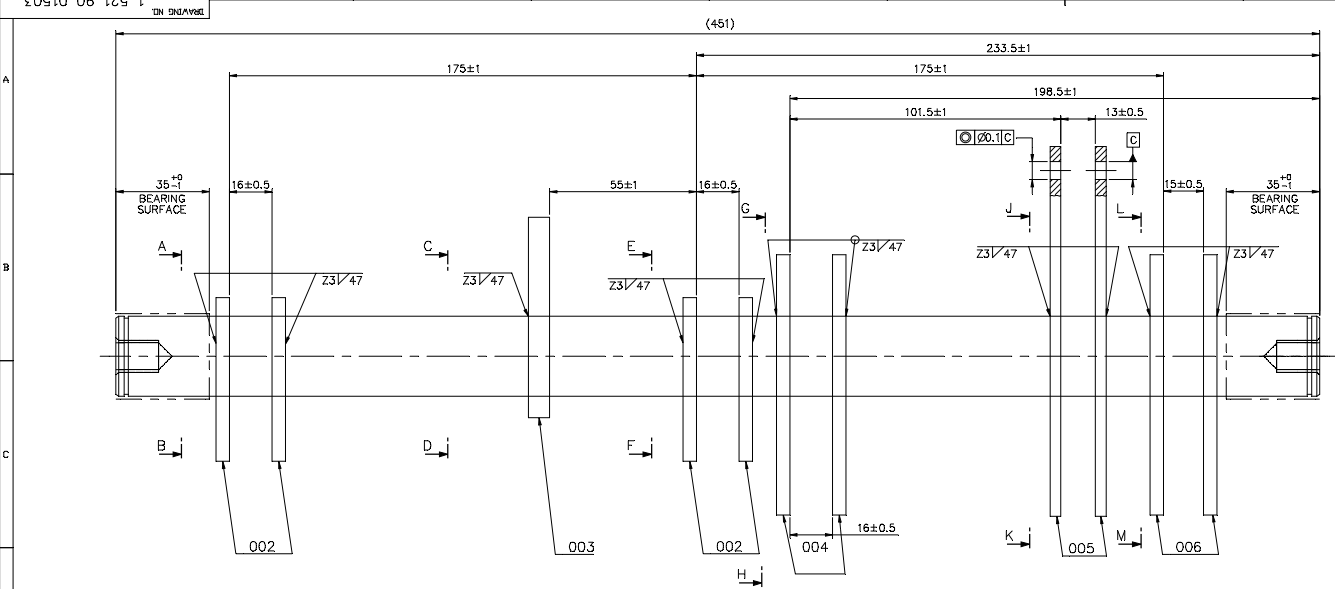
1

ZINC PLATE AND PASSIVATE TO AA0673603 & AA0673604 (0.013 TO 0.015TK)

A1

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VM-700-15219001503
REV. BNC. NDL
SOUR & DATE
INVENTORY NDL



- NOTES :-
1. AXIS OF HOLES X, Y, & Z ON LEVERS MUST BE SAME (ONE LINE) PARALLEL TO THE AXIS OF SHAFT.
 2. AXIS OF HOLES ON LEVERS ITEM 005 MUST BE PARALLEL TO AXIS OF SHAFT.
 3. HOLES ON LEVERS OF THE SAME PAIR MUST BE CONCENTRIC WITH IN 0.1.
 4. TRUENESS OF THE SHAFT AFTER WELDING MUST BE MAINTAINED WITH IN ±0.5.
 5. WELDING SHALL BE GR-3 TO AA 0622101.
 6. AXIS OF HOLES P & Q MUST BE PARALLEL TO SLOT 10Wx30 OF SHAFT.
 7. IDENTIFICATION MARKS OF MANUFACTURER & PO NO. TO BE ENSURED ON ITEM-003 BEFORE WELDING.

FINISH :-
TO BE ZINC PLATED & PASSIVATED TO 0.013 TK. MAXIMUM TO PRS. NO. AA0673603 & AA0673604 RESPECTIVELY.

VAR. 00 : CODE NO. BP 9099108087.

| TOOL LIST | | |
|-----------|----------|------------------------------|
| ITEM NO. | TOOL NO. | DESCRIPTION |
| VAR.00 | 1495961 | WELDING CUM CHECKING FIXTURE |

| | | | | | | | | | | |
|--------|---------|----------|----------|----------------|----------|-------------|---------|------------|----------|------|
| 002 | | 006 | LEVER | 4 521 90 01541 | 001 | | KG | - | | |
| 002 | | 005 | LEVER | 4 521 10 01553 | 001 | | KG | 0.260 | | |
| 002 | | 004 | LEVER | 4 521 60 01666 | 001 | | KG | 0.340 | | |
| 001 | | 003 | LEVER | 4 521 10 01546 | 001 | | KG | 0.240 | | |
| 004 | | 002 | LEVER | 4 521 10 01560 | 001 | | KG | 0.210 | | |
| 001 | | 001 | SHAFT | 4 521 90 01507 | 001 | | KG | 2.517 | | |
| VAR.00 | REMARKS | VAR. NO. | ITEM NO. | DESCRIPTION | ITEM NO. | DRAWING NO. | IT. NO. | MATL. CODE | UNIT WT. | QTY. |

| ADDITIONAL INFORMATION | | | | TYPE OF PRODUCT | | | |
|---|-------|---------|----|--------------------------------------|-------|---------|----|
| STATUS OF DRAWING DP NAME OF CUSTOMER / PROJECT | | | | VM12 | | | |
| DISTRIBUTION OF PRINTS O/C-1 SWM-3 TCX-1 | | | | BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | | |
| REV | DATE | ALTERED | BY | REV | DATE | ALTERED | BY |
| 01 | 15.05 | CHECKED | RM | 01 | 15.05 | CHECKED | RM |
| DIM 13+/-0.5(FOR IT.005) AND 16+/-0.5(FOR IT.004) (DCA NO.-23646) | | | | MECHANISM SHAFT | | | |
| 1 521 90 01503 | | | | 04 | | | |

| REV | DATE | ALTERED | BY | REV | DATE | ALTERED | BY | REV | DATE | ALTERED | BY | REV | DATE | ALTERED | BY | REV | DATE | ALTERED | BY |
|----------------------------------|---------|---------|----|--------------------------------|----------|---------|------|--------------------------------|---------|---------|----|-----|-------|---------|----|-----|-------|---------|----|
| 04 | 1.02.17 | CHECKED | AD | 03 | 11.12.13 | CHECKED | AKHL | 02 | 20.5.06 | CHECKED | RM | 01 | 15.05 | CHECKED | RM | 01 | 15.05 | CHECKED | RM |
| TOOL LIST ADDED (DCA. NO. 34605) | | | | NOTES 7 ADDED (DCA. NO. 32298) | | | | VIEW CORRECTED. (DCA NO 25785) | | | | | | | | | | | |

SECTIONAL VIEW TO SHOW DETAILS OF WELDING

SECTION A-B

SECTION C-D

SECTION E-F

SECTION L-M

SECTION J-K

SECTION G-H

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FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN mm

DRG. NO. 2 521 10 01585

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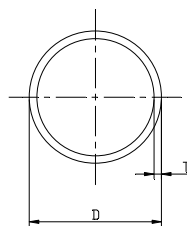
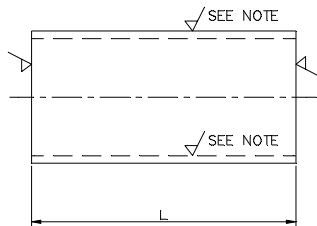
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16/94

161



NOTE :-

1) INTERNAL & EXTERNAL DIA. TO BE MACHINED IF REQUIRED.

FINISH :-

ZINC PLATE & PASSIVATE TO AA0673603 & AA0673604 (0.013 TK. MIN.)

INDEX

| ITEM NO. | LENGTH L. | O/D D. | THICKNESS T. | STYLE NO. | ASSY. REF. DRG. NO. | SIEMENS REF. | REMARKS |
|----------|-----------|--|--------------|--------------|-----------------------------|------------------------------------|---|
| 001 | 10 | 16 | 1.5 | BP9099433077 | 35211001530 ITEM NO. 010 | SWT. 680 16x1.5x10 FEUZN | |
| 002 | 16 | 16 | 1.5 | BP9099433085 | 35211001530 ITEM NO. 011 | SWT. 680 16x1.5x16 | |
| 003 | 54 | 20 | 1.5 | BP9099433093 | 35211001543 ITEM NO. 039 | SWT. 680 20x1.5x54 | |
| 004 | 26 | 16 | 1.5 | BP9099433107 | 35211001543 ITEM NO. 040 | SWT. 680 16x1.5x26 | |
| 005 | 15 | 20 ^{+0.041} _{+0.028} | 1.0 | BP9099433115 | 35211001556 ITEM NO. 012 | SN60844 18x20x15 | I/D SHOULD BE 18 ^{+0.033} _{-0.000} |
| 006 | 14 | 20 | 1.5 | BP9099433123 | 35211001533 ITEM NO. 024 | SWT. 680 ABSTROHR. 20x1.5x14 | |
| 007 | 70 | 35 | 2.0 | BP9099433506 | 15210130501 ITEM NO. 056 | SWT. 680 35x2x70 | |
| 008 | 8 | 16 | 2.5 | BP9099433514 | 05210130501 ITEM NO. 110 | SWT. 680 16x2.5x8 | |
| 009 | 10 | 20 | 1.5 | BP9099433522 | 35211001533 ITEM NO. 023 | SWT. 680 20x1.5x10 | |
| 010 | 12 | 20 | 1.5 | BP9099437072 | 05213030512 ITEM NO. 025 | - | |

| | | | | | | | | | | | | |
|--|--------|---------|---------|---------|---|------|-------------|--------------|----------------------------|-------------|------------------|--------------|
| | | | | 010 | CDSC. STEEL TUBE 21.3 O/D x 3.6TK. x 12LG. | | | AA1041045093 | | | 0.0072 | |
| | | | | | | | | AA10445 | | | 001 | |
| | | | | 009 | CDSC. STEEL TUBE 21.3 O/D x 3.6TK. x 10LG. | | | AA1041045093 | | | 0.006 | |
| | | | | | | | | AA10445 | | | 001 | |
| | | | | 008 | CDSC. STEEL TUBE 16 O/D x 3.2TK. x 8LG. | | | AA1041045050 | | | 0.0023 | |
| | | | | | | | | AA10445 | | | 001 | |
| | | | | 007 | CDSC. STEEL TUBE 38 O/D x 5TK. x 70LG. | | | AA1041046715 | | | 0.104 | |
| | | | | | | | | AA10446 | | | 001 | |
| | | | | 006 | CDSC. STEEL TUBE 21.3 O/D x 3.6TK. x 14LG. | | | AA1041045093 | | | 0.0084 | |
| | | | | | | | | AA10445 | | | 001 | |
| | | | | 005 | CDSC. STEEL TUBE 21.3 O/D x 3.6TK. x 15LG. | | | AA1041045093 | | | 0.009 | |
| | | | | | | | | AA10445 | | | 001 | |
| | | | | 004 | CDSC. STEEL TUBE 16 O/D x 2.3TK. x 26LG. | | | AA1041045050 | | | 0.0075 | |
| | | | | | | | | AA10445 | | | 001 | |
| | | | | 003 | CDSC. STEEL TUBE 21.3 O/D x 3.6TK. x 54LG. | | | AA1041045093 | | | 0.032 | |
| | | | | | | | | AA10445 | | | 001 | |
| | | | | 002 | CDSC. STEEL TUBE 16 O/D x 2.3TK. x 16LG. | | | AA1041045050 | | | 0.0046 | |
| | | | | | | | | AA10445 | | | 001 | |
| | | | | 001 | CDSC. STEEL TUBE 16 O/D x 2.3TK. x 10LG. | 2 | | AA1041045050 | | | 0.0029 | |
| | | | | | | | | AA10445 | | | 001 | |
| | VAR 00 | REMARKS | VAR NO. | ITEM NO | DESCRIPTION | STD. | DRAWING NO. | IT.NO VAR | MATL. CODE MATL. SPECN. | A/C UNIT | UNIT WT. QTY. | G.S. ZONE |

ADDITIONAL INFORMATION

STATUS OF DRAWING

DISTRIBUTION OF PRINTS

O/C -1 TCX -1
SWM -3

mRikn dk i-dkj ;k
xk-gd@fj;ktuk dk uke
TYPE OF PRODUCT OR
NAME OF CUSTOMER/PROJECT

V.C.B.



HAKjr gsoh bysDV&dYI fyfeVsm
HAKsiky
BHARAT HEAVY ELECTRICALS LTD.
BHOPAL

uke@NAME gLrk_@IGN fmuaka@DATE osfj_ dh
B.D.V. Sd/-
M.Z.G. Sd/- 02-01-83
B.P.N./R.K.G. Sd/- 05-01-83

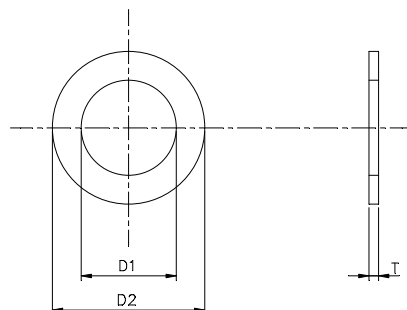
| REV. | DATE | ALTERED | CHKD/- |
|------|----------|------------------------|--------|
| 05 | 20.10.05 | CHECKED APPROVED RM | Sd/- |
| | | DRG. REDRAWN. | |
| | | (DCA NO. 24155) | |

| REV. | DATE | ALTERED | CHKD/- |
|------|---------|--|--------|
| 04 | 24.2.96 | CHECKED APPROVED | Sd/- |
| | | DRG. RETRACED FINISH WAS TO PR. S7608A MAT. CODE FOR ITS. 001 TO 006 ADDED. | |
| | | (DCA NO. 07497) | |

| | | | | | | |
|---|--|-----------------------|--------------------------|---------------------------------------|-------------------------|----------------------------------|
| foHAKs DEPT W/E M CODE AA 0230208 | wu_Vky_uki dh jskk UNTO. DIMS. GR. M AA 0230208 | vudkr SCALE 1:1 | HAKg fd_@ WEIGHT (KG) | REF. TO ASSY. DRG. SEE INDEX | en d_@ ITEM NO. - | en l@;k NO. OF ITEM 010 |
| SPACER | | | | M&kbZax DRAWING NO. 2 521 10 01585 | | iqu_@ REV. 05 |
| | | | | REF. TO ASSY. DRG. SEE INDEX | | en l@;k NO. OF ITEM 010 |

A2

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

FINISH :-

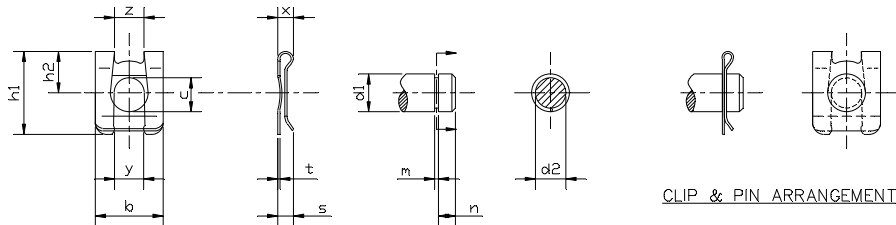
ZINC PLATE AND PASSIVATE TO AA0673603 &
AA0673604 (0.013 TK MIN.) FOR IT, 001 TO 011, 013 & 014

INDEX

| ITEM NO. | O/D D2 | I/D DI | THICKNESS T | STYLE NO. | REF. TO ASSY. DRG. NO. | SIEMENS REF. |
|----------|--------|--------|-------------|--------------|--|-----------------------------|
| 001 | 22 | 13 | 0.5 | BP9099432216 | 35211001530 IT.022 | SWT 671 SHB 13x22x0.5ST |
| 002 | 16 | 8.4 | 1.0 | BP9099432222 | 35211001543 IT.002 | SWT 671 SHB 8.4x16x1ST |
| 003 | 20 | 13 | 1.0 | BP9099432232 | 35211001543 IT.035 | SWT 671 SHB 13x20x1ST |
| 004 | 25 | 17 | 0.5 | BP9099432240 | 35211001543 IT.041 | SWT 671 SHB 17x25x0.75ST |
| 005 | 14 | 6.4 | 0.5 | BP9099432259 | 35211001543 IT.045 | SWT 671 SHB 6.4x14x0.5ST |
| 006 | 18 | 6.4 | 1.6 | BP9099432380 | 35211001543 IT.044 35211001560 IT.057 | DIN 9021 SHB A6.4ST |
| 007 | 45 | 31 | 1.0 | BP9099433239 | 35211001556 IT.005 | SWT 671 SHB 31x45x1ST |
| 008 | 38 | 17 | 4.0 | 943471 | 35211001500 IT.095 | SWT 671 SHB 17x38x4ST |
| 009 | 80 | 17 | 3.15 | BP9099434723 | 35211001500 IT.081 | SWT 671 SHB 17x80x3ST |
| 010 | 20 | 15 | 4.8 | 943641 | 35211001644 IT.004 | SWT 671 SHB 15x20x0.8ST |
| 011 | 16 | 6.4 | 1.6 | 943642 | 35211001644 IT.006 | SWT 671 SHB 6.4x16x1.5ST |
| 012 | 20 | 15 | 0.2 | 943643 | 35211001644 IT.019 | SWT 671 SHB 15x20x0.2ST |
| 013 | 35 | 13 | 4.0 | 943644 | 35211001645 IT.018 | SWT 671 SHB 13x35x4ST |
| 014 | 30 | 20 | 1.0 | | 05212001512 IT.056 | |

| | | | | | | | | | | | | |
|--------|---------|--------|---------|--------------------------|-----|------------|--------|--------------------------|---------------|---------|----|------|
| | | | 014 | 1 TKx30x30 CRS SHEET | | | | AA1011715074 AA 10115 | 0.007 001 | | | |
| | | | 013 | 4 TKx35x35 HRS SHEET | | | | AA1011713136 AA 10113 | 0.030 001 | | | |
| | | | 012 | 0.2 TKx20x20 BRASS SHEET | | | | | 0.001 001 | | | |
| | | | 011 | 1.6 TKx16x16 CRS SHEET | | | | AA1011715090 AA 10115 | 0.003 001 | | | |
| | | | 010 | 0.8 TKx20x20 CRS SHEET | | | | | 0.002 001 | | | |
| | | | | | | | | AA 10115 | | | | |
| | | | 009 | 3.15 TKx80x80 HRS SHEET | | | | AA1011713136 AA 10113 | 0.15 001 | | | |
| | | | | | | | | | | | | |
| | | | 008 | 4 TKx38x38 HRS SHEET | | | | AA1011713160 AA 10113 | 0.045 001 | | | |
| | | | | | | | | | | | | |
| | | | 007 | 1 TKx45x45 CRS SHEET | | | | AA1011715074 AA 10115 | 0.015 001 | | | |
| | | | | | | | | | | | | |
| | | | 006 | 1.6 TKx18x18 CRS SHEET | | | | AA1011715090 AA 10115 | 0.0041 001 | | | |
| | | | | | | | | | | | | |
| | | | 005 | 0.5 TKx14x14 CRS SHEET | | | | | 0.001 001 | | | |
| | | | | | | | | AA 10115 | | | | |
| | | | | | | | | | | | | |
| | | | 004 | 0.5 TKx25x25 CRS SHEET | | | | | 0.001 001 | | | |
| | | | | | | | | AA 10115 | | | | |
| | | | 003 | 1 TKx20x20 CRS SHEET | | | | AA1011715074 AA 10115 | 0.0031 001 | | | |
| | | | | | | | | | | | | |
| | | | 002 | 1 TKx16x16 CRS SHEET | | | | AA1011715074 AA 10115 | 0.002 001 | | | |
| | | | | | | | | | | | | |
| | | | 001 | 0.5 TKx22x22 CRS SHEET | | | | | 0.001 001 | | | |
| | | | | | | | | AA 10115 | | | | |
| VAR 00 | REMARKS | VAR NO | ITEM NO | DESCRIPTION | STD | DRAWING NO | IT-NO. | MATL CODE | UNIT | UNIT WT | GS | ZONE |
| | | | | | | | VAR | MATL SPCN | | QTY. | | |

| | | | | | | | | | | |
|---|---------------|----------|---|------------------|---|----------------|------------------|--------------------|---------------|----------------|
| ADDITIONAL INFORMATION | | | TYPE OF PRODUCT OR NAME OF CUSTOMER / PROJECT | | VCB | | | | | |
| STATUS OF DRAWING | | | | | | | | | | |
| DISTRIBUTION OF PRINTS □/C - 1 SWM - 1 TCX - 3 | | |  BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | DRN. | NAME B.D.V. | SIGN Sd/- | DATE | NO. OF VAR | |
| | | | | | CKD. | M.Z.G. | Sd/- | | - | |
| | | | | | APPD. | B.P.N. | Sd/- | | - | |
| REV. | DATE | ALTERED | DEPT | UNTIL. DIMS. GR. |  | SCALE | WEIGHT (K.G.) | REF. TO ASSY. DRG. | ITEM NO. | NO. OF ITEM |
| 04 | 13.6.2000 | CHECKED | SWE | | | NTS | - | - | - | 014 |
| | | APPROVED | CODE 409 | | | | | | | |
| ZONE | DRG. REDRAWN. | | | | TITLE | | | DRAWING NO. | | REV |
| | (DCA-10053) | | | | WASHER | | | 25211001586 | | 05 |
| | | | | | | | | SHEET NO. 01 | NO. OF SHEETS | 01 |



HARDNESS SHALL BE 430-475 HVS

- 1) THE CLIP SHALL COMPLY WITH TOLERANCES AS PER DIN 7168
- 2) PRODUCT STD. SWGR. SG 11701 SHALL BE REFERED FOR QUALITY CHECKS & OTHER ASPECTS.
- 3) DIM d1 AND d2 ARE PIN DIMENSIONS, THEREFORE CORRESPONDING DIMENSION ON CLIP SHALL HAVE CLOSE CLEARANCE FIT & PROVIDE AXIAL LOAD CAPACITY.

| ITEM NO. | d1 h11 | b | h1 | h2 | s | d2 | m | n | TYPE ITEM NO. | REF. TO ASSY. DRG. NO. | SIMEN'S REF. | PERMISSIBLE AXIAL LOAD IN KG. | C | X | Y | Z | T |
|----------|-----------|------|------|----|-----|-----|------|-----|---------------|--|--------------------------|-------------------------------|------|------|------|------|------|
| 001 | 4 | 7 | 8.5 | 4 | 2.2 | 3.2 | 0-64 | 1.5 | BP9099432305 | 35211001556 (098) | SN 60075 4SxND 8-002 | 100 | 4.16 | 2.00 | 3.2 | 3.04 | 0.34 |
| 002 | 6 | 11.2 | 13.7 | 6 | 3.6 | 5 | 0.74 | 2.3 | BP9099432313 | 35211001543 (004) 35211001556 (076) | SN 60075 6SxND 8-002 | 150 | 5.9 | 3 | 5.0 | 4.9 | 0.44 |
| 003 | 8 | 14 | 17 | 8 | 4 | 6 | 0.94 | 2.5 | BP9099432321 | 35211001530 (035) 35211001560 (039) 35211001556 (022) 35211001533 (018) | SN 60075 8SxND 8-002 | 360 | 7.54 | 3.6 | 6.0 | 5.8 | 0.48 |
| 004 | 12 | 22 | 26 | 12 | 5 | 9 | 1.15 | 3.8 | BP9099432330 | 35211001530 (013) 35211001556 (011) | SN 60075 12SxND 8-002 | 960 | 11.2 | 5 | 8.2 | 9.3 | 0.60 |
| 005 | 16 | 28 | 34.5 | 16 | 7.5 | 12 | 1.25 | 4.7 | BP9099432348 | 35211001556 (014) 35211001533 (013) | SN 60075 16SxND 8-002 | 1350 | 14.7 | 4.74 | 11.3 | 12.0 | 0.64 |
| 006 | 10 | 18 | 22 | 10 | 5 | 8 | 1.05 | 3.5 | BP9099432356 | 35211001560 (035) | SN 60075 10SxND 8-002 | 640 | 8.3 | 4.2 | 7.7 | 7.8 | 0.58 |

[illegible]|STATUS OF DRAWING

DISTRIBUTION OF PRINTS

| | | |
|-----|-----|---|
| SWE | SWM | T |
| 1 | 3 | |



| | | |
|------|------|----------|
| REV. | DATE | ALTERED |
| 04 | | CHECKED |
| | | APPROVED |

DRG. REDRAWN.

| | |
|---|---|
| 1 | 1 |
| 1 | 1 |

11

(DCA NO. 7340)

| | | | | | |
|--|--|--|---|-------------------------------|---|
| mRkn dk i-dkj ;k xk-gd@fj;ksk uk uke TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT | | VCR | | | |
|  HAKjr gsoh bystfDV&dYl fyteVsm HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | gsk; k DRN B.D.V. | glrk; gIGN Sd/- | fruskdDATE 02-01-83 | osfj; k NO. OF VAR. |
| foHAKj; DEPT;SWE dksM409 CODE | | vu;Vky;uki dh ;skh UNTOL. DIMS. GR. M AA0230208 |  vuqrg SCALE 1:1 | HAKg f;dk - WEIGHT (KG) | vs.M&kBZax dk lonHAZ REF. TO ASSY. DRG. - |
| "kh"AZ08LE | | M&kBZax DRAWING NO. 25211001588 | | | en la; NO. OF ITEM 006 |
| CLIP | | 04 | | | iqu; u REV. 04 |
| | | "B" d;HT. NO.01 | | | "B"ko dk la; NO. OF SHT. 01 |

Z9910 01 129 Z

IN SHAFT

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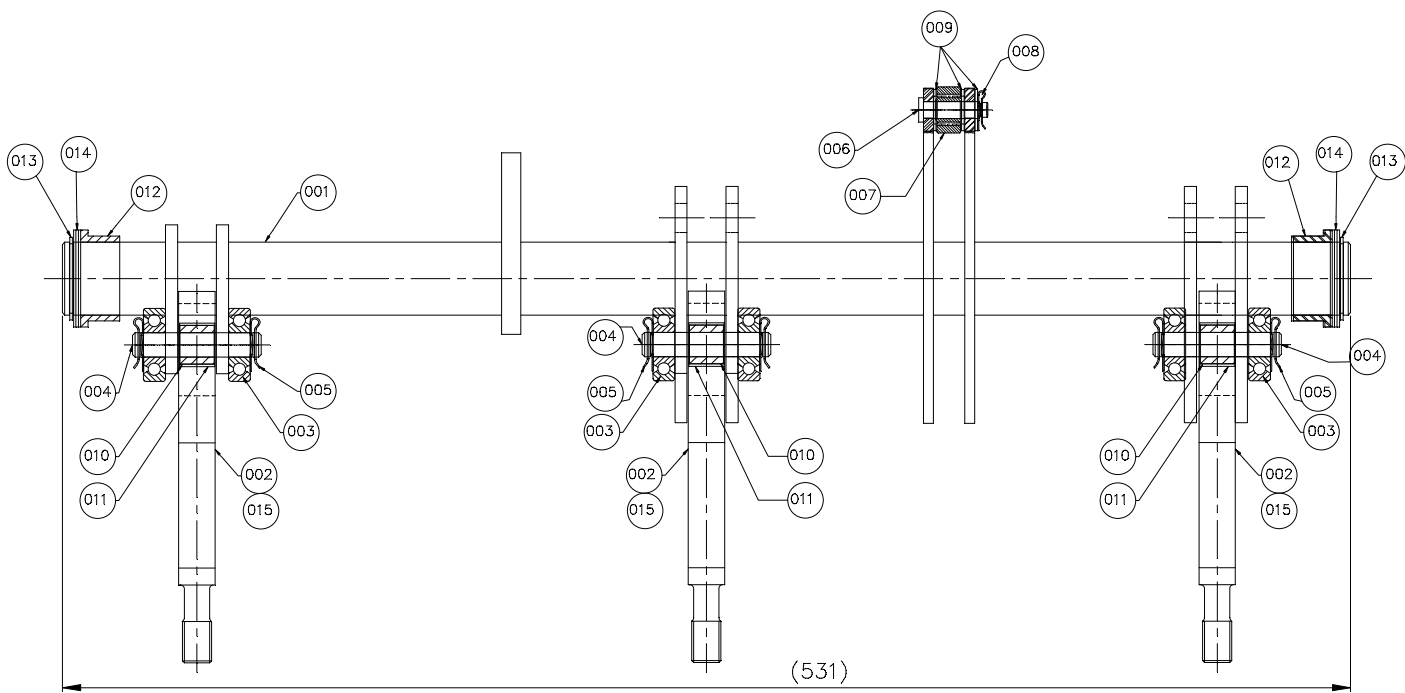
12

161

NOTE: —

ACCEPTANCE CRITERIA:

- A) CO2 (CARBON DIOXIDE) MIG. WELDING.
- B) SHAFT DIA SHOULD BE UNIFORM.
- C) STRAIGHTNESS OF LEVERS MUST BE MAINTAINED
- D) HOLES DIMENSION MUST BE MAINTAINED AS PER DRG.
- E) STRAIGHTNESS OF SHAFT MUST BE MAINTAINED WITHIN 0.1 mm.
- F) QUALITY OF PLATING OF SHAFT MUST BE GOOD.



| | | | | | | | | | | | |
|--------|--------|---------|----------|------------------------|----------------|------|-------------|---------|------------|----------|------|
| 003 | — | | 015 | SPRING GUIDE | 4 521 10 01544 | 001 | | KG | 0.169 | | |
| 012 | 012 | | 014 | WASHER FOR SHAFT | 2 521 10 01586 | 007 | | KG | 0.015 | | |
| 002 | 002 | | 013 | CIRCLIP FOR SHAFT | AA 7167001066 | — | | KG | 0.002 | | |
| 002 | 002 | | 012 | BRASS BUSH | 4 521 10 01505 | 001 | | KG | 0.169 | | |
| 003 | 003 | | 011 | BUSH (M.S.TUBE) | 4 521 10 01545 | 001 | | KG | 0.011 | | |
| 003 | 003 | | 010 | RUBBER SPRING | 4 521 10 01631 | 001 | | KG | 0.003 | | |
| 003 | 003 | | 009 | WASHER | 2 521 10 01586 | 002 | | KG | 0.002 | | |
| 002 | 002 | | 008 | CLIP | 2 521 10 01588 | 002 | | KG | 0.002 | | |
| 001 | 001 | | 007 | SUPPORT ROLLER | 4 521 10 01621 | 001 | | KG | 0.018 | | |
| 001 | 001 | | 006 | PIN FOR SUPPORT ROLLER | 4 521 10 01512 | 001 | | KG | 0.02 | | |
| 006 | 006 | | 005 | CLIP | 2 521 10 01588 | 006 | | KG | 0.003 | | |
| 003 | 003 | | 004 | PIN FOR BEARING | 4 521 10 01595 | 002 | | KG | 0.048 | | |
| 006 | 006 | | 003 | BEARING | 4 521 10 01633 | 001 | | KG | 0.075 | | |
| — | 003 | | 002 | SPRING GUIDE | 4 521 10 01544 | 003 | | KG | 0.232 | | |
| 001 | 001 | | 001 | MECHANISM SHAFT | 1 521 10 01501 | 00 | | KG | 5.753 | | |
| VAR.01 | VAR.00 | REMARKS | VAR. NO. | ITEM NO. | DESCRIPTION | UNIT | DRAWING NO. | IT. NO. | MATL. CODE | UNIT WT. | QTY. |
| | | | | | | | | | | | |

VAR. 00 : MATERIAL CODE: BP9089125370
GES NO.: 409531056, FOR C1 V.I.

VAR. 01 : MATERIAL CODE: BP9089125434
GES NO.: 409531065, FOR B14 V.I.

| | | | | | |
|------------------------|--|--------------------------------------|--|--------------------|--|
| ADDITIONAL INFORMATION | | TYPE OF PRODUCT | | VM12 (820) | |
| STATUS OF DRAWING | | NAME OF CUSTOMER / PROJECT | | | |
| DISTRIBUTION OF PRINTS | | Bharat Heavy Electricals Ltd. Bhopal | | | |
| O/C-1 SWM-3 TCX-1 | | UNTEL. DIMS. GR. | | SCALE | |
| | | 1:1 | | WEIGHT | |
| | | AA0621104 | | REF. TO ASSY. DRG. | |
| | | ASSY. OF MECHANISM SHAFT VM-12 (820) | | DRAWING NO. | |
| | | | | 2 521 10 01662 | |
| | | | | SHEET NO. 01 | |
| | | | | NO. OF SHEETS 01 | |

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INVENTORY NO. SIGN & DATE REF. DES. NO.

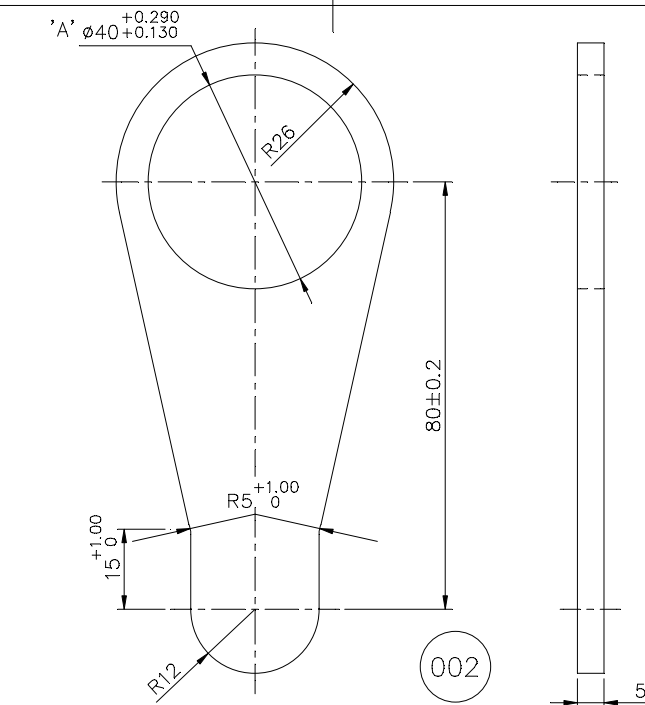
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|-----|------|----------|-----|------|----------|-----|------|----------|-----|------|----------|-----|------|----------|-----|------|----------|-----|------|----------|
| REV | DATE | ALTERED | REV | DATE | ALTERED | REV | DATE | ALTERED | REV | DATE | ALTERED | REV | DATE | ALTERED | REV | DATE | ALTERED | REV | DATE | ALTERED |
| | | CHECKED | | | CHECKED | | | CHECKED | | | CHECKED | | | CHECKED | | | CHECKED | | | CHECKED |
| | | APPROVED | | | APPROVED | | | APPROVED | | | APPROVED | | | APPROVED | | | APPROVED | | | APPROVED |
| 1 | | | 2 | | | 3 | | | 4 | | | 5 | | | 6 | | | 7 | | |

INVENTORY NO.

1492603 – 10E9 REAMER
1492604 – 10E9 PLUG GAUGE
1492611 – 12E9 REAMER
1492612 – 12E9 PLUG GAUGE

| | |
|------------|---------------|
| SHT.NO. 01 | NO.OF SHT. 01 |
|------------|---------------|


| INVENTORY NO. | SIGN. & DATE | REF. DRG. NO. |
|---------------|--------------|---------------|
| | | |



NOTE: - LIMITS OF HOLE 'A' $\phi 40^{+0.290}_{+0.130}$ APPLICABLE FOR MIN 1/3RD THICKNESS OF PLATE.

| | |
|----|---------------|
| 28 | → CARD TYPE-2 |
|----|---------------|

| | | | |
|---|-----|----|-------|
| 0 | 021 | 10 | 01022 |
| | | | |

| | | | | | | | |
|--------------------|---|---|-----------------|------------------------------|---|------------------------------------|-----------------------------|
| foHAXX DEPT SWE | v_u Vky_u uki dh Js.kh UNTOLDIMS. GR |  | vuglkr SCALE | HAKj fd_xk- WEIGHT (K.G.) | vis_ M&k&b&z&x dk lanHAZ REF. TO ASSY. DRG. 35213030576-001,002 35211001523-001,002 45217001514-001 | en d- ITEM NO. | en_ la;:k NO. OF ITEM |
| dkm CODE 409 | 3A 521 10 01522 | | 1:1 | | | - | 004 |
| "kh"AZOLE | | | | | vksj[A d-l DRAWING NO. | | iqu_<EV |
| <u>LEVER</u> | | | | | 3 521 10 01522 | | 03 |
| | | | | | i="B d- No. 01 | i="Bksa dh la;: NO. OF SHIT. 02 | |

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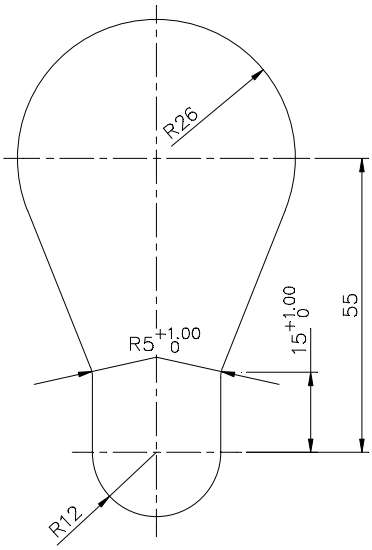
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

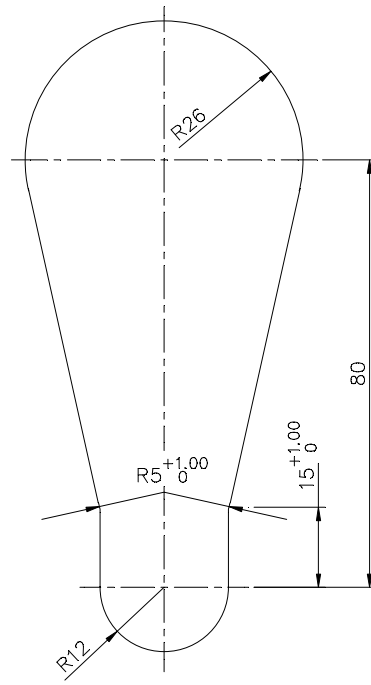
22/94

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DRG. NO. 3 521 10 01522



003



004

FOR B.O.M. REFER SHT 01

| VAR NO. | REMARKS | VAR NO. | ITEM NO. | DESCRIPTION | STD. | DRAWING NO. | IT. NO. | MATL. CODE | A | UNIT | UNIT WT. | G.S. | ZONE |
|---------|---------|---------|----------|-------------|------|-------------|---------|--------------|---|------|----------|------|------|
| VAR | | | | | | | VAR | MATL. SPECN. | C | | QTY. | | |

ADDITIONAL INFORMATION

STATUS OF DRAWING B

DISTRIBUTION OF PRINTS

O.C - 1 TCX - 1
SWGR - 3

mRikn dk i-dkj ;k
xk-gd@fj;kstuk dk uke
TYPE OF PRODUCT OR
NAME OF CUSTOMER/PROJECT

VCB



HAKjr gsoh bysfDV&dYl fyfeVsM
HAKsiky
BHARAT HEAVY ELECTRICALS LTD.
BHOPAL

| uKe@NAME | gLrk@SGN | fnaukd@ATE | osfj_ dh |
|----------|----------|------------|-------------------------|
| BDV | Sd/- | - | la[j;k NO. OF VAR |
| MZG | Sd/- | 18.8.82 | - |
| BPN | Sd/- | 28.8.82 | - |

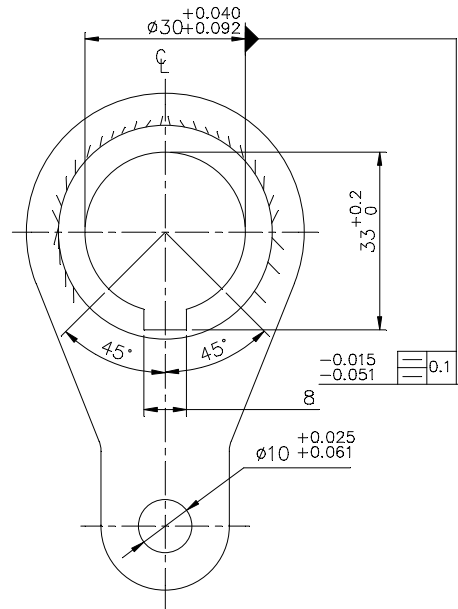
| INVENTORY NO. | SIGN. & DATE | REF. DRG. NO. | REV. | DATE | ALTERED | Sd/- | REV. | DATE | ALTERED | Sd/- | faHAKx DEPT | vu_ Vky_ uki dh js.kh UNTIL DIMS. GR. | vuqjkr SCALE | HAKj fd_xk- WEIGHT (K.G.) | vis_ M&kbZax dk lanHAZ REF. TO ASSY. DRG. | en d- ITEM NO. | en_ la;j;k NO. OF ITEM |
|---------------|--------------|---------------|------|---------|--------------------------------|------|------|--------|-----------------------|------|----------------|--|-----------------|------------------------------|---|-------------------|------------------------------|
| | | | 03 | 9.11.04 | CHECKED APPROVED RM | | 02 | 7.3.86 | CHECKED APPROVED | | SWE | AA0230208 | 1:1 | | 35213030576-001,002 35211001523-001,002 45217001514-001 | - | 004 |
| | | | | | DRG. REDRAWN. & SHT. 02 ADDED. | | | | ITEM 003 & 004 ADDED. | | | | | | 3 521 10 01522 | | 03 |
| | | | | | (DCA NO. 21621) | | | | (DCA NO.) | | | | | | | | |

LEVER

i="B d-S No. 02 i="Bksa dh la[j;k NO. OF SHT. 02

A3

DRG. NO. 3 521 10 01523



23/94

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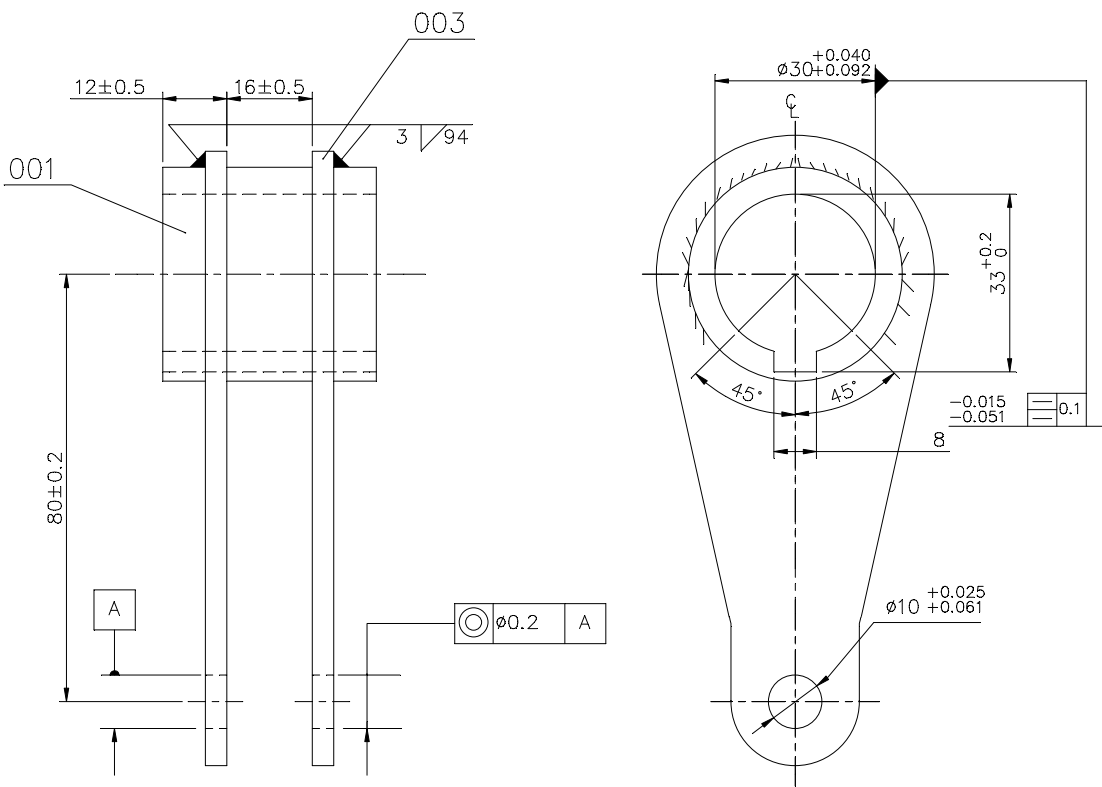
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

24/94

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DRG. NO. 3 521 10 01523



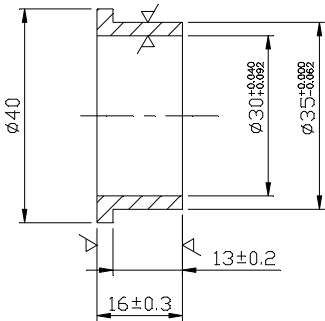

VAR.01

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------|--|----|--|----------|----|----------|----|------------------|--|----|--|----|----|-----|----|------------------|----|----|----|----|--|---------|----|-------------|----|----|----|------|--|----------|--|------|--|----|--|
| 65 | | 75 | | 78 | 79 | 25 | 27 | 29 | | 58 | | 59 | 60 | | 77 | | 29 | 31 | 34 | 45 | | 55 | 56 | 58 | 65 | | 72 | | | | | | | | |
| REMARKS | | | | VAR. NO. | | ITEM NO. | | DESCRIPTION | | | | | | STD | | DRAWING NO. | | | | | | IT. NO. | | MATL. CODE | | A | | UNIT | | UNIT WT. | | ZONE | | | |
| | | | | | | | | | | | | | | | | | | | | | | 32 | | 33 | | 46 | | 54 | | 68 | | 71 | | GS | |
| | | | | | | | | | | | | | | | | | | | | | | VAR. | | MATL. SPCN. | | | | | | QTY. | | | | | |
| 28 → CARD TYPE-3 | | | | | | | | 28 → CARD TYPE-1 | | | | | | | | 28 → CARD TYPE-2 | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | |
|---|---------------|---------|-------|--|--|---------|----|--|---------------|--------------------------------|------|---------------------------|----------------|-------|------------------------------|--|-------------------|----------------------------|
| REV. 04 | DATE 11.11.13 | ALTERED | AKN | STATUS OF DRAWING | mRkn dk i-dkj ; k xk-gd@fj;kstuk dk uke TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT | | | | | | | | | | | | | |
| -FINISH NOTE MODIFIED. -NOTES 1 FOR WELDING MODIFIED. | | | | DISTRIBUTION OF PRINTS | VCB (36KV) | | | | | | | | | | | | | |
| (DCA NO. 32213) | | | | O.COPY-----1 SWM-----3 TCX-----1 | HAKjr gsoh bysfDV&dYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | | | | | | | | | | | | |
| REV. 03 | DATE 09.06.07 | ALTERED | DIVYA | REV. 02 | DATE 9.11.04 | ALTERED | RM | REV. 01 | DATE 30.10.82 | ALTERED | Sd/- | DEPT SWE | UNTD.DIMS. GR. | SCALE | HAkj fd_xk- WEIGHT (K.G.) | vis_ M&kbZax dk lanHAZ REF. TO ASSY. DRG. | en d- ITEM NO. | en_ la;k NO. OF ITEM |
| WELDING SYMBOLE WAS 3/63 WELDING REMOVED ACROSS THE ARC LENGTH OF ANGLE MARKED 90° SHT.02 ADDED (DCA NO. 26817) | | | | DRG. REDRAWN. (DCA NO. 21627) | | | | TOOL NO. 1497666,1492669,1492667 & 1492668 ADDED.FOR IT.001 MAT. WAS 040x40LG. BRIGHT STEEL BAR TO BP10172 AND MAT.CODE BP 1010272012 STYLE NOS ADDED. (DCA NO.) | | | | 35211001556 092 003 | | | | | | |
| LEVER | | | | | | | | | | 3 521 10 01523 | | | | 04 | | | | |
| i="B d-800. No. 02 | | | | | | | | | | i="Bksa dh la;q:100 OF SHT. 02 | | | | | | | | |

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45211001505-R01-S01
FILE NAME
SIGN. & DATE
INVENTORY NO.

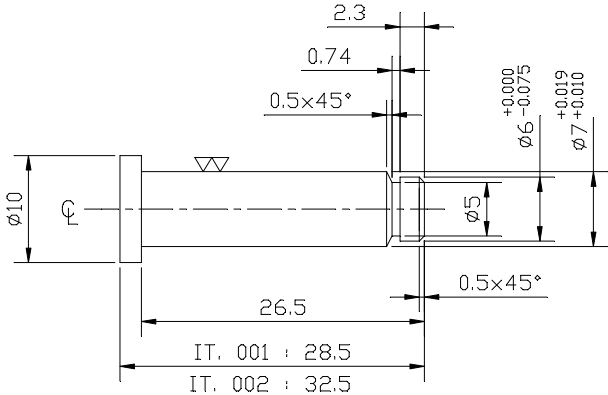
| | | | | | | | | | | |
|---|----------|----------|---|----------|-------------------------------|------------------------|-----------------------------|-------------------|---|-------------------------------------|
| REV. | DATE | ALTERED | REV. | DATE | ALTERED | ADDITIONAL INFORMATION | | | | |
| 02 | 02.06.07 | CHECKED | 03 | 18.09.17 | CHECKED | - | | | | |
| | | APPROVED | | | APPROVED | | | | | |
| TOLERANCE FOR DIM. $\phi 30$ WAS $+0.040$ -0.092 (DCA.26804) | | | FINISH WEIGHT ADDED. (DCA.35204) | | | STATUS OF DRAWING B | | | | |
| | | | | | | DISTRIBUTION OF PRINTS | | SWE | SWM | TCX |
| | | | | | | | | 1 | 3 | 1 |
| <div>TOOL LIST: - 1 492 658 : 30 Eg REAMER 1 492 659 : 30 Eg PLUG GAUGE</div> <div>NOTE: - 1. FINISH WEIGHT = 0.038kg.</div> <div></div> | | | | | | | | | | |
| BP909 9431867 | | | 001 | | ø40 x 16 Lg. HT BRASS ROD. | | | - | | 0.169 |
| 65 REMARKS | | | 7525 2729 ITEM NO. | | 58 DESCRIPTION | | | 59 34 AA 12117 | | 56 KG. |
| | | | | | 58 MTRL. CODE | | | 45 55 A C | | 58 UNIT WT. |
| | | | | | 46 MTRL. SPCN. | | | 54 UNIT | | 68 QTY. |
| 28 → CARD TYPE-3 | | | 28 → CARD TYPE-1 | | | 28 → CARD TYPE-2 | | | | |
|  | | | HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | | uke NAME | | qlrk SIGN | fnuakd DATE | osfj. dh la; k NO. OF VAR. |
| | | | | | | cuk;k DRN | | BDV | Sd/- | 24.9.82 |
| | | | | | | tkap;k CKD | | MZG | Sd/- | 25.9.82 |
| | | | | | | vugak;k APPD | | BN/RKG | Sd/- | 30.9.82 |
| foHAKx DEPT SWE | | | vu_ Vky_ uki dh js.kh UNITL.DIMS. GR. M AA 0230205 | | vuqikr SCALE 1:1 | | HAKj fd_xk_ WEIGHT (KG.) | | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. | |
| dksM CODE 409 | | | | | | | 3 521 10 01556 | | en d_ _ ITEM NO. | |
| 'Ah"AZdC | | | | | | | 4 521 10 01505 | | en la; k NO. OF ITEM | |
| | | | | | | | 4 521 10 01505 | | 02 | |
| | | | | | | | i="B d_ _ No. 01 | | i="Bksa dh la; k NO. OF SHT. 01 | |

BUSH

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IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

| | | | | | | | | | |
|------|------|----------|-------------------------|------|-----------------|------------------------|-----|-----|--|
| REV. | DATE | ALTERED | REV. | DATE | ALTERED | ADDITIONAL INFORMATION | | | |
| | | CHECKED | | | CHECKED | | | | |
| | | APPROVED | | | APPROVED MAK | | | | |
| | | | DIM. FOR CHAMFER ADDED. | | | STATUS OF DRAWING | | | |
| | | | (DCA NO. 26510) | | | B | | | |
| | | | | | | DISTRIBUTION OF PRINTS | | | |
| | | | | | | SWE | SWM | TCX | |
| | | | | | | 1 | 3 | 1 | |



NOTE :-



PINS SHALL BE STOKED IN OIL TO AVOID RUSTING

| | | | | | | | | | | | | |
|--------------------------------------|---|--|---|--|---------------------------------------|------------------|-----------------------------|----|--|----|------------------------------------|----------------------------------|
| 45211001512-R03-S01 REF. DRG. NO. | BP9099431570 | | 002 | 10 DIAx32.5 LG. STAINLESS STEEL BAR | AA 1070221066 | | | | 0.02 | | | |
| | BP9099431465 | | 001 | 10 DIAx28.5 LG. STAINLESS STEEL BAR | AA 10721 | | | | 001 | | | |
| | BP9099431465 | | 001 | 10 DIAx28.5 LG. STAINLESS STEEL BAR | AA 1070221066 | | | | 0.02 | | | |
| | BP9099431465 | | 001 | 10 DIAx28.5 LG. STAINLESS STEEL BAR | AA 10721 | | | | 001 | | | |
| SIGN. & DATE | REMARKS | | ITEM NO. | DESCRIPTION | STD | MATL. CODE | 54 | 55 | 56 | 68 | UNIT WT. | |
| | | | | | | MATL. SPCN. | | | | | QTY. | |
| | 28 → CARD TYPE-3 | | 28 → CARD TYPE-1 | | | 28 → CARD TYPE-2 | | | | | | |
| | | | | | | | | | | | | |
| INVENTORY NO. | HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | | | uke NAME | | qlrk- SIGN | | fnugkd DATE | | osfl- dh la;k NO. OF VAR. | |
| | foHAKx DEPT SWE | | vu_ Vky_ uki dh js.kh UNTIL DIMS. GR. M AA 0230208 | | vuglkr SCALE 2:1 | | HAKj fd_xk- WEIGHT (KG.) | | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. 05213040524 | | en d- ITEM NO. 073 | en la;k NO. OF ITEM 002 |
| | dksM CODE 409 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | 'Ah"AZB | | | | vkjs[A d-DRG. WING NO. 45211001512 | | | | iquREV. 03 | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

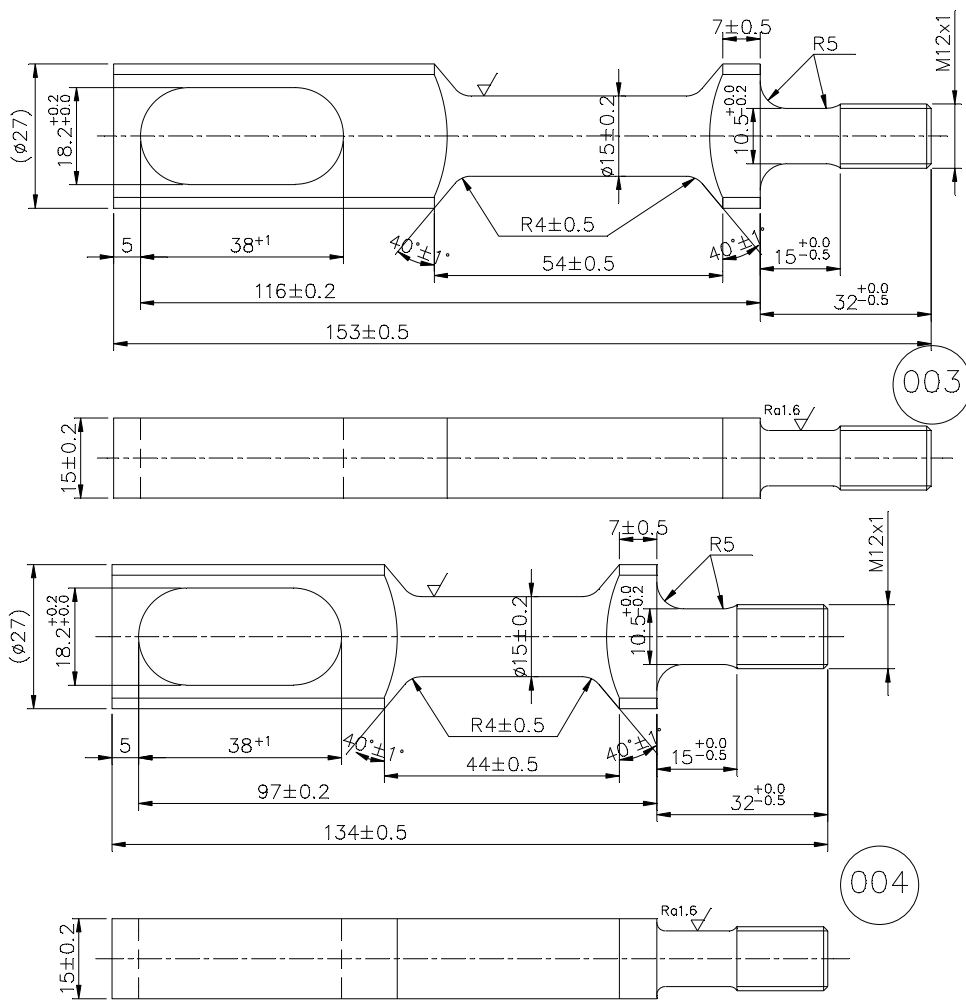

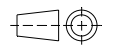
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IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY

FIRST ANGLE PROJECTION

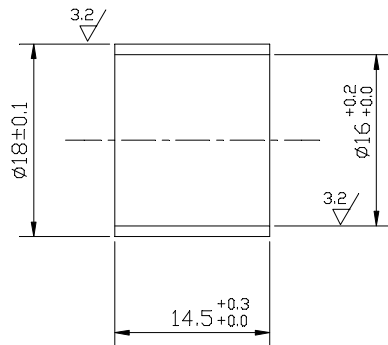
(ALL DIMENSIONS ARE IN mm)

| REV. 07 | DATE 8.12.04 | ALTERED CHECKED APPROVED RM | REV. 06 | DATE 25.9.99 | ALTERED CHECKED APPROVED | Sd/- Sd/- Sd/- | ADDITIONAL INFORMATION | | | | | | | | | | |
|--|--|---|---|--|--|--|---------------------------|------|--------------|-----|-------------------|-----|-------------------|-----|--|-----|--|
| DRG. REDRAWN. & SHT. 02 & 03 ADDED | | | FOR IT. 001 DIM 'a' WAS 80 & DIM. 27 WAS 32. | | | STATUS OF DRAWING | | | | | | | | | | | |
| (DCA NO. 20121) | | | (DCA NO. 9695) | | | DISTRIBUTION □.C.-1 SWM-4 OF PRINTS TCX-1 | | | | | | | | | | | |
| <div>TOOL LIST :- STD TOOL - CENTRALISING KEY WAY MILLING FIXTURE 1492776 - M12x1 THREAD GUAGE 1498766 - FORM TOOL (L.H.) 1498767 - FORM TOOL (R.H.) 1564247 - SLOTTING TOOL</div> <div>NOTE :- PROTECT THE THREAD BY PELIFILM IMMEDIATELY AFTER MACHINING.</div> <div>FINISH :- NATURAL</div> <table><thead><tr><th>ITEM</th><th>REF TO ASSY.</th></tr></thead><tbody><tr><td>001</td><td>35211001500 (101)</td></tr><tr><td>002</td><td>35211001500 (102)</td></tr><tr><td>003</td><td></td></tr><tr><td>004</td><td></td></tr></tbody></table> | | | | | | | | ITEM | REF TO ASSY. | 001 | 35211001500 (101) | 002 | 35211001500 (102) | 003 | | 004 | |
| ITEM | REF TO ASSY. | | | | | | | | | | | | | | | | |
| 001 | 35211001500 (101) | | | | | | | | | | | | | | | | |
| 002 | 35211001500 (102) | | | | | | | | | | | | | | | | |
| 003 | | | | | | | | | | | | | | | | | |
| 004 | | | | | | | | | | | | | | | | | |
| ST943438 | 004 | 27 DIAx134 LG STAINLESS STEEL BAR | AA10721 | | | 0.198 001 | | | | | | | | | | | |
| ST943170 | 003 | 27 DIAx153 LG STAINLESS STEEL BAR | AA10721 | | | 0.232 001 | | | | | | | | | | | |
| ST943169 | 002 | 27 DIAx145 LG STAINLESS STEEL BAR | AA10721 | | | 0.218 001 | | | | | | | | | | | |
| ST943168 | 001 | 27 DIAx117 LG STAINLESS STEEL BAR | AA10721 | | | 0.169 001 | | | | | | | | | | | |
| REMARKS | ITEM NO. | DESCRIPTION | MATL. CODE | MATL. SPCN. | UNIT WT. | QTY. | | | | | | | | | | | |
| 28 → CARD TYPE-3 | | 28 → CARD TYPE-1 | | 28 → CARD TYPE-2 | | | | | | | | | | | | | |
|  | | HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | uke NAME cuk;k DRN TSE | qlrk- SIGN Sd/- | fnuakd DATE - | | | | | | | | | | | |
| | | | | tkap;k CKD MZG | Sd/- | 25.9.82 | | | | | | | | | | | |
| | | | | vugekstf APPD BPN/RKG | Sd/- | 13.10.82 | | | | | | | | | | | |
| foHAKx DEPT SWE | vu_ Vky_ uki dh js.kh UNTEL.DIMS. GR. |  | vuqikr SCALE 1:1 | HAKj fd_xk- WEIGHT (KG.) | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. 35211001500 | en d- ITEM NO. 101 108 | | | | | | | | | | | |
| dkSM CODE 409 | C/M/F | | | | | en la;k NO. OF ITEM 004 | | | | | | | | | | | |
| 'Ah"AZB | | | | vkjs[A d-DRAWING NO. 4 521 10 01544 | | iquREV. 07 | | | | | | | | | | | |
| | | | | i="B d-SHT. No. 01 | | i="Bksa dh la;K OF SHT. 03 | | | | | | | | | | | |

| | | | | | | | | | | | |
|---|--|---|-----------------------------------|---|--|--|-------------------------------------|--|--|---------------------------|--|
| REV. 07 | | DATE 8.12.04 | ALTERED CHECKED APPROVED RM | REV. 06 | | DATE 25.9.99 | ALTERED CHECKED APPROVED Sd/- | Sd/- Sd/- Sd/- | | ADDITIONAL INFORMATION | |
| DRG. REDRAWN. & SHT. 02 & 03 ADDED | | | | FOR IT. 001 DIM 'a' WAS 80 & DIM. 27 WAS 32. | | | | STATUS OF DRAWING | | | |
| (DCA NO. 20121) | | | | (DCA NO. 9695) | | | | DISTRIBUTION □.C.-1 SWM-4 OF PRINTS TCX-1 | | | |
| <p>Technical drawing of a Spring Guide showing two views (001 and 002) with dimensions and tolerances. View 001 shows a side view with dimensions: (ø27), 18.2^{+0.2}/_{-0.0}, 5, 34⁺¹, 85^{±0.2}, 117^{±0.5}, 7^{±0.5}, R5, 10.5^{+0.0}/_{-0.2}, 15^{+0.0}/_{-0.5, 27^{+0.0}/_{-0.5, M12x1, 15^{±0.2}, 40^{±1}, R4^{±0.5}, 25^{±0.5}, 15^{+0.0}/_{-0.5, 7^{±0.5}, R5, 10.5^{+0.0}/_{-0.2}, 15^{+0.0}/_{-0.5, 32^{+0.0}/_{-0.5, M12x1, 15^{±0.2}, 40^{±1}, R4^{±0.5}, 53^{±0.5}, 108^{±0.2}, 145^{±0.5}, Ra1.6. View 002 shows a top view with dimensions: (ø27), 18.2^{+0.2}/_{-0.0}, 5, 34⁺¹, 108^{±0.2}, 145^{±0.5}, 7^{±0.5}, R5, 10.5^{+0.0}/_{-0.2}, 15^{+0.0}/_{-0.5, 32^{+0.0}/_{-0.5, M12x1, 15^{±0.2}, 40^{±1}, R4^{±0.5}, 53^{±0.5}, 108^{±0.2}, 145^{±0.5}, Ra1.6.}}}}}}}</p> | | | | | | | | | | | |
| | | HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | | | uke NAME | | qLrk- SIGN | | fnuakd DATE | |
| foHAXx DEPT SWE | | vu_ Vky_ uki dh js.kh UNTEL.DIMS. GR. | | vugikr SCALE | | HAKj fd_xk- WEIGHT (KG.) | | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. | | en d-- ITEM NO. | |
| dkSM CODE 409 | | | | 1:1 | | - | | 35211001500 | | 101 108 | |
| 'Ah"AZD | | SPRING GUIDE | | | | vkjs[A d-DRAWING NO. 4 521 10 01544 | | | | en la;k NO. OF ITEM | |
| | | | | | | i="B d-SHT. No. 02 | | | | ikuREV. 07 | |
| | | | | | | i="Bksa dh la[NO OF SHT. 03 | | | | | |


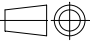
| | | | | | | | | | | | | | | | | | | | |
|--|--|--------------|--|-----------------------------------|--|--|--|--------------|--|-------------------------------------|--|---|--|------------------------|--|--|--|--|--|
| FIRST ANGLE PROJECTION | | | | | | | | | | (ALL DIMENSIONS ARE IN mm) | | | | | | | | | |
| REV. 07 | | DATE 8.12.04 | | ALTERED CHECKED APPROVED RM | | REV. 06 | | DATE 25.9.99 | | ALTERED CHECKED APPROVED Sd/- | | Sd/- | | ADDITIONAL INFORMATION | | | | | |
| DRG. REDRAWN. & SHT. 02 & 03 ADDED | | | | | | FOR IT. 001 DIM 'a' WAS 80 & DIM. 27 WAS 32. | | | | | | STATUS OF DRAWING | | | | | | | |
| (DCA NO. 20121) | | | | | | (DCA NO. 9695) | | | | | | DISTRIBUTION OF PRINTS □.C.-1 SWM-4 TCX-1 | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | |
| <div><div><div>HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL</div></div><div><div>foHAKx DEPT SWE dkSM CODE 409</div><div>vu_ Vky_ uki dh js.kh UNTEL.DMS. GR.</div><div></div><div>vugjkr SCALE 1:1</div><div>HAKj fd_xk_ WEIGHT (KG.) —</div></div><div><div>vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. 35211001500</div><div>en d_ ITEM NO. 101 108</div><div>en la; k NO. OF ITEM 004</div></div></div> <div><div>vkjs[A d-DRAWING NO. 4 521 10 01544</div><div>iquREV. 07</div></div> <div><div>i="B d-SHT. No. 03</div><div>i="Bksa dh la; k NO. OF SHT. 03</div></div> | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | |
|------|------|----------|------|---------|---|--|------------------------|------------------------|-----|-----|-----|
| REV. | DATE | ALTERED | REV. | DATE | ALTERED | | ADDITIONAL INFORMATION | | | | |
| | | CHECKED | | | CHECKED | | | | | | |
| | | APPROVED | | | APPROVED | | | | | | |
| | | | 05 | 23.8.01 | DRG. REDRAWN. BP CODE 12 DIGIT ADDED. (DCA NO. 10893) | | | STATUS OF DRAWING | | | |
| | | | | | | | | DISTRIBUTION OF PRINTS | SWE | SWM | TCX |
| | | | | | | | | | 1 | 3 | 1 |



APPLY TRP :- CASTROL RUSTILO 630/HP
RUSTOP 285 FOR STORAGE

NOTE :- ALTERNATIVELY THIS CAN BE MANUFACTURED
FROM $\phi 20$ BRT. S. BAR. TO AA 1010212095

| | | | | | | | | |
|---|--|---|---|------------------------|-------------------------------------|--|--------------------------------|-------------------------------------|
| BP9099430220 | | 001 | 21.3 D/×4.5 TK.14.5 LG. M.S. TUBE(HFS) | | BP 1011054990 | | 0.0109 | |
| | | | | | AA 10154 | | 001 | |
| REMARKS | | ITEM NO. | DESCRIPTION | | STD | MATL. CODE | UNIT | UNIT WT. |
| | | | | | | MATL. SPCN. | | QTY. |
| 28 → CARD TYPE-3 | | 28 → CARD TYPE-1 | | 28 → CARD TYPE-2 | | | | |
|  | | HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | | uke NAME | qlrk SIGN | fnugkd DATE | osfl_ dh la; k NO. OF VAR. |
| | | | | | cuk; k DRN | T.S.E. | | |
| | | | | | tkapk CKD | M.Z.G. | Sd/- | 17.08.82 |
| | | | | | vugaksfmr APPD | B.P.N./R.K.G. | Sd/- | 24.08.82 |
| foHAKx DEPT SWE | | vu_ Vky_ uki dh js.kh UNTIL DMS. GR. M AA 0230208 |  | vuglkr SCALE 2:1 | HAKj fd_xk- WEIGHT (KG.) - | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. 35211001500 | en d- ITEM NO. 003 | en la; k NO. OF ITEM 001 |
| aksM CODE 409 | | | | | vksj[A d-DRAWING NO. 45211001545 | | REV. 05 | |
| 'Ah"AZOLE | | BUSH | | | I="B d-SHT. No. 01 | | I="Bksa dh la; k NO OF SHT. 01 | |

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

| | | | | | | | |
|------|------------|----------|------|---------|----------|-----------|-------------|
| REV. | DATE | ALTERED | REV. | DATE | ALTERED | R. RAJORE | ADDITIONAL |
| 04 | 07.06.2002 | CHECKED | 05 | 12.3.01 | CHECKED | S. KUMAR | INFORMATION |
| | | APPROVED | | | APPROVED | INDRAPAL | |

| | | |
|------------------|------------------|------------------------|
| DRAWING REDRAWN. | DRAWING REDRAWN. | STATUS OF DRAWING |
| (DCA NO. 11433) | (DCA NO. 11433) | B |
| | | DISTRIBUTION OF PRINTS |
| | | OC-1, SWM-3, TCX-1 |

TOOL LIST

| ITEM | TOOL NO. | DESCRIPTION |
|------|----------|-----------------------------|
| 001 | 1564226 | SNAP GAUGE |
| 002 | 1564227 | DRILL JIG (ALL HOLES) |
| 003 | 1564210 | PRESS TOOL |
| 004 | 1564208 | DRILL JIG |
| 005 | 1492612 | 12E9 PLUG GAUGE |
| 006 | 1492605 | PRESS TOOL (FOR 120T PRESS) |
| 007 | 1492606 | 7E9 REAMER |
| 008 | 1492607 | 7E9 PLUG GAUGE |
| 009 | 1492611 | 12E9 REAMER |

NOTE :-

- LIMIT OF HOLE A ($\phi 30 \pm 0.240$ to $+0.110$) APPLICABLE FOR MIN. $1/3^{rd}$ THICKNESS OF PLATE.
- IT.001 WILL BE MADE 20 NOS. FROM IT.002
- RADIUS OF EDGES : 0.03mm (WHEN NOT SHOWN).

| | | | | | | |
|-----------------|---------|--------------------------------|---------------|--------------|------|----------|
| SEE NOTE 2 | 002 | 4TK x 152 x 1250 LG HRCS SHEET | AA 1011713160 | | | |
| | | | AA10113 | | | |
| 45211001553-002 | 001 | LEVER | BP 9099461925 | | KG. | 0.260 |
| | | | | | | 001 |
| REMARKS | ITEM NO | DESCRIPTION | STD. | MATL. CODE | UNIT | UNIT WT. |
| | | | | MATL. SPECN. | | QTY. |

| | | | | | | |
|----------------------------------|---|-----------------------------------|--------------------------------------|--|--|-----------------------------------|
| | HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | uke NAME TSE MZG BPN/RKG | glrk SIGN -Sd- -Sd- -Sd- | fmgkd DATE | osfj dh la; k NI. OF VAR. | |
| foHAKX DEPT SWE dksM CODE 409 | vu Vky uki dh Js.kh UNTIL DIMS. GR. M AA 0230208 | vuqkr SCALE 1:1 | HAKjr fd_xk- WEIGHT (KG) 0.260 | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. 15211001537 15211001502 15211001501 | en d- ITEM NI. 005 004 005 | en lo; k NI. OF ITEM 002 |

| | |
|------------------------|--|
| 'Ah"AZDLE LEVER | vkjs[A d-DRAWING NO. 4 521 10 01553 i="B d-Ser. No. 01 i="Bkso dh lo; k OF SHT. 01 |
|------------------------|--|

4HT40900508

Technical drawing of a mechanical part with the following dimensions and features:


- Overall width: 55 ± 0.2
- Overall height: $60 \pm 30'$
- Left hole diameter: $\phi 10 \begin{smallmatrix} +0.025 \\ +0.061 \end{smallmatrix}$
- Left hole radius: $R12 \pm 0.5$
- Top hole diameter: $\phi 8 \begin{smallmatrix} +0.025 \\ +0.06 \end{smallmatrix}$
- Top hole radius: $R10 \pm 0.5$
- Top hole radius: $R5 \pm 1$
- Right hole diameter: $\phi 30 \begin{smallmatrix} +0.240 \\ +0.110 \end{smallmatrix}$ (Feature A)
- Right hole radius: $R22 \pm 0.5$
- Distance from left hole center to right hole center: 55 ± 0.2
- Distance from top hole center to right hole center: 35 ± 0.2


TOOL LIST

- 1494601-8E9 REAMER
- 1494602-8E9 PLUG GAUGE
- 1494603-10E9 REAMER
- 1494604-10E9 PLUG GAUGE

NOTES:-

- LIMITS OF HOLE A $\phi 30 \begin{smallmatrix} +0.240 \\ +0.110 \end{smallmatrix}$
- APPLICABLE FOR MIN. $1/3^{rd}$ THICKNESS OF PLATE.

| | | | |
|---|--|--|--|
| 28 → CARD TYPE-3 | 28 → CARD TYPE-1 | 28 → CARD TYPE-2 | |
|  <div> <p>HAKjr gsoh bysDV&hdYl fyfeVsM</p> <p>HAKsiky</p> <p>BHARAT HEAVY ELECTRICALS LTD.</p> <p>BHOPAL</p> </div> | <div> <p>uke NAME</p> <p>guk;k DRN</p> <p>tkapk CKD</p> <p>gukgkstmr APPD</p> </div> | <div> <p>guk SIGN</p> <p>Sd/-</p> <p>Sd/-</p> </div> | <div> <p>fnugak DATE</p> <p>21.7.82</p> <p>25.7.82</p> </div> |
| | | | <p>osfj- dh</p> <p>lal;k</p> <p>NG OF</p> <p>VAR.</p> <p>-</p> |

| | | | | | | | |
|--------------------|--|---|------------------------|------------------------------|--|-------------------------|----------------------------------|
| foHAKv DEPT SWE | vu_ Vky_ uki dh Js.kh UNTOL.DIMS. GR. M AA0230208 |  | vuqikr SCALE 1:1 | HAKj fd_xk_ WEIGHT (K.G.) | vis_M&kbZax dk lonHAZ REF. TO ASSY. DRG. 15217001606 IT.003 | en d_— ITEM NO. | en fo[ik NO. E ITEM 002 |
| dkslM CODE 409 | <div>'Ah"AZDLE</div> <div>LEVER</div> | | | | vkjs[A d_—DRAWING NO. 45211001554 | | iquREV. 02 |
| | | | | | i="B d_—SHT. No. 01 | i="Bkso dh fo[ikSHT. 01 | |

REV. 05

DATE

ALTERED
CHECKED
APPROVED

REV. 06

DATE 05.01.17

ALTERED JD
CHECKED SKG
APPROVED AKHIL

ADDITIONAL INFORMATION

DRG. REDRAWN.

GROOVE DIM.28.600.-28.470
CHANGED.

STATUS OF DRAWING B

(DCA. NO. 34505)

(DCA 34506)

DISTRIBUTION OF PRINTS O.C.-1 SWM-3 TCX-1

TOOL LIST

1492610-GROOVING TOOL

DETAILS 'X'

SHARP EDGES

Ø30.000
Ø29.870

SHARP EDGES

1±0.5X45°±5°

M6 FOR IT. 002

465±0.5

531±0.5

DETAILS 'Y'

1±0.5X45°±5°

SHARP EDGES

Ø28.6+0.00
-013

10±1

13±1

1.66
1.60

M6 FOR IT. 002

DETAIL 'X'

3±0.2

SHARP EDGES

1±0.5X45°±5°

Ø28.6+0.00
-013

3±0.2

1.6+0.06
+0.00

DETAIL 'Y'

NOTE ; - NATURAL

28 → CARD TYPE-3

28 → CARD TYPE-1

28 → CARD TYPE-2

forHAKx
DEPT SWE

dkm
CODE 409

vu_ Vky_ uki dh js.kh
UNTEL.DIMS. GR.
M
AA0230208

HAKj gsoh bysDV&hdYl fyfeVsM
HAKsiky
BHARAT HEAVY ELECTRICALS LTD.
BHOPAL

vuqkr
SCALE
1.1

HAKj fd_xk_—
WEIGHT (KG.)

vis_M&kbZax dk lanHAZ
REF. TO ASSY. DRG.
15211001501
15213030526

en d—
ITEM NO.
001
001

en la;k
NO. OF
ITEM
002

'Ah"AZD

SHAET

vkjs[A d—DRAWING NO.
45211001555

iquREV.
06

l="B d—SHT. No. 01

l="Bksa dh la;k OF SHT. 01

35/94

161

52110/45211001560-R03-S01

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FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

| | | | | | | | |
|------|------|----------|------|----------|----------|-----------|-------------|
| REV. | DATE | ALTERED | REV. | DATE | ALTERED | R. RAJORE | ADDITIONAL |
| | | CHECKED | | | CHECKED | S. KUMAR | INFORMATION |
| | | APPROVED | 03 | 12.03.01 | APPROVED | INDRAPAL | |

| | | | |
|-------------|-----------------|------------------------|--------------------|
| | DRAWING REDRAWN | STATUS OF DRAWING | B |
| (DCA114-30) | | DISTRIBUTION OF PRINTS | OC-1, SWM-3, TCX-1 |

NOTE :-

1. LIMITS OF HOLE A ($\phi 30 \begin{smallmatrix} +0.240 \\ +0.110 \end{smallmatrix}$) APPLICABLE FOR MIN.1/3rd THICKNESS OF PLATE.

| ITEM | TOOL NO. | DESCRIPTION |
|------|----------|--------------------------------|
| 001 | 1492609 | PRESS TOOL FOR 120T PRESS |
| 001 | 1492603 | 10E9 REAMER |
| 001 | 1492604 | 10E9 PLUG GAUGE |
| 001 | 1564085 | DRILL JIG FOR $\phi 4 \pm 0.1$ |
| 001 | 1564219 | BLANKING TOOL WITHOUT HOLES |
| 001 | 1564220 | DRILL JIG FOR 3 HOLES |

| | | | | | | | |
|--|-----|----------------------------------|-------------|----|-------|--|--|
| | 001 | 5TKx89x59 STRUCTURAL STEEL PLATE | AA101808073 | KG | 0.210 | | |
| | | | AA10108 | | 001 | | |

| | | | | | | | | | |
|---------|---------|-------------|-----|--------------|---|------|----------|---|------|
| REMARKS | ITEM NO | DESCRIPTION | STD | MATL. CODE | A | UNIT | UNIT WT. | G | ZONE |
| | | | | MATL. SPECN. | C | | QTY. | | |

बीएचईल

BHEL

HAKjr gsoh bysDV&hdYl fyfeVsM
HAKsiky
BHARAT HEAVY ELECTRICALS LTD.
BHOPAL

uke NAME

gLRk SIGN

fnuakd DATE

osfj_ dh

cuk;k DRN

TSE

-Sd-

tkap;k CKD

MZG

-Sd-

vugakstmr APPD

BPN/RKG

-Sd-

osfj_ dh

lq;k

NEI OF VAR.

| | | | | | | | |
|-----------------|---------------------------------------|--|--------------|--------------------------|--|----------------|---------------------|
| foHAKx DEPT SWE | vu_ Vky_ uki dh js.kh UNTIL DIMS. GR. | | vuqikr SCALE | HAKj fd_xk_ WEIGHT (KG.) | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. | en d_ ITEM NO. | en lq;k NEI OF ITEM |
| dkm CODE 409 | AA 0230208 | | 1:1 | 0.210 | 15211001537 15211001501 | 002 002 | 001 |

'Ah"AZB

LEVER

vkjs[A d-DRAWING NO.

4 521 10 01560

iquREV.

03

| | |
|-----------------|-------------------------|
| i="B d-SHT. No. | i="Bksa dh lq;k OF SHT. |
|-----------------|-------------------------|

4HT40900591

REF. DRG. NO.

SIGN. & DATE

INVENTORY NO.

36/94

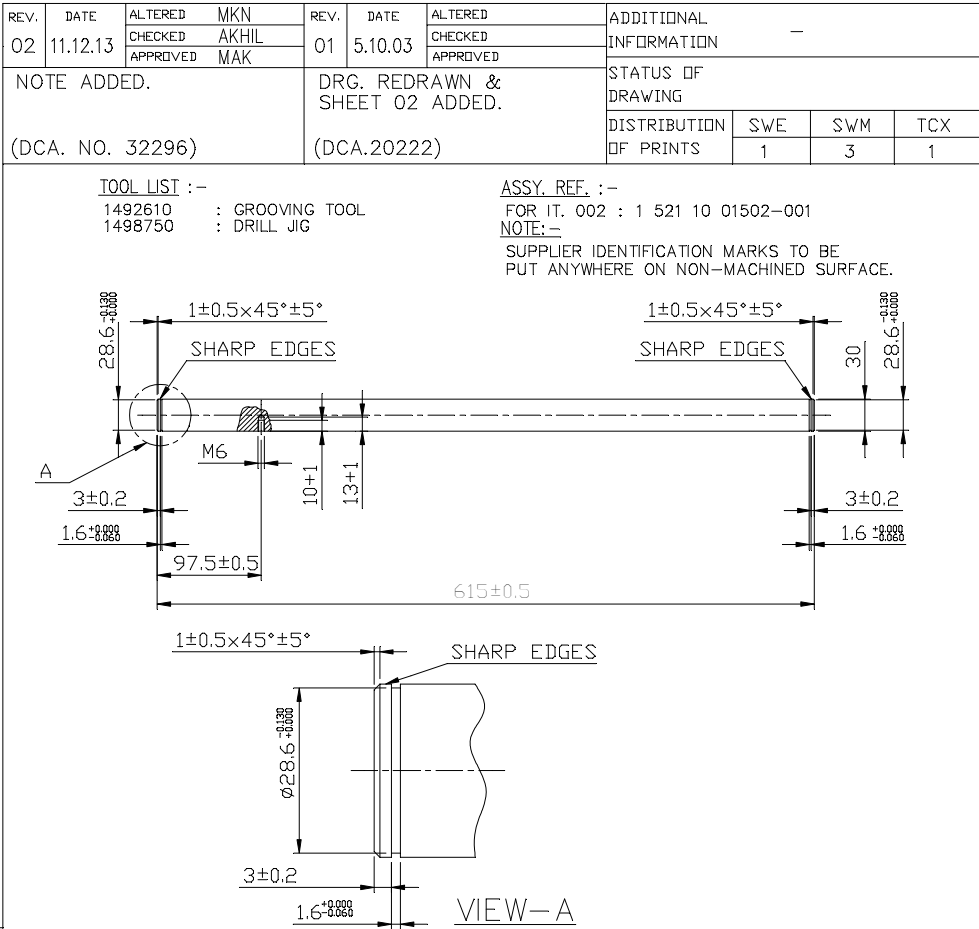
161

4HT 409007720

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| | | | | | | | | | | | | | |
|--------------------|--------------|---|--|------------------|--|------------------------------|--|---|--|--------------------|--|-----------------------------|--|
| INVENTORY NO. | SIGN. & DATE | 45211001574-R02-S01 FILE NAME | | | | | | | | | | | |
| | | 28 → CARD TYPE-3 | | | | | | | | | | | |
| | | 28 → CARD TYPE-1 | | | | | | | | | | | |
| 28 → CARD TYPE-2 | | 28 → CARD TYPE-3 | | 28 → CARD TYPE-1 | | 28 → CARD TYPE-2 | | | | | | | |
| foHAKx DEPT SWE | | vu_ Vky_ uki dh Js.kh UNITLE.DIMS. GR. | | vuglkr SCALE | | HAKj fd_xk_— WEIGHT (KG.) | | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. | | en d_— ITEM NO. | | en la;q;k NO. OF ITEM | |
| dkSM CODE 409 | | DIM C/M./F | | 1: 5 | | | | 1 521 10 01502 | | 001 | | — | |
| *Ah"AZdC | | | | | | | | vkjs[A d—B—C—ING NO. | | | | iquREV. | |
| SHAFT | | | | | | | | 4 521 10 01574 | | | | 02 | |
| i="B d—S—T. No. 01 | | | | | | | | i="Bksa dh la;q;k OF SHT. 02 | | | | | |

SDIS: 9893018671



37/94

161

4HT 409007720

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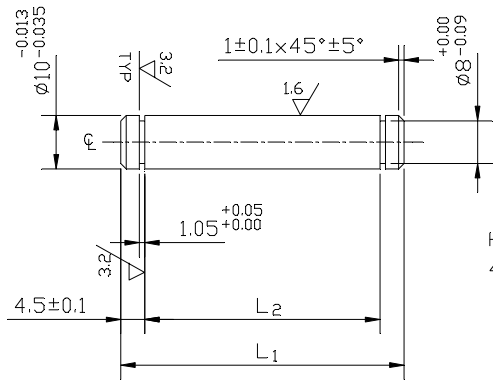
| | | | | | | |
|---------------|--------------|--|---------------------|--|-----------|--|
| INVENTORY NO. | SIGN. & DATE | | 45211001574-R02-S02 | | FILE NAME | |
| | | | | | | |

| | | | | | | | | | | | |
|--|----------|--|-------|---|---------|------------------------------|------------------------|----------|--|--|--|
| REV. | DATE | ALTERED | MKN | REV. | DATE | ALTERED | ADDITIONAL | | | | |
| 02 | 11.12.13 | CHECKED | AKHIL | 01 | 5.10.03 | CHECKED | INFORMATION | | | | |
| | | APPROVED | MAK | | | APPROVED | | | | | |
| NOTE ADDED. | | | | DRG. REDRAWN | | | STATUS OF DRAWING | | | | |
| (DCA. NO. 32296) | | | | (DCA.20222) | | | DISTRIBUTION OF PRINTS | SWE 1 | | | |
| | | | | | | | | SWM 3 | | | |
| | | | | | | | | TCX 1 | | | |
| NOTE:- SUPPLIER IDENTIFICATION MARKS TO BE PUT ANYWHERE ON NON-MACHINED SURFACE. | | | | TOOL LIST :- 1492610 : GROOVING TOOL 1498750 : DRILL JIG | | | | | | | |
| | | | | ASSY. REF. :- FOR IT. 002 : 1 521 10 01502-001 | | | | | | | |
| | | | | | | | | | | | |
| VIEW-A | | | | | | | | | | | |
| FOR B.O.M REFER DRG. NO. 4 521 10 01574 SH-01 | | | | | | | | | | | |
| | | | | HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | | | | | | |
| foHAKx DEPT SWE | | vu_ Vky_ uki dh Js.kh UNIT/DMS. GR. | | vuqikr SCALE 1:5 | | HAKj fd_xk_ WEIGHT (K.G.) | | | | | |
| dkSM CODE 409 | | | | | | | | | | | |
| *Ah"AZdC | | | | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. | | | | | | | |
| | | | | 1 521 10 01502 | | 001 | | | | | |
| | | | | vkjs[A d-BR@NG NO. | | en d-_ ITEM NO. | | | | | |
| | | | | 4 521 10 01574 | | 02 | | | | | |
| | | | | i="B d-S@T. No. 02 | | i="Bksa dh la[N@D OF SHT. 02 | | | | | |

SHAFT

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

| | | | | | | |
|---|--------------|--------------------------------|---|--------------|--------------------------------|---------------------------|
| REV. 04 | DATE 7.12.05 | ALTERED CHECKED APPROVED | REV. 03 | DATE 28.8.01 | ALTERED CHECKED APPROVED | ADDITIONAL INFORMATION |
| LENGTH OF ITEM 002 WAS 53 IN BOM AND 55 IN DRAWING.CORRECTED IN BOM. (DCA NO. 23368) | | | DRG. REDRAWN. BP CODE 12 DIGIT ADDED. M/C SYMBOL CHANGED (DCA NO. 10895) | | | STATUS OF DRAWING |
| | | | | | | DISTRIBUTION OF PRINTS |
| | | | | | | SWE |
| | | | | | | SWM |
| | | | | | | TCX |
| | | | | | | 1 |
| | | | | | | 3 |
| | | | | | | 1 |



HARDEN AND TEMPER TO
480±30 HV (48±2 HRC)



FINISH :- NATURAL

TOOL LIST :- 1492689- GROOVING TOOL

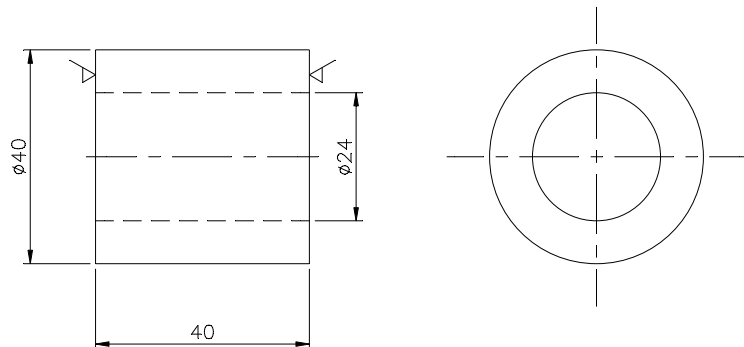
| ITEM | L ₁ ±0.3 | L ₂ ±0.3 |
|------|---------------------|---------------------|
| 001 | 53 | 44 |
| 002 | 55 | 46 |
| 003 | 63 | 54 |

NOTE :-

- 1) CARBON SHALL NOT BE LESS THAN 0.2 PERCENT.
- 2) ALTERNATIVELY USE MATERIAL TO EN 56D, BS1970.
- 3) FINAL DIMENSIONS TO BE ACHIEVED AFTER
ACHIEVING SPECIFIED HARDNESS.


| | | | | | | | | |
|------------------|--|---|---|------------------------|------------------------------|---|-------------------------------------|-----------------------------------|
| REF. DRG. NO. | BP9099430337 | 003 | 12 DIA×63 LG. STAINLESS STEEL BAR | AA 1070221074 | KG. | 0.056 | | |
| | | | | AA 10721 | | 001 | | |
| | BP9099430329 | 002 | 12 DIA×55 LG. STAINLESS STEEL BAR | AA 1070221074 | KG. | 0.0489 | | |
| | | | | AA 10721 | | 001 | | |
| BP9099430310 | 001 | 12 DIA×53 LG. STAINLESS STEEL BAR | AA 1070221074 | KG. | 0.047 | | | |
| | | | AA 10721 | | 001 | | | |
| REMARKS | ITEM NO. | DESCRIPTION | MATL. CODE | UNIT | UNIT WT. | | | |
| | | | MATL. SPCN. | | QTY. | | | |
| 28 → CARD TYPE-3 | | 28 → CARD TYPE-1 | | 28 → CARD TYPE-2 | | | | |
| SIGN. & DATE | <div></div> <div>HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL</div> | | | uke NAME | glrk SIGN | fnugkd DATE | osfl- dh la; k NO. OF VAR. | |
| | | | | cuk; k DRN | B.D. | Sd/- | | |
| | | | | tkapk CKD | M.Z.G. | Sd/- | | 10-08-82 |
| | | | | vugaksfhr APPD | B.P.N. | Sd/- | | 24-08-82 |
| INVENTORY NO. | foHAKx DEPT SWE | vu_ Vky_ uki dh Js.kh UNTIL DIMS. GR. M AA 0230208 |  | vugjkr SCALE 1:1 | HAKj fd_xk_— WEIGHT (KG.) | vis_M&k&Z&x& dk lanHAZ REF. TO ASSY. DRG. 35211001500 | en d— ITEM NO. 006 | en la; k NO. OF ITEM 001 |
| | dksl CODE 409 | | | | | vkjs[A d—DRAWING NO. 45211001595 | | iquREV. 04 |
| | 'Ah"AZDLE | | | | | | | |
| | | | | | | PIN | | |
| | | | | | I="B d—SHT. No. 01 | | I="Bkso dh la; NO OF SHT. 01 | |

| | | | | | | | |
|-----------------|----------------|------------------------------------|------------------|----------------|--------------------------------|--|---------------------------|
| REV. 03 | DATE 5.4.06 | ALTERED CHECKED APPROVED HRP | REV. 02 | DATE 9.3.86 | ALTERED CHECKED APPROVED | Sd/- Sd/- Sd/- | ADDITIONAL INFORMATION |
| DRG. REDRAWN | | | STYLE NO. ADDED. | | | STATUS OF DRAWING | |
| (DCA NO. 25459) | | | | | | DISTRIBUTION OF PRINTS □.C.-1 SWM-3 TCX-1 | |



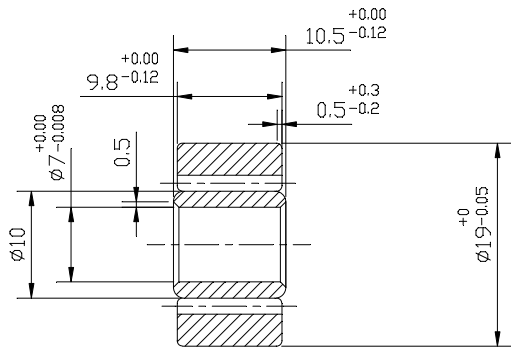
FINISH :- NATURAL

| | | | | | | | |
|---------------|-------------|--------------------------|-----|--------------|--|------|----------|
| BP909 9436688 | 001 | Ø40x40 LG BRT. S. BAR | | AA1010212206 | | KG | — |
| | | | | AA10112 | | | 001 |
| REMARKS | ITEM NO. | DESCRIPTION | STD | MATL. CODE | | UNIT | UNIT WT. |
| | | | | MATL. SPCN. | | | QTY. |

| | | | | | | | |
|---|--|---|--|--|--|--------------------------------------|--|
| 28 → CARD TYPE-3 | | 28 → CARD TYPE-1 | | 28 → CARD TYPE-2 | | | |
|  | | HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | uke NAME CHU | | glrk SIGN Sd/- | |
| | | | | tnapk MZG Sd/- | | fnuakd DATE 26.10.82 | |
| | | | | vucaksfmr APPD BPN/RKG | | Sd/- 29.10.82 | |
| foHAKx DEPT SWE | | vu... Vky... uki dh Js.kh UNTEL.DIMS. GR. M AA0230208 | | vuqjkr SCALE 1:1 | | HAKjg fd_xk... WEIGHT (K.G.) — | |
| dksM CODE 409 | | | | vs_M&kzbax dck lanHAZ REF. TO ASSY. DRG. 35211001523 | | en d... ITEM NO. 001 | |
| 'Ah"AZOLE | | | | vkjs[A d-DRG. NO. 4 521 10 01612 | | iquREV. 03 | |
| HUB | | | | i="B d-SHT. No. 01 | | i="Bksa dh lafSHT. 01 | |

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

| | | | | | | | | | | | | | | | |
|------------------------------------|------------------|----------|----------|--------------------------------------|------------------|----------|------|---------------------------|--|-----|--|-----|--|-----|--|
| REV. 04 | DATE 13.03.13 | ALTERED | ABHISHEK | REV. 03 | DATE 27.09.12 | ALTERED | PARE | ADDITIONAL INFORMATION | | | | | | | |
| | | CHECKED | RG | | | CHECKED | RG | | | | | | | | |
| | | APPROVED | MAK | | | APPROVED | MAK | | | | | | | | |
| CHAMFERING REMOVED FROM DIM Ø19 | | | | MODEL & MAKE UPDATED WEIGH ADDED. | | | | STATUS OF DRAWING | | | | B | | | |
| (DCA NO. 31755) | | | | (DCA NO. 31347) | | | | DISTRIBUTION OF PRINTS | | SWE | | SWM | | TCX | |
| | | | | | | | | | | 1 | | 3 | | 1 | |



LOAD CAPACITY :- STATIC LOAD C = 700 KG.
DYNAMIC LOAD CD = 730 KG.


RADIAL LOAD :- CW = 510 KG.
CDW = 610 KG.

RADIAL CLEARANCE :- 0.005 TO 0.024

NOTE :-

1. THE BEARING CONTAINS 24 NEEDLE ROLLERS OF Ø1.5x9.8LG. TYPE G2.
2. THE BEARING SHALL BE GREASED WITH ROLLER BEARING GREASE <NLGI2>
AS PER DIN 51825
3. THE BEARING IS EQUIVALENT OF NEEDLE ROLLER BEARING TYPE
1) STUTZROLLE F87773-1 ST7x19x10.5 WITH INNER RING 7x10x10.5 OF M/S INA.
2) STUTZROLLE F237522 A00 ST7x19x10.5 OF M/S INA.

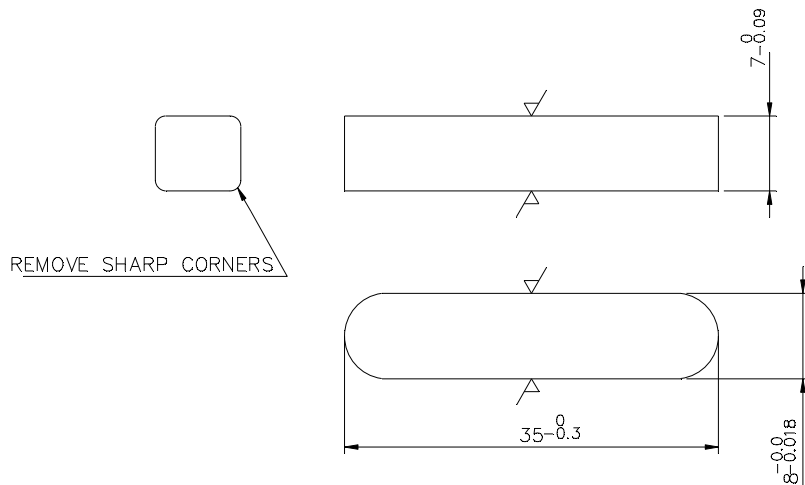
| | | | | | | |
|--------------|-------------|--------------------------|-----|-------------|------|----------|
| BP9029432551 | 001 | NEEDLE ROLLER BEARING | | SG 12720 | | 0.018 |
| REMARKS | ITEM NO. | DESCRIPTION | STD | MATL. CODE | UNIT | UNIT WT. |
| | | | | MATL. SPCN. | | QTY. |

| | | | | | | |
|------------------------|---|--|---|-----------------------------|--|----------------------------------|
| SIGN. & DATE | 28 → CARD TYPE-3 | | 28 → CARD TYPE-1 | | 28 → CARD TYPE-2 | |
| |  | | HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | uke NAME C.H.U. | qlrk SIGN Sd/- |
| INVENTORY NO. | foHAKx DEPT SWE | vu_ Vky_ uki dh js.kh UNIT/DIMS. GR. M AA 0230208 | vuglkr SCALE 1:1 | HAKj fd_xk_ WEIGHT (KG.) | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. 35211001556 | en d_ ITEM NO. 074 |
| | dkm CODE 409 | | | | | en la;k NO. OF ITEM 001 |
| 'Ah"AZB | | | | | vkjs[A d-DRWING NO. 45211001621 | |
| BEARING SUPPORT ROLLER | | | | | iquREV. 04 | |
| | | | | | i="B d-SHT. No. 01 | i="Bksa dh la;k OF SHT. 01 |

| | | | | | | | | | | | | | | | | | | | |
|--|--|---|--|--------------------------------|--|----------------------------------|--|------------------------------|--|--|--|----------------------------|--|----------------------------------|--|-------------------------|--|-----|--|
| FIRST ANGLE PROJECTION | | | | | | | | | | (ALL DIMENSIONS ARE IN mm) | | | | | | | | | |
| REV. 03 | | DATE 26/09 | | ALTERED CHECKED APPROVED | | REV. 02 | | DATE 23/02 | | ALTERED CHECKED APPROVED | | ADDITIONAL INFORMATION | | | | | | | |
| -NOTE-1 UPDATED TO ADD FAG MAKE AS PER SG12701. -DCA NO. CORRECTED. <DCA NO. 11318> | | | | | | DRG. REDRAWN. <DCA NO. 10966> | | | | | | STATUS OF DRAWING | | | | | | | |
| | | | | | | | | | | | | DISTRIBUTION OF PRINTS | | | | SWE | | SWM | |
| | | | | | | | | | | | | 1 | | 3 | | 1 | | | |
| REV. 03 | | DATE 23.03.2002 | | ALTERED CHECKED APPROVED | | | | | | | | | | | | | | | |
| DRG. REDRAWN. <DCA NO. 11318> | | | | | | | | | | | | | | | | | | | |
| <p>NOTE : - 1) THE BALL BEARING IS SINGLE ROW DEEP GROOVE BALL BEARING TYPE 6200-2Z OF M/S. SKF, M/S. INA OR M/S FAG MAKES.</p> <p>2) THE BALL BEARING SHALL COMPLY WITH DIN-625.</p> <p>3) THESE BEARING ARE WITH TWO SHIELDS <METAL></p> | | | | | | | | | | | | | | | | | | | |
| BP9029432721 | | 001 | | BALL BEARING TYPE 6200-2Z | | | | SG 12701 | | KG. | | 0.075 | | | | | | | |
| REMARKS | | ITEM NO. | | DESCRIPTION | | | | MATL. CODE | | UNIT | | UNIT WT. | | | | | | | |
| | | | | | | | | MATL. SPCN. | | | | QTY. | | | | | | | |
| 28 → CARD TYPE-3 | | 28 → CARD TYPE-1 | | | | 28 → CARD TYPE-2 | | | | | | | | | | | | | |
| | | HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | | | uke NAME B.L.K. | | qlrk SIGN Sd/- | | fnuakd DATE 23.12.82 | | osfj. dh No. OF VAR. | | | | | | | |
| foHAKx DEPT SWE | | vu Vky uki dh js.kh UNTIL DIMS. GR. M AA 0230208 | | | | vuqikr SCALE 2:1 | | HAKj fd_xk WEIGHT (KG.) - | | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. 35211001560 | | en d- ITEM NO. 036 | | en la;k No. OF ITEM 001 | | | | | |
| INVENTORY NO. | | TITLE BALL BEARING | | | | DRAWING NO. 45211001633 | | | | | | | | | | REV. 03 | | | |
| | | | | | | B d- SHT. No. 01 | | | | | | | | | | Bksa dh la;k OF SHT. 01 | | | |

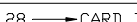
FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)


| | | | | | | |
|-----------------|----------------|--------------|-------------------------|-----------------|---------------|--|
| REV. 03 | DATE 6.4.06 | ALTERED | REV. 01 | DATE 2.12.04 | ALTERED Sd/- | ADDITIONAL INFORMATION |
| | | CHECKED | | | CHECKED Sd/- | |
| | | APPROVED HRP | | | APPROVED Sd/- | |
| DRG. REDRAWN. | | | TOOL NO. 1564081 ADDED. | | | STATUS OF DRAWING |
| (DCA NO. 25451) | | | | | | DISTRIBUTION OF PRINTS □.C.-1 SWM-3 TCX-1 |



TOOL NO. 1564081 (MILLING BLOCK)


| | | | | | | | |
|--------------|----------|--------------------------------|-----|-------------|------|----------|-------|
| BP9099434022 | 001 | 8x9x35 LG. CARBON STEEL BAR | | BP10399 | | Kg. | 0.070 |
| | | | | | | 001 | |
| REMARKS | ITEM NO. | DESCRIPTION | STD | MATL. CODE | UNIT | UNIT WT. | |
| | | | | MATL. SPCN. | | QTY. | |

| 28 → CARD TYPE-3 | 28 → CARD TYPE-1 | 28 → CARD TYPE-2 | | | | | | | | | | | | | | | | | |
|---|---|---|--------------------------------------|-----------|----------------|--------------------------------------|---------------|----|------|---------|--------------|-----|------|---------|-----------------|-----|------|--------|---|
|  | HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | <table border="1"> <thead> <tr> <th>ukr NAME</th> <th>gukr —</th> <th>fnugkr DATE</th> <th>osfj dh lal;k NE OF VAR.</th> </tr> </thead> <tbody> <tr> <td>cukr;k DRN</td> <td>MP</td> <td>Sd/-</td> <td>26.5.83</td> </tr> <tr> <td>tkpkr CKD</td> <td>ASN</td> <td>Sd/-</td> <td>29.5.83</td> </tr> <tr> <td>vugeksmr APD</td> <td>KGB</td> <td>Sd/-</td> <td>1.6.83</td> </tr> </tbody> </table> | ukr NAME | gukr — | fnugkr DATE | osfj dh lal;k NE OF VAR. | cukr;k DRN | MP | Sd/- | 26.5.83 | tkpkr CKD | ASN | Sd/- | 29.5.83 | vugeksmr APD | KGB | Sd/- | 1.6.83 | — |
| ukr NAME | gukr — | fnugkr DATE | osfj dh lal;k NE OF VAR. | | | | | | | | | | | | | | | | |
| cukr;k DRN | MP | Sd/- | 26.5.83 | | | | | | | | | | | | | | | | |
| tkpkr CKD | ASN | Sd/- | 29.5.83 | | | | | | | | | | | | | | | | |
| vugeksmr APD | KGB | Sd/- | 1.6.83 | | | | | | | | | | | | | | | | |

| | | | | | | | |
|---|--|---|-----------------------|---------------------------------------|---|--------------------------|----------------------------------|
| foHAKX DEPT SWE | vu_ Vky_ uki dh Js.kh UNTIL DIMS. GR. M AA0230208 |  | vuqkr SCALE 2:1 | HAKj fd_xk_ WEIGHT (K.G.) 0.018 | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. 15211030501 | en d_ ITEM NO. 055 | en fo;ik NO. E ITEM 001 |
| 'Ah"AZHLE <div style="text-align: center; font-size: 2em; margin: 10px 0;">KEY</div> | | | | | vkjs[A d-DRAWING NO. <div style="text-align: center; font-size: 1.5em; margin: 10px 0;">4 521 10 01649</div> | | iquREV. 03 |
| | | | | | i="B d-SHT. No. 01 | | i="Bkso dh fo;ik OF SHT. 01 |

52160/45216001666-R01-S01

[illegible]

| | | | | | | | | | | | | | | | |
|--|--|---|--|---|--|--|--|---------------------------------------|--|---|--|---|--|------------------------------------|--|
| <div><div>बीएच ई एल</div><div>BHEL</div></div> | | HAKjr gsoh bysDV&hdYl fyfeV5M HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | | | uke NAME DINJ JAIN SK tkapK PS SONKAR vugeksfr DK DIXIT | | glrk SIGN —Sd— —Sd— —Sd— | | frugkd DATE 29.10.85 29.10.85 29.10.85 | | osfj_ dh laj; k NI. OF VAR. — | | | |
| foHAKx DEPT SWE | | vu_ Vky_ uki dh Js.kh UNTIL DIMS. GR. M AA 0230208 | |  | | vuqikr SCALE 1: 1 | | HAKj fd_xk— WEIGHT (K.G.) 0.340 | | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. 15211001537 15219001501 | | en d— ITEM NI. 004 004 | | en laj; k NI. OF ITEM 001 | |
| 'Ah"AZD&E | | | | | | vkjs[A d—DRAWING NO. 4 521 60 01666 | | | | | | iquREV. 01 | | | |
| LEVER | | | | | | i="B d—SHT. No. 01 | | | | | | i="Bksa dh laj; k OF SHT. 01 | | | |

| | | | | | |
|------|------|--|--|--|---|
| REV. | DATE | ALTERED _____ CHECKED _____ APPROVED _____ | REV. 01 DATE 16.5.06 CHECKED _____ APPROVED _____ | ALTERED _____ CHECKED _____ APPROVED _____ | RM INFORMATION |
| | | | FINISH ADDED. | | STATUS OF DRAWING |
| | | | (DCA NO 25765) | | DISTRIBUTION OF PRINTS OC-1, SWM-3, TCX-1 |

CHAMF. 1x45° BOTH SIDES

[CTQ] -0.13
ø28.6+0.00

1±0.5X45°±5°
SHARP EDGES

M12

+0.00
1.6+0.06

3±0.2

16

[CTQ] AT BOTH ENDS 50 LONGS

-0.02
ø30-0.15

1±0.5X45°±5°
SHARP EDGES

M12

+0.00
1.6+0.06

3±0.2

16

[CTQ] -0.13
ø28.6+0.00

451±.05

| TOOL LIST | | |
|-----------|----------|---------------|
| ITEM | TOOL NO. | DESCRIPTION |
| 001 | 1492610 | GROOVING TOOL |

[CTQ-CRITICAL TO QUALITY]

FINISH: -

ALL SHARP EDGES SHALL BE
ROUNDED OFF AFTER MACHINING.

| | | | | | | | |
|---------|-----|-------------------------------|--------------|------|----------|------|------|
| REMARKS | 001 | ø30 x 451 LG BRIGHT STEEL BAR | AA1010212150 | UNIT | 2.517 | G.S. | ZONE |
| | | | AA10112 | | 001 | | |
| | | | MATL. CODE | | UNIT WT. | | |
| | | | MATL. SPECN. | | QTY. | | |

HAKjr gsoh bysDV&hdYl fyfeVsM
HAKsiky
BHARAT HEAVY ELECTRICALS LTD.
BHOPAL

| | | | |
|----------------------|----------------------|-------------------------|-----------------------------------|
| uke NAME R.RAJORE | glrk SIGN S.KUMAR | frugkd DATE 10.05.01 | osfl dh la;k NO. OF VAR. |
| vugksfrnDRAPAL | | | |

foHAKX DEPT SWE
 dksM CODE 409

vu Vky uki dh Js.kh
 UNTIL DIMS. GR.
 M
 AA 02Z0208

vuqjkr SCALE
 1:1

HAKj fd_xk-
 WEIGHT (KG)
 2.517

vls_M&k&bZox dk lonHAZ
 REF. TO ASSY. DRG.
 152190015503

en d-
 ITEM NO.
 001

en la;k
 NO. OF
 ITEM
 001

'Ah"AZBGE

SHAFT

| | |
|--|---------------|
| vksjs[A d-DRWING NO. 4 521 90 01507 | laqREV. 01 |
|--|---------------|

l="B d- SET. No.

i="Bksa dh la;k OF SHT.

52190/45219001541-R00_501
REF. DRG. NO.

SIGN. & DATE

INVENTORY NO.

REV.

DATE

ALTERED

CHECKED

APPROVED

REV.

DATE

ALTERED

CHECKED

APPROVED

ADDITIONAL INFORMATION

STATUS OF DRAWING

DISTRIBUTION OF PRINTS

OC-1, TCX-1, SWM-3,

B

| TOOL LIST | | |
|-----------|---------|-----------------------------|
| ITEM | TOOL NO | DESCRIPTION |
| 001 | 1492608 | PRESS TOOL (300/500T PRESS) |
| 001 | 1492611 | 12E9REAMER |
| 001 | 1492612 | 12E9 PLUG GAUGE |
| 001 | 1492603 | 10E9 REAMER |
| 001 | 1492604 | 10E9 PLUG GAUGE |

| TOOL LIST | | |
|-----------|---------|----------------|
| ITEM | TOOL NO | DESCRIPTION |
| 001 | 1492601 | 8E9 REAMER |
| 001 | 1492602 | 8E9 PLUG GAUGE |
| 001 | 1564209 | DRILL JIG |
| 001 | 1564212 | PRESS TOOL |
| 001 | 1564221 | SNAP GAUGE |

| 001 | | 5TK.X89X114 | | AA1011808013 | | KG. | | 0.451 | |
|---------|--|-------------|--|--------------|--|------------|--|----------|--|
| REMARKS | | ITEM NO. | | DESCRIPTION | | MATL. CODE | | UNIT WT. | |
| 65 | | 75 | | 27 | | 58 | | 65 | |
| | | | | | | 45 | | 55 | |
| | | | | | | 54 | | 56 | |
| | | | | | | 54 | | 58 | |
| | | | | | | 54 | | 71 | |

| 28 | | 28 | | 28 | |
|---------------------------|--|---|--|---|--|
| CARD TYPE-3 | | CARD TYPE-1 | | CARD TYPE-2 | |
| | | HAKjr gsoh bysDV&hdYl fyfeVsM HAKsiky BHARAT HEAVY ELECTRICALS LTD. BHOPAL | | uke NAME gLnk SIGN fnuakd DATE osfj. dh la; k NO. OF VAR. | |
| cuk;k DRN R. RAJORE | | tkap;k CKD S. KUMAR | | vugekstmr APPD INDRAPAL | |
| 7.6.02 | | | | | |

| foHAKx DEPT SWE | | vu Vky_ uki dh js.kh UNTOL.DIMS. GR. | | vuglkr SCALE | | HAKj fd_xk_ WEIGHT (K.G.) | | vis_M&kbZax dk lanHAZ REF. TO ASSY. DRG. | | en d_ ITEM NO. | | en la;k NO. OF ITEM | |
|--------------------|--|---|--|-----------------|--|------------------------------|--|---|--|-------------------|--|---------------------------|--|
| 409 | | AA0230208 | | 1:1 | | 0.500 | | 15219001503 | | 006 | | 001 | |
| Ah"AZ | | LEVER | | | | | | vkjs[A d-DRAWING NO. 4 521 90 01541 | | | | iquREV. 00 | |
| | | | | | | | | B d-SHT. No. 01 | | | | Bksa dh la; k OF SHT. 01 | |