

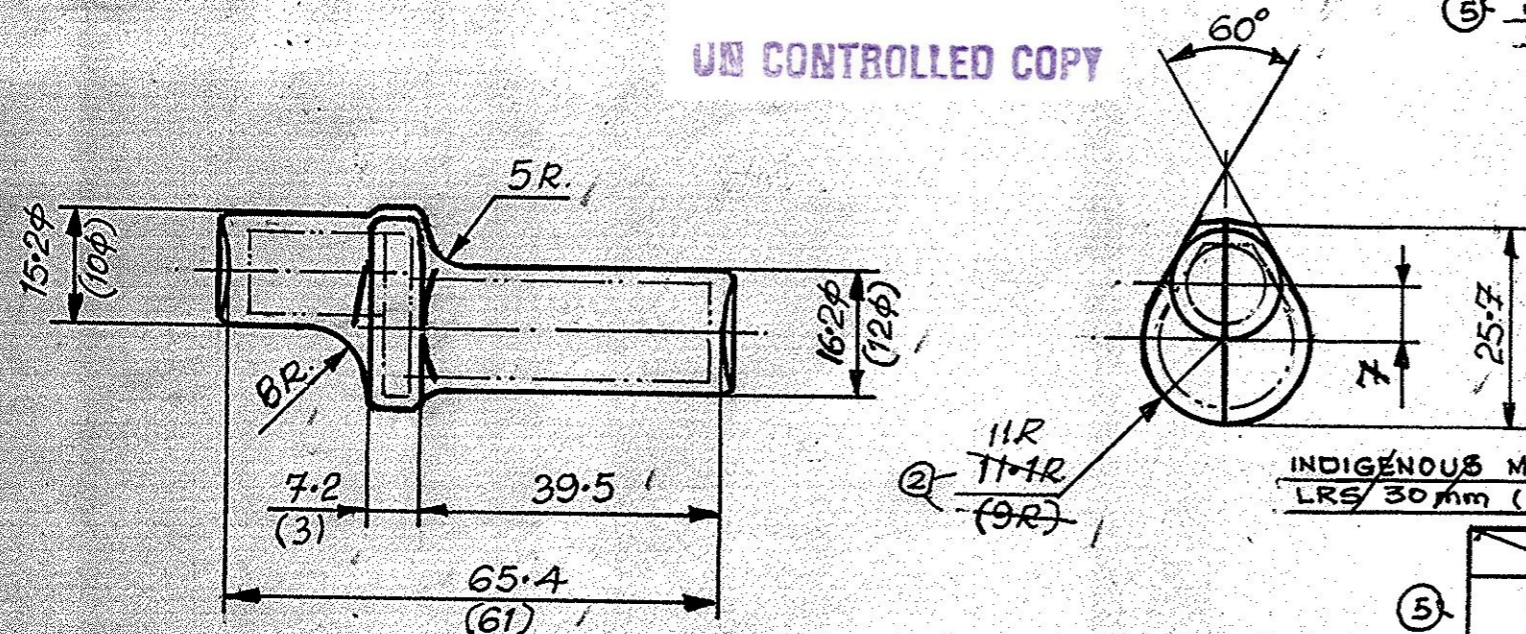
CERTIFIED CORRECT COPY  
OF APPROVED DRAWINGS  
AT THIS DATE.....

17.11.2020

Design & Drawing Office  
Ordnance Factory,  
Tiruchirappalli-620016

UN CONTROLLED COPY

**FORGING DRAWING**



**CHEMICAL COMPOSITION OF THE MATERIAL :- 30XPA**

C	0.28 - 0.33	Si	0.17 - 0.37
Mn	0.50 - 0.80	Cr	1.0 - 1.3
Ni	0.25 - 0.50	S	0.025 MAX.
P	0.025 MAX.	Cu	0.20 MAX.

INDIGENOUS MATERIAL: IS 4367-91, 25 CY 13 MO 6 'M' OR IS 5517, 25 CY 13 MO 6 'M' TEST SAMPLE SHALL BE HEAT TREATED AND TESTED TO LRS 63mm AUTHORITY: CGA (METALS) ICHAPUR, LY. NO. MQA-3/TS/B/1 Dt. 6/11-6-97.

THE FINISHED COMPONENT SHOULD ATTAIN A HARDNESS RANGE OF HRC<sub>3</sub> 43.5 TO 51.5 AFTER FINAL HEAT TREATMENT

INDIGENOUS MATERIAL: BS 970 Pt.1/83 G42/817 M40 (OR) IS 5517-83 DESIGN TO NIS/C14 M03 LRS/30mm (TENSILE STRENGTH 1500 MPa MIN.)

**HEAT-TREATMENT PROCESS CHART**

NOMENCLATURE AND IDT. NO:	STEEL GRADE	TYPE OF OPERATION	EQUIPMENT	TEMP. IN °C	TIME	COOLING MEDIUM	FIXTURE	HARDNESS INSPN. %
CARRIER C 5048	30XPA	NORMALIZING HEATING	ELECTRIC CHAMBER FURNACE OR PUSHER FURNACE	850-870	3 HRS PUSHING INTERVAL 15 MIN.	AIR	ON TRAY	3% BUT NOT LESS THAN 3 PIECES

- DRESSING OF PLACES FOR CHECKING HARDNESS
- CHECKING OF HARDNESS

**NOTES :-**

- DIMENSIONS ARE IN mm.
- SCALE :- 1:1
- FIRST ANGLE PROJECTION
- HEAT-TREATMENT :- NORMALIZING - HARDNESS HB 217 MAX.
- DE-SCALING :- PICKLING
- DISPLACEMENT IN PARTING LINE SHOULD NOT BE MORE THAN 0.3mm.
- REMAINDER FLASH ALONG DIE PARTING LINE SHOULD NOT EXCEED 0.5mm.
- ROD CURVATURE SHOULD NOT EXCEED 0.4 mm
- SURFACE DEFECTS :- SHOULD NOT EXCEED 0.5 mm IN DEPTH
- UN-SPECIFIED DRAFT ANGLE 7°
- UN-SPECIFIED RADII 15 mm
- ALLOWANCES ARE AS PER II CLASS GOST 7505-74
- TOLERANCES ARE AS PER II CLASS GOST 7505-74
- VERTICAL  $\begin{matrix} +0.2 \\ -0.5 \end{matrix}$
- HORIZONTAL  $\begin{matrix} +1.1 \\ -0.5 \end{matrix}$
- DIE FORGING BY HAMMER
- NUMBER OF PARTS OBTAINED FROM ONE DIE FORGING: 1 PIECE
- DIMENSION BETWEEN BRACKETS ARE FOR MACHINING.
- STAMPING OF CONVENTIONAL STAMP OF BLACK SMITH LETTERING NO 5-8 GOST 2930-62
- RAW MATERIAL SIZE :- 20φ  $\begin{matrix} +0.4 \\ -0.5 \end{matrix}$  X 80 LONG (HOT ROLLED)
- WEIGHT OF THE FORGING :- 0.133 Kgs.
- MATERIAL :- 30XPA OST-3-98-80

VETTED FOR... ONLY  
AS PER LAST DO... LETTER TO  
MQA-3/TS/B/1 dt. 6/11-6-97

*[Signature]*  
CMRV (JAGADISH)  
Sr. Scientific Officer  
Sr. Quality Assurance Estt. (Imports)  
Tiruchirappalli-620016.

E 5	DANO. 052/97 Dt. 11/8/97	11/8/97
UPDATED	DA.No. 022/97. Dt. 23-2-97.	23/2/97
D 4	DA.No. 058/96 Dt. 27/6/96.	27/6/96.
C 3	DA.No. 028/95. Dt. 13-4-95	13/4/95
B 2	DA.No. 59/92. Dt. 28-10-92	28/10/92
1	STORE DRG. NO ADDED	28/2/97
SL. NO	AMENDMENTS	SIG & DATE

FOR COMPONENT NO  
2A42-05-048 -CARRIER

<i>Sadhi</i> 22-08/84	<i>Asethraman</i>	6/88		<i>[Signature]</i> 27/6/88
REDRAWN	CHECKED	APPROVED	I/C PROJ.	WM/PROJ.

ORDNANCE FACTORY  
TIRUCHIRAPALLI-16  
DRG NO:  
64 C 5048 200E3