



# QUALITY ASSURANCE PLAN



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**GUN CARRIAGE FACTORY**  
**A GOVT. OF INDIA ENTERPRISE**  
**MINISTRY OF DEFENCE**  
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**A Summary of Changes section appears at the end of this specification**

QAP-00171 A	LEG SEMI TRAILER RETRACTABLE SUPPORT TO DRG .NO. 2590-001789	Page 1 of 5
	QUALITY ASSURANCE PLAN	



# QUALITY ASSURANCE PLAN



## SCOPE :-

This quality assurance plan is a general guide to meet the quality requirements of product. It consists of applicable procedures (describing production processes, inspection & testing instructions), applicable workmanship standards, the measurement tolerances applicable, the description of material standards and so forth. It also mentions the list of documents, test certificates that will be submitted by firm to GCF along with finished component.

## 1. Nomenclature & Drawing No. :

LEG SEMI TRAILER RETRACTABLE SUPPORT TO DRG.NO. [2590-001789](#).

## 2. Acceptance criteria of major manufacturing components:

Sl no.	Drg no.of the component	Std. use for Acceptance
1	<a href="#">AMG-71437</a> CHILD PARTS (1) <a href="#">71438</a> (2) <a href="#">62814</a>	MATL:- (1). <a href="#">BS:1449</a> En 2C (2). <a href="#">BS:1449</a> Pt.1-83 SEC.3,HR 43/25 (ALT.MATL:- <a href="#">BS:1449</a> ,Pt.1-1983 SEC 4 Gde 22 HS)
2	<a href="#">AMG-71899</a>	MATL:- <a href="#">BS:1449</a> , Pt.1-1983, Gde 22 , CONDITION HS SECTION 4
3	<a href="#">AMG-62791</a>	MATL:- BS/S-535 ALT.MATL:- <a href="#">STA-60</a> SUPPLIED IN SOFTENED CONDITION WITH TEST CONDITION BOTH IN SOFTENED AND 'C' CONDITION.
4	<a href="#">AMG-62790</a>	MATL:- BS:6323, Pt.4-1982, CFS 6 NBK
5	<a href="#">1015-000109</a>	MATL:- STEEL <a href="#">BS:970</a> , Pt.1-1983 Gde 070 M20
6	<a href="#">1015-000108</a>	MATL:- STEEL <a href="#">BS:970</a> , Pt.1-1983 Gde 070 M20

QAP-00171 A	LEG SEMI TRAILER RETRACTABLE SUPPORT TO DRG .NO. 2590-001789	Page 2 of 5
	QUALITY ASSURANCE PLAN	



# QUALITY ASSURANCE PLAN



### **3 Dimensional Inspection:**

All dimensions (critical, major & minor in nature) & geometrical features of drawings are to be covered in check sheet and should be duly inspected by concerned quality control section. Components, having dimensions as per drawing, should only be accepted by inspectorate. No deviation in dimension or in geometrical feature is permitted. Latest and calibrated measuring instrument with high accuracy as possible to be used for measurement. If computerized measuring machine like coordinate measuring machine etc are used for measurement their details along with tolerance and least count to be provided along with the report or mentioned in report.

### **4. Welding on Semi-finished/finished Component:**

Following standards is to be used as mentioned in various drawing:

SI No.	Standard used	Drg No. of the of the component for which standard to be followed
1	IS:814 (Pt.1)-1974, ELECTRODE E 307412 AS PER SPEC IS:815-1974	2590-001789 SHT.1 & SHT.2
2	IS:814 (Pt.II)-1974, ELECTRODE E 307 AS PER SPEC IS:815-1974	71438, 62814

### **5. Test on Semi-finished/finished Component: -**

SL. No.	TEST / CHECK	SAMPLE SIZE	ACCEPTANCE CRITERIA
A	Hardness Test (In process Inspection)	100%	If applicable, Hardness Within Specified hardness Range as per Standard.
B	Surface Treatment /Coatings	100%	As per standard
C	Environmental /Corrosion test	As applicable	If applicable as per standard specified
D	Radiography test	(25-50)% or 100% as mentioned in drawing	If applicable as per standard specified
E	Ultrasonic Test		according to - 0809391

QAP-00171 A	LEG SEMI TRAILER RETRACTABLE SUPPORT TO DRG .NO. 2590-001789	Page 3 of 5
	QUALITY ASSURANCE PLAN	



# QUALITY ASSURANCE PLAN



## **6. List of Documents to be submitted by the firm along with the component:**

**(To be submitted by firm along with finished component during factory end inspection)**  
Pre inspection report of material/component/item as per specification and standard mentioned in drawing.

- (1) Certificate of conformity by supplier if applicable.
- (2) Dimensional acceptance check sheet.
- (3) Heat treatment NABL Accredited/Gov. approved report with specified hardness as mentioned in standard along with graph, representing HT cycle, process and condition if any.
- (4) NABL / government approved NDT certificated report to be attached herewith, if the same test is mentioned.
- (5) Surface treatment report, if any.
- (6) Surface Coating conformation certificates for all sub-assy, if any.
- (7) Fabrication report along with SR report, if any.
- (8) Life testing/Reliability report for items like bearings etc. as applicable for items which are specially designed or developed for GCF factory.
- (9) Guarantee / Warranty Certificate.

## **7. Important Note:**

- (1) Hardware items of best trade Quality to be used.
- (2) Final authority of acceptance is based on the Fit for Trial (FFT) report of item/material/component.
- (2) Use rust preventative after integration, location specified as per drawings specification; if applicable.
- (3) If any query arises pertaining to dimensions, standards (viz. mechanical properties, chemical composition, Heat treatment etc.) or any other aspects which are mentioned in QAP but the same is mismatched with actual drawings/standards, then the firm should follow the drawing.
- (4) Firm may Supply Advance Sample to GCF Jabalpur before commencement of bulk production.

QAP-00171 A	LEG SEMI TRAILER RETRACTABLE SUPPORT TO DRG .NO. 2590-001789	Page 4 of 5
	QUALITY ASSURANCE PLAN	



# QUALITY ASSURANCE PLAN



## SUMMARY OF CHANGES

SL No	Document	Rev	Change
1	QAP OF LEG SEMI TRAILER RETRACTABLE SUPPORT TO DRG. NO. 2590-001789	A	Initial Release

GCF Released

QAP-00171 A	LEG SEMI TRAILER RETRACTABLE SUPPORT TO DRG .NO. 2590-001789	Page 5 of 5
	QUALITY ASSURANCE PLAN	