

F. No. IV-21011/16/2009-Prov.I  
Bharat Sarkar/Government of India  
Griha Mantralaya/Ministry of Home Affairs  
PM Division/Prov. I Desk

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26, Man Singh Road, Jaisalmer House  
New Delhi, Dated : 16 August, 2012

To, DsG : AR (through LOAR), BSF, CISF, CRPF, ITBP, SSB, NSG & BPR&D

Subject : Technical Specifications/QRs of General Purpose Machine Gun.

The Technical Specifications/QRs and the Trial Directives of General Purpose Machine Guns as per Annexure have been accepted by the Competent Authority in MHA.

2. Henceforth, all the CAPFs should procure the above items required by them strictly as per the laid down Technical Specifications/QRs.

Yours faithfully,



(S. B. Nanda)

Under Secretary to the Govt. of India  
Tel : 23381278

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Copy forwarded for necessary action : -

03/08 (i) Director, NIC, MHA : It is requested to host the revised QRs (soft copy attached) of General Purpose Machine Gun on the MHA website (under the page of Organisational Set up-Police Modernisation Division- Qualitative Requirements).

Ritesh Kumar  
16/8/12

(Ritesh Kumar)

Section Officer (Prov.II)

11/09 - Copy to : Director (Procurement), MHA.  
Copy for information to : PS to JS (PM)

Received  
P. B. D. O.  
dt 21/8/12

QRs FOR GENERAL PURPOSE MACHINE GUN (GPMG)

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1. **Caliber** - 7.62x51mm
2. **Effective Range** - Minimum 1000 meters
3. **Accuracy**

	<u>Distance</u>	<u>Single Rd Fire</u>	<u>Burst (2-3 Rds)</u>
(a)	100m	20cm dia	50 cm dia
(b)	500m	100 cm dia	250 cm target with optical sight.

Note : To be fired from a bipod.
4. **Cycle Rate of Fire** - Minimum 600 rounds per minute.
5. **Weight** - Maximum 12 Kg with bipod/tripod.
6. **Muzzle velocity** - Minimum 750 m/sec.
7. **Feed** - Belt/Box/Drum.
8. **Mount** - Bipod/Tripod.
9. **Safety** - Should have both mechanical & applied safety.
10. **Sighting System** - Should have open sight with provision for marking optical sight.
11. **Flash Suppressor** - Should have a flash suppressor.
12. **Operation** - Should not be adversely affected by temperature variations from -30 degree centigrade to + 55 degree Centigrade.
13. **Barrel** - Minimum life of 20000 rounds (for each barrel In case of spare barrel provided with weapon)

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14. **Maintenance** -
- (a) Cleaning Kit.
  - (b) Test equipment including Special Maint Tools & Special Testing Tools and Inspection Gauges.
  - (c) MRLS (Manufacturers Recommended List of spares)
  - (d) Training Aids – Charts, slides, trg brochure, trg work, model, blow up diagrams, video film etc.
  - (e) Technical Documentation.
  - (f) Physical Training in India.
  - (g) ISPL (Illustrated Spare Parts List)
  - (h) Technical Specifications of the store including inspection criteria.
  - (j) Proof schedule to include details of testing and acceptance criteria.
  - (k) Technical Manual giving full description of item.
  - (l) General Assembly Drawing.
  - (m) User Hand book.
  - (n) Cut out model (if applicable)
  - (o) Literature on preservation techniques as applicable.
  - (p) Specifications of packing, handling/ transportation/storage.
  - (q) Details regarding proof/periodic inspection by the user.

*Handwritten signatures and initials:*

- Top left: *Sgt. - SR K... RPR&D*
- Top middle: *Govind... DG&A (Stores)*
- Top right: *R. S. Chauhan SSF*
- Middle left: *ma yusuf CRPF*
- Middle middle: *CS Bhandari ITBP*
- Middle right: *Col Robertson DIG (ops), NSG*
- Bottom left: *DK (Prov) NSG*
- Bottom middle: *Approved: (RM Medhekar) Director General, NSG*
- Bottom right: *Maj Sandeep Lt Col Rohit Patil Jarm TSG*

## TRIAL DIRECTIVES FOR GENERAL PURPOSE MACHINE GUN (GPMG)

01

### Introduction.

1. The General purpose Machine Gun (GPMG) is required to enhance the operational reach of other task forces by enhancing the effective range of available weapon systems.

### Trial Requirements.

2. **Duration of Trials.** Minimum ten days. All the weapons along with accessories, ammunition and related literature being produced for user trials should be available one week prior to commencement of trials for pre-trial formalities.

3. **Number of Weapons.** Two weapons of same class should be provided by each vendor. Each weapon with six magazines and complete accessories should be submitted.

4. **Ammunition.** Vendor to offer 17,500 rounds per weapon, of the make of their choice. In addition 2,500 rounds as over all reserve. The ammunition as far as possible should be of fresh lot and the type of ammunition that can be fired from the weapon to be specified. However the weapon should be capable on firing Indian ammunition 7.62mm made by OFB.

5. **Technical Literature.** User Hand Book, Design Specification, illustrated Spare Part List, Preservation Instruction, (Complete Equipment Schedule) CES and Repair Manual including maintenance tasks, Procedure for assembly/stripping and safety precautions. These should be made available at the time of trial.

6. **Tools, SMT, Gauges.** One set of tools SMT and gauges should be made available to the Trial Team.

7. **Sound Production and Recoil Force.** OEM to submit a certificate indicating the sound level and recoil force prior to user trials.

8. **Environmental Adaptability.** OEM to submit a certificate indicating that weapon is tested to withstand temperature extremes prior to commencement of user trials.

9. The weapons should have been subjected to proof firing prior to positioning for user trials. **A certificate stating that the weapons are safe to fire for trials will be rendered by the OEM prior to commencement of user trials.**

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### Aspects to be Evaluated.

10. A holistic evaluation of the General Purpose Machine Gun (GPMG) will be carried out with reference to the following issues as indicated in the laid down QR's :-

- (a) General Features/Characteristics.
- (b) Physical Handling.
- (c) Operational Reliability.
- (d) Functional Adequacy.
- (e) Environmental Adaptability.
- (f) Accessories and Maintainability of the Weapon.

### General Features.

11. The general features of the weapon should conform to the laid down specifications in the User Hand Book and the Design Specifications. While assessing the general features of the weapon, following will be ascertained:-

- (a) Technical specifications.
- (b) Physical characteristics.
- (c) Furniture.

### Physical Handling.

12. The weapon should be compact, easy to carry, handle and operate. The handling of the weapon should be assessed by the following:-

- (a) Ease of carriage.
- (b) Handling of the weapon while mounting/dismounting from vehicles.
- (c) Bringing the weapon to fire both aimed and un-aimed fire.
- (d) Operation of butt catch for folding/unfolding of the butt.
- (e) **Ergonomics**. Special attention to be paid to ascertain that there are no obtrusive protrusions from the body of the weapon and the weapon is smooth to handle with well rounded surfaces and no sharp edges.

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**Operational Reliability.**

13. The operational reliability of the weapons should be evaluated by carrying out firing by the weapon to assess the following:-

- (a) Accuracy.
- (b) Sustainability of continuous fire without stoppages.
- (c) Flash generation.
- (d) Smoke emission.
- (e) Rate of fire in single shot and automatic firing mode.
- (f) Heating of the forehand guard.
- (g) Sound production.
- (f) Dispersion of shots in auto fire mode at 50 m.
- (j) Barrel condition on sustained firing.

14. The robustness and versatility of weapons should be checked by performing the following test:-

- (a) Drop test.
  - (b) Water Immersion test.
  - (c) Mud test.
  - (d) Sand test.
- } The details of testing procedures are given at Appendix 'A' attached.

15. **Life of Barrel.** The vender will submit a certificate authenticating the life of barrel from a accredited labs. The user force may however carryout test through conduct of actual fire.

16. In addition, following should also be checked:-

- (a) Smooth fitting and removal of the magazine from the weapon.
- (b) Ease of ammunition filling into the magazine, magazine capacity and magazine robustness.

**Functional Adequacy.**

17. The following functional parameters should be evaluated:-

- (a) Closing of the Breech.
- (b) Safety mechanism.
- (c) Trigger Operation.
- (d) Recoil.
- (e) Safety catch/Change lever operations.

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- (f) Accommodation of the sight.
- (g) Extraction process and ejection pattern of cartridge case.
- (h) Sling studs points and sling mounting.
- (j) Operation of magazine catch.

**Accessories and Maintainability**

18. **Accessories**. The accessories being provided should be as per the CES of the weapon.

19. **Maintainability**. Following will be checked:-

- (a) **Furniture**. Ease of replacement and maintenance.
- (b) Mean Time between Failure/Mean Time between Repair.
- (c) Degree of difficulty in carrying out "in situ" repairs.
- (d) Availability of spares and oil/lubricant.

**Questionnaire and Tests**

20. A set of questionnaire that needs to be answered as part of trial is at Appendix 'B'.

*Gautam Gupta, DGDA (SFOCS)*      *[Signature]*      *[Signature]*      *[Signature]*

*[Signature]*      *[Signature]*      *[Signature]*      *[Signature]*

*[Signature]*      *[Signature]*      *[Signature]*      *[Signature]*

*[Signature]*      *[Signature]*      *[Signature]*      *[Signature]*

**Approved/Not Approved**

Approved.

*[Signature]*  
 (R) Medhekar  
 Director General, NSG

*[Signature]*  
 DG (Asst) NSG

TESTING PROCEDURES1. Accuracy Test.

(a) At 100 m single round fire should fall within 20 cm x 20 cm and a burst of 2-3 rounds should fall within 50 cm diameter.

(b) At 500 m single round fire should fall within 100 cm diameter and burst of 2-3 rounds should fall within 250 cm diameter with optical sights.

2. Reliability Test. The GPMG must achieve almost 100% reliability i.e. not more than one stoppage defect in 2000 rounds fire. This will be tested by firing 300 rounds per twenty minutes and repeated after 15 minutes of cooling period.

3. Drop Test. The weapon to be dropped from a height of 5' (standing man shoulder height) on soft surface like mud/grass and ten rounds fired – 05 in single shot and 05 in automatic mode. The process is thereafter repeated by dropping the weapon on hard surface like cemented floor/tarmac road and similar firing being carried out. The weapon should sustain the firing with no stoppage.

4. Water Immersion Test. The weapon without the magazine be soaked in water for 60 minutes and thereafter subjected to firing of 10 rounds (05 rounds in single shot and 05 rounds in automatic mode). The weapon should fire without stoppages.

5. Mud Test.

(a) The weapon with its muzzle end blocked should be smeared with wet mud and thereafter should be able to fire 30 rounds in bursts. One stoppage is permissible during the fire.

(b) The weapon with its muzzle end blocked should be smeared with wet mud and thereafter should be able to fire 30 rounds. One stoppage is permissible during the fire

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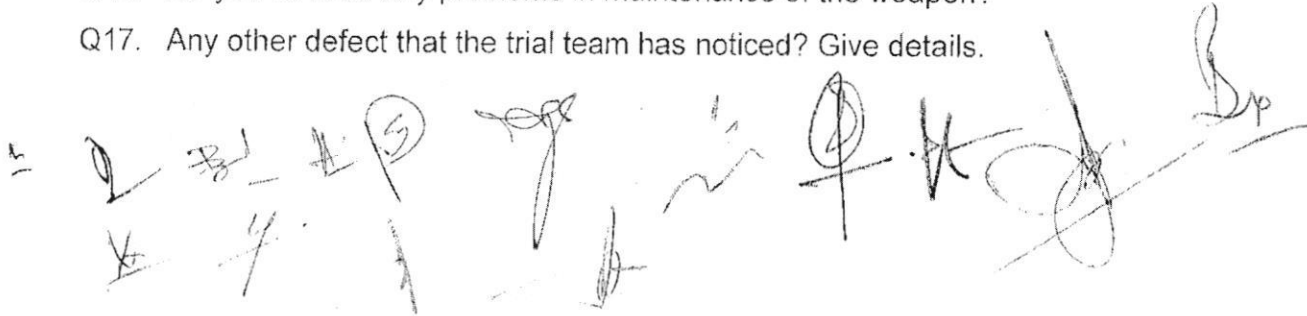


GENERAL PURPOSE MACHINE GUN (GPMG)

TRIAL QUESTIONNAIRE

- Q1. Is the weapon simple to operate and fire?
- Q2. Does the weapon give out excessive smoke and flash during day and night firing?
- Q3. What are the general characteristics of the weapon?
- Q4. Is there any difficulty in zeroing of the weapon? Are any special tools required for zeroing?
- Q5. Does the pistol grip easily lend itself to gripping and enable easy change over of the safety catch?
- Q6. Is it possible to cock the weapon easily?
- Q7. What are the stoppages that developed during the trial? Give details.
- Q8. Were there any misfire? Describe.
- Q9. Are you satisfied with the safety mechanism? (The weapon should not fire when dropped).
- Q10. Is the change lever convenient to operate?
- Q11. Is the recoil effect when firing acceptable?
- Q12. Is the sound produced during firing acceptable?
- Q13. Can the weapon operate in extreme of temperature?
- Q14. Was there any undue wear and tear of the barrel during the trial firing?
- Q15. Are the spares, accessories and literature adequate?
- Q16. Do you foresee any problems in maintenance of the weapon?
- Q17. Any other defect that the trial team has noticed? Give details.

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A series of handwritten signatures and initials are present at the bottom of the page. From left to right, there are several distinct marks: a signature that appears to be 'S', a signature that appears to be 'P', a signature that appears to be 'K', a signature that appears to be 'W', a signature that appears to be 'M', a signature that appears to be 'D', and a signature that appears to be 'Bp'. There are also some smaller, less legible initials and scribbles scattered around these main signatures.