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SASR REPORT
ON TRIALS CONDUCTED ON THE
RMC/PROJECT (L1A1 7.62mm MODIFICATION)

General

1. In 1970 whilst a Cadet at RMC Duntroon, Capt Kevin Loughrey designed and built a weapon designated the RMC/PROJECT L1A1 7.62mm modification.
2. Since 1970, the weapon has been used by many people both in the field and on the range. The weapon is a prototype only, being made out of materials that were available at the time. These factors have undoubtedly affected its performance during the trial. It is important to look on the project weapon not as a finished article, but rather as a new concept, a weapon that could be improved upon to an extent whereby it maintains its length of thirteen inches shorter than the L1A1 SLR, but maintains all the other desirable characteristics of the SLR.
3. The weapon was obtained by SASR from the Infantry Centre for a two month trial period. It was returned to Singleton in Dec 75.

Aim

4. The aim of the trial was to assess the suitability of the modified weapon for use by Special Forces and to ascertain if a weapon of its length could maintain the reliability and firepower of the L1A1 7.62mm SLR.

Comparative Characteristics

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Serial	Characteristic	7.62mm L1A1 SLR	7.62mm RMC Project
1	Overall length	1.143m (45")	812.8mm (32")
2	Length of barrell	533.4mm (21")	533.4mm (21")
3	Weight with full magazine	4.96KG (10lb 15oz)	5.38KG (11lb 14oz)
4	Effective Range	300m	300m
5	Balance	Unbalanced unless steadying hand on forestock.	Balanced when held one handed by pistol grip.

/2. Conduct of Trial

Conduct of Trial

6. The trial was conducted over a two week period using a total of 15 personnel. Firing practices were held over distances of 25 metres, 100 metres and 300 metres. During all firing practices several L1A1 7.62 SLRs were fired at identical targets.

7. A three day patrolling exercise was conducted to assess the weapons suitability for patrol work. It was also carried in vehicles and by climbers.

Results of Trial

8. 25 Metre Range Grouping. Little appreciable difference in grouping practices was noticed when fired over 25 metres.

9. 100 Metres Grouping. When fired over 100 metres average groupings were:

- a. L1A1 - 3 rds - 3 inch groups
- b. RMC Project - 3 rds - 4 inch groups

10. 300 Metres Grouping. When fired over 300 metres average groupings were:

- a. L1A1 - 3 rds - 6 inch groups
- b. RMC Project - 3 rds - 7 inch groups

11. Firing Positions. The RMC Project weapon can be fired from all currently taught firing positions. In most positions it was found to be more comfortable to use than the 7.62mm L1A1 SLR. This was due to its better balance and shorter length. All firers had some initial difficulty in adjusting to the pistol grip being further from the shoulder than the L1A1 SLR.

12. Instinctive Firing. All firers found the RMC Project weapon superior to the L1A1 SLR for instinctive firing. Accuracy over 25 metres was consistently better by 2-3 inches and the time taken to fire the first round was marginally less in most cases.

13. Patrolling. The RMC Project weapons was carried for 3 days on a patrolling exercise. The user reported that:

- a. due to its length he found the weapon easier to handle in close country than the L1A1 SLR;
- b. due to the balance the weapon was easier to carry in a firing position than the L1A1 SLR; in particular the tendency to lower the barrel of the SLR after several hours patrolling did not occur;

/c. he could

- c. he could easily keep the RMC Project weapon in a firing position with one hand when required to pass field signals;
- d. the additional weight was barely noticeable.

14. Specialist Activities. Carriage and use of the RMC Project weapon in vehicles was, because of its length, easier to handle than the L1A1 SLR. Climbers also found that its shorter length and balance made it a more desirable weapon for carrying in cliff assault, however its weight in this role is a restricting factor.

Advantages of RMC Project Weapon

15. The major advantages of the RMC weapon over the L1A1 SLR are:
- a. its shorter length makes overall handling easier;
 - b. its balance makes it a more desirable weapon for patrolling purposes;
 - c. the return spring being incorporated with the gas piston.

Disadvantages of RMC Project Weapon

16. Weight. The weapon is 425 gram (15 ozs) heavier than the SLR. Further modifications which would substantially reduce the weight could be made:

- a. the carrying handle could be manufactured from lighter metal;
- b. the stock and butt could be manufactured in plastic.

17. Balance. Although balance is good it is not perfect. Balance could be improved by lightening the butt and the carrying handle.

18. Pistol Grip. This is the standard SLR pistol grip. It is located too close to the magazine and causes some problems when carrying out immediate action drills.

19. Carrying Handle. Made from solid steel and is much too heavy for its purpose. The parallel top edges would assist sighting if they were closer together.

20. Gas Piston/Slide. The gas piston is attached to the slide by a pin. The pin used in the trial weapon could be improved upon to allow easier stripping and assembling.

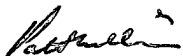
21. Trigger Assembly. This consists of a trigger on the pistol grip connected by means of a rod along the outside of the weapon to the trigger housing. The system is cumbersome and requires complete modification.
22. Safety Catches. Two safety catches are used. One should be removed.
23. Magazine Catch. The magazine release catch is awkward to use and requires extending.
24. Butt - Pistol Grip Distance. The distance from the butt to the pistol grip is too long. This could be remedied by either shortening the butt or moving the pistol grip back slightly. The former would be more desirable.
25. Carrying Comfort. This could be increased by the removal of the metal protrusions on each side of the rear of the pistol grip.
26. Firing Comfort. Discomfort is caused when the cheek is rested against the slide. This is particularly so for left handed firing.

Conclusion

27. It is considered that the concept of the RMC Project weapon is a good one. The fact that it is made mostly from L1A1 SLR parts would enable production of a modified version to be undertaken without a major equipment refitting programme. The majority of disadvantages of the weapon can be fixed with relative ease. With the disadvantages corrected it is considered that the weapon would be ideal for use by Infantry Battalions and Special Forces units.

Recommendation

28. It is recommended that the existing RMC Project Weapon be forwarded to ADE for correction of its current design faults and that a number of corrected versions be manufactured for trial by the Infantry Battalions and SASR.


(P.A. CULLINAN)
Capt
Trials Officer

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Comments by CO of Reporting Unit

1. Concur with the Trials Report.
2. It would seem ideal in the parachutist role.
3. I would like its accuracy tested to 600 metres.

Ken Jeffery

(P.M. JEFFERY)
Lt Col
CO

Enclosure: 1. Photographs (2).