WITH SAFETY, SPADE GRIP ASSEMBLY (6535477-S)

SL.NO	PART NO.	ASSY/COMPONENT	<u>NOMENCLATURE</u>	PAGE
1	5564307		PLATE ASSEMBLY, BACK	109
2	6535475		PLATE, BACK	110
3	6008936	PLATE ASSEMBLY, BACK & COMPONENTS	FRAME, HANDLE, LOWER	111
4	6008937		FRAME, HANDLE, UPPER	112
5	5009287		RIVET, SOLID	113
6	5009369	COMPONENT	TUBE, HANDLE	114
7	7265561	COMPONENT	GRIP, HANDLE, A-4	115
8	5009394	COMPONENT	SCREW, HANDLE TUBE	116
9	5152869	COMPONENT	PLATE, BUFFER	117
10	5152835	COMPONENT	DISK, BUFFER, FIBER	118
11	5152834	COMPONENT	SCREW, ADJUSTING	119
12	5009300	COMPONENT	SPRING, HELICAL COMPRESSION	120
13	5152839	COMPONENT	PLUNGER, ADJUSTING SCREW	121
14	5504094		SLEEVE ASSEMBLY, BUFFER TUBE	122
15	6008926		SLEEVE, BUFFER TUBE	123
16	6008945	SLEEVE ASSEMBLY, BUFFER TUBE &	LOCK, BOLT LATCH RELEASE	124
17	5013536	COMPONENTS	SPRING, BUFFER TUBE SLEEVE	125
18	5013538	1	STUD, BUFFER TUBE SLEEVE SPRING	126
19	5013537]	RIVET, SOLID, COUNTERSUNK HEAD	127
20	6008949	COMPONENT	LATCH, BACK PLATE	128
21	5009275	COMPONENT	PIN, STRAIGHT, HEADLESS	129
22	5009356	COMPONENT	SPRING, HELICAL COMPRESSION	130
23	5262799	COMPONENT	PIN, BACK PLATE LATCH LOCK SPRING	131
24	11010453	COMPONENT	LOCK, BACK PLATE LATCH	132
25	6243607	COMPONENT	SPRING, BACK PLATE LATCH LOCK	133
26	5013581	COMPONENT	PIN, STRAIGHT, HEADED	134
27	7312517	COMPONENT	PIN, LOCKING	135
28	5504071	COMPONENT	RELEASE, BOLT LATCH	136
29	13016069	COMPONENT	TRIGGER	137
30	5009352	COMPONENT	SPRING, HELICAL COMPRESSION	138
31	13018130	COMPONENT	TRIGGER BLOCK	139
32	13018131	COMPONENT	SPRING	140
33	13018132	COMPONENT	SCREW	141

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
Drg . No.	6535477-S								/ / 2021			
Nommenclature	QAP No:											
Material	AS PER MATERIAL	OFT/QAP/M2HB/6535477-S										
Component Nomenclature/ operations	nenclature/ Characteristics Class Type of check check document Acceptance norms record (Review/Witness)								Remarks			
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R				
With Safety, Spade Grip Assembly (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	AS PER MATERIAL	SPECIFICATION IN THE ASSEMBLY PARTLIST.	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency			
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As pe	r Drawing 6535477-S	Test report from NABL lạb	R				
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	MIL-STD-171 Finish 5.3.1.2 (or) 5.3.2.2		R	Firm will be undertaking 100 % Checks and			
In process	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 6535477-S		Firm Inspection report	R	Pre inspection Report for the same be submitted			
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As per Drawing 6535477-S		Firm Inspection report	w				

N/

(ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

neret (1999<mark>cen (lideoit)</mark> Proposit (1991ces) Amerikant OFT OF NO. 1

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
									/ / 2021			
Org . No.	5564307					· · · · · · · · · · · · · · · · · · ·			-			
Nommenclature	menclature PLATE ASSEMBLY, BACK,(OOW50BMG. REQD. FOR WITH SAFETY, SPADE GRIP ASSEMBLY (6535477-S)											
Material	AS PER MATERIAL	AS PER MATERIAL SPECIFICATION IN THE ASSEMBLY PARTLIST.										
Component Nomenclature/ operations	Characteristics	Characteristics	s Class	ss Type of check C	Quantum of check	Reference document	Acceptance norms		Inspection by GM/OFT (Review/Witness)	Remarks		
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R				
Plate Assembly, Back (Raw material)	Chemical properties	Non Critical	Chemical Lab	100%	AS PER MATERIAL	SPECIFICATION IN THE ASSEMBLY PARTLIST.	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency			
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As p	er Drawing 5564307	Test report from NABL lab	R				
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 5.3.1.2 (or) 5.3.2.2	Test report from NABL lab	R R	Firm will be undertaking 100 % Checks and			
n process	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 5564307		Firm Inspection report	R	Pre inspection Report for the same be submitted			
inal Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%			Firm Inspection report	W				

*<u>Note</u> : As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause 3(c) sub clause (i) NAI, Trichy may do Survei (ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

P Arumugam Civilan Technical Officer (Mech)

for Telecipal inspector Of Naval Armament
Tir sommappalli.

G. DEVENDIRANE, I.O.F.S.

G. DEVENDIRANE, I.O.F.S.

G. DEVENDIRANE, I.O.F.S.

ASST. WORKS MANAGER

ASST. WORKS MANAGER

ASST. WORKS MANAGER

ORDNAMCE FACTOR

TIRUCHIRAPPALLI

T

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
Drg . No.	6535475								/ / 2021			
Nommenclature PLATE,BACK, OOW50BMG: REQD. FOR PLATE ASSEMBLY, BACK,(5564307)OOW50BMG. Material ASTM A322 OR A331,4140 OR 41L40									QAP No:			
									OFT/QAP/M2HB/6535475			
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document			Inspection by NAI / GM/OFT (Review/Witness) (*)	Remarks			
· · · · · · · · · · · · · · · · · · ·	General appearance	Non Critical	Visual	100%			Firm Inspection report	. R				
Plate,Back (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	ASTM A32	ASTM A322 OR A331,4140 OR 41L40		R	Sample will be drawn and sealed by Inspection Agency			
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R				
In process As Per drg.No. 6535475	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As p	er Drawing 6535475	Firm Inspection report	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	Heat at 838 °C to 860°C Oil As per Drawing Quench. Temper 1 Hour 6535475 minimum to Hardness Specified (RH C35-40)		Test report from NABL lab	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be			
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171 Finish 5.3.1.2 (or) 5.3.2.2		Test report from NABL lab	R	submitted			
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As p	As per Drawing 6535475		W				

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT. Sub clause (ii) is applicable for out sourced components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

PArumugam

Civilian Technical Officer (Mech) for Principal Inspector Of Navai Armament Tiruchirappalli.

OUT OF INDIA.

			QI	UALITY ASSI (M2HB GUN	URANCE PLAI I IM PHASE)	N			Issue No : 01 Rev No: 00 Date of Issue / / 2021		
Drg . No.	6008936										
Nommenclature	FRAME, HANDLE, L	OWER (OOW50BMG : REQD	. FOR PLATE AS	SEMBLY, BACK,(5564307)OOW50BMG.			QAP No: OFT/QAP/M2HB/6008936		
Material	Material STEEL,ASTM A108 OR ASTM A684,1045,1050 OR ASTM A322 OR A331,4140,8640										
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference Acceptance norms		Format of record	Inspection by NAI / GM/OFT (Review/Witness) (*)	Remarks		
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R			
Frame,Handle, lower (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%		OR ASTM A684,1045,1050 OR ASTM 2 OR A331,4140,8640	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency		
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R			
In process As Per drg.No. 6008936	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As p	per Drawing 6008936	Firm Inspection report	R			
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	Heat at 838 °C to 860 °C Oil As per Drawing Quench. Temper 1 Hour 6008936 minimum to Hardness Specified (RH A67-70)		Test report from NABL lab	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be		
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171 Finish 5.3.1.2 (or) 5.3.2.2		Test report from NABL lab	R	submitted		
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As p	per Drawing 6008936	Firm Inspection report	W			

* Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT.

Sub clause (ii) is applicable for <u>out sourced</u> components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

Civilian Technical Officer (Mech)
for Principal Inspector Of Naval Armament
Tiruchirappatii.



	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
	T								/ / 2021			
Drg . No.	6008937											
Nommenclature FRAME, HANDLE, UPPER OOW50BMG : REQD. FOR PLATE ASSEMBLY, BACK,(5564307)OOW50BMG. Material STEEL,ASTM A108 OR ASTM A684,1045,1050 OR ASTM A322, OR A331,4140,8640									QAP No: OFT/QAP/M2HB/6008937			
									G. (74) /			
Component Nomenclature/ operations	enclature/ Characteristics Class Type of check check document Acceptance norms			Format of record	Inspection by NAI / GM/OFT (Review/Witness) (*)	Remarks						
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R				
Frame,Handle, Upper (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%		OR ASTM A684,1045,1050 OR ASTM , OR A331,4140,8640	Test report from NABL lab	. R	Sample will be drawn and sealed by Inspection Agency			
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R				
In process As Per drg.No. 6008937	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As po	er Drawing 6008937	Firm Inspection report	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	Heat at 838 °C to 860 °C Oil As per Drawing Quench. Temper 1 Hour 6008937 minimum to Hardness Specified (RH A67-70)		Test report from NABL lab	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be			
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171 Finish 5.3.1.2 (or) 5.3.2.2		Test report from NABL lab	R	submitted			
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As per Drawing 6008937		Firm Inspection report	W				

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT. Sub clause (ii) is applicable for out sourced components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

INAL TOUR DE COMPANION DE COMPA

Givillen Tespalical Officer (Moch) Or Principal Separat Officeal Armanum) Titruchino positi. OFT

G. DUVENOIRAME, I.O.F.S.

ASST WORKS MANAGER

GOVE OF INDIA, MIN. OS. OFTER()

ORDNAME FACTOR:

COUNTY OF THE ORDNAME OF

	QUALITY ASSURANCE PLAN										
				(M2HB GUN	IM PHASE)				Date of Issue / / 2021		
Drg . No.	5009287 RIVET,SOLID OOW								QAP No:		
Nommenclature		OFT/QAP/M2HB/5009287									
Material											
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by GM/OFT (Review/Witness) (*)	Remarks		
	General appearance	Non Critical	Visual	100%				R			
Rivet,Solid (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	WIRE,STEEL,	ASTM A510:1035 THRU1038	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency		
•	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R			
In process As Per drg.No. 5009287	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 5009287		Firm Inspection report	. R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be		
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As p	er Drawing 5009287	Firm Inspection report	w	submitted		

*Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause 3(c) sub clause (i) NAI, Trichy may do Surveillance audit of the reports, if applicable.

(ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

G.DEVENDIRANE, I.O.F.S. ASST. WORKS MANAGER GOVI.OF.INDIA, MIN.OF.DEFENCE ORDNANCE FACTORY TIRUCHIRAPPALL

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)												
Drg . No.	5009369												
Nommenclature	TUBE, HANDLE, O	OW50BN	IG REQD. FOR WI	TH SAFETY, SPA	DE GRIP ASSEMBL	_Y (6535477-S)							
Material	QAP No: OFT/QAP/M2HB/5009369												
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by NAI / GM/OFT (Review/Witness) (*)	Remarks				
	General appearance	Non Critical	Visual	100%	SEAMLESS CARBON AND ALLOY STEEL MECHANICAL TUBING, ASTM A519, GRDES MTX1015-1020, MT1015-1020; COLD DRAWN		Firm Inspection report	R					
Tube, Handle	Chemical properties	Non Critical	Chemical Lab analysis	100%	AND ST. ALTERNATE TUBIN	RESS RELIEVED. IG: ELECTRIC RESISTANCE-	Test report from NABL lab	R .	Sample will be drawn				
(Raw material)	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	TUBING, ASTM A51 MANDREL DRA' ALTERNATE MATER COLD FINISHED, A	WELDED CARBON OR ALLOY STEEL MECHANICAL TUBING, ASTM A513, TYPE 5, GRADE MT1020, MANDREL DRAWN, STRESS RELIEVED. ALTERNATE MATERIALS: STEEL BARS, CARBON, COLD FINISHED, ASTM A108, GRADES 1117, 1118, 1015-1020		· R	- and sealed by Inspection Agency				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 5009369	Stress Relieved		R					
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171 Finish 5.3.1.2 (or) 5.3.2.2		Test report from NABL lab	R	Firm will be undertaking 100 % Checks and				
In process -As per Drawing 5009369	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 5009369		Firm Inspection report	R	Pre inspection Report for the same be submitted				
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As per Di	rawing 5009369	Firm Inspection report	W					

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT.

Sub clause (ii) is applicable for out sourced components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

P Arumugam

Civilian Technical Officer (Mech)

f cipal Instruction News Cont

OF THE PORT OF THE PROPERTY OF THE PORT OF

			Issue No : 01 Rev No: 00 Date of Issue / / 2021						
Drg . No.	7265561		· _						_
Nommenclature	GRIP, HANDLE, OO								QAP No:
Material	NG THE PART IN A SS OR SEMI-GLOSS	OFT/QAP/M2HB/7265561							
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by NAI / GM/OFT (Review/Witness) (*)	Remarks
	General appearance	Non Critical	Visual	100%	PLASTIC MOLDING, THERMOSETTING, SPEC		Firm Inspection R report		
Grip, Handle	Chemical properties	Non Critical	Chemical Lab analysis	100%	DERIVED FROM MOL	:F1-20; SEMI-DULL BLACK AS DING THE PART IN A CAVITY STED SURFACE. RESULTANT		. R	Sample will be drawn and sealed by
(Raw material)	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	SURFACE GLOSS SHALL NOT EXCEED THAT OF LUSTERLESS OR SEMI-GLOSS COLOR CHIPS 37038 OR 27038 OF FED-STD-595 AS DETERMINED BY VISUAL COMPARISON.		Test report from NABL lab	R	Inspection Agency
In process -As per Drawing 7265561	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 7265561		Firm Inspection report	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As per D	rawing 7265561	Firm Inspection report	W	submitted

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT. Sub clause (ii) is applicable for out sourced components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

Civilian Technical Officer (Mech) for Principal Inspector Of Naval Armament Tiruchirappalli.

		<u> </u>		LITY ASSURA 12HB GUN IN					Issue No : 01 Rev No: 00 Date of Issue				
Drg . No.	5009394												
Nommenclature	SCREW, HANDLE T	UBE, OC	W50BMG : REQD.	FOR WITH SAFE	TY, SPADE GRIP	ASSEMBLY (6535477-S)			QAP No:				
Material	STEEL ASTM A108,	STEEL ASTM A108, 1117											
Component Nomenclature/ operations	re/ Characteristics		Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by GM/OFT (Review/Witness) (*)	Remarks				
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R					
Screw, Handle Tube (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	STEEL AS	STM A108, 1117	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency				
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R					
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per D	rawing 5009394	Test report from NABL lab	R ·					
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 5.3.1.2 (or) 5.3.2.2	Test report from NABL lab	R	Firm will be undertaking 100 % Checks and				
In process -As per Drawing 5009394	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 5009394		Firm Inspection report	R	Pre inspection Report for the same be submitted				
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%		rawing 5009394	Firm Inspection report	VV					

*Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause 3(c) sub clause (i) NAI, Trichy may do Surveillance audit of the reports, if applicable.

(ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

a**nai**r ar Gimerig (2011) Challes Technical Officer (Mech) or Principal Inspector **(4 Naval Armam**en Truchingonalli OFT GDEVENDIRANE, I.O.F.S.
ASST WORKS MANAGER
GOVT. OF. INDIA, MIN. OF. DEFENCE
ORDNANCE FACTORY
TIRUCHIRAPPALLITA MILLER AND II

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
Drg . No.	5152869								QAP No: OFT/QAP/M2HB/5152869			
Nommenclature	lommenclature PLATE, BUFFER, OOW50BMG : REQD. FOR WITH SAFETY, SPADE GRIP ASSEMBLY (6535477-S) Interial STEEL, ASTM A322 OR A331:4147, 4150, 6150, 4IL50											
Material												
Component Nomenclature/ operations	nent ature/ Characteristics Class Type of check Quantum of check Class Type of check					Inspection by NAI / GM/OFT (Review/Witness) (*)	Remarks					
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R				
Plate,Buffer (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	STEEL, ASTM A322 OR A331:4147, 4150, 6150, 4IL50		Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency			
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 5152869	HEAT AT 816°C - 843°C IN A PROTECTIVE ATMOSPHERE. OIL QUENCH. TEMPER FOR 1 HOUR MIN TO RH C50-57 (FOR MATL. 4147, 4150)	Test report from NABL lab	R				
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171 Finish 5.3.1.2 (or) 5.3.2.2 As per Drawing 5152869		Test report from NABL lab	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be			
In process -As per Drawing 5152869	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%			Firm Inspection report	R	submitted			
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%			Firm Inspection report	W				

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT. Sub clause (ii) is applicable for out sourced components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

DNAI TONAI

Civilian Technical Officer (Medil) for 16 -dadinepador Of Naval Armanical GOVENORAME, 1.0.5.5.

OSST WORKS MANAGER

GOVEOFINDIA, KIN. OF DEFENCE

OF DNAME FACTORY

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)										
Drg . No.	5152835					OFMEN V (CF25477 S)					
Nommenclature	DISK,BUFFER, FIBE	R, OOW	50BMG : REQD. FO	OR WITH SAFET	Y, SPADE GRIP AS	SEMBLY (6535477-S)			QAP No: OFT/QAP/M2HB/5152835		
Material											
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by GM/OFT (Review/Witness) (*)	Remarks		
<u> </u>	General appearance	Non Critical	Visual	100%			Firm Inspection report	R			
Disk,Buffer,Fiber (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%		SHEETS, RED, COMMERCIAL PER ASTM D710	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency		
,	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	1		Test report from NABL lab	R			
In process -As per Drawing 5152835	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per D	As per Drawing 5152835		R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be		
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%		rrawing 5152835 Trichy may do Surveillance	Firm Inspection report	VV	submitted		

(ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

Organizates - Control of the Control

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)												
Drg . No.	5152834								/ / 2021 QAP No:				
Nommenclature					, SPADE GRIP ASS	SEMBLY (6535477-S)			OFT/QAP/M2HB/5152834				
Material	STEEL, ASTM A322												
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by GM/OFT (Review/Witness) (*)	Remarks				
	General appearance	Non Critical	Visual	100%		1	Firm Inspection report	R					
Screw,Adjusting (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	STEEL, ASTM A322 (OR A331:4147, 4150, 6150, 8645	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency				
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R					
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 5152834	FOR MATERIAL 4150, 4147, 8645 HEAT AT 838°C - 860°C OIL QUENCH. TEMPER 1 HOUR MIN TO HARDNESS SPECIFIED. FOR MATERIAL 6150 HEAT AT 843°C - 871°C OIL QUENCH. TEMPER 1 HOUR MIN TO HR15N 73.5-77	Test report from . NABL lab	R	Firm will be undertaking 100 % Checks and				
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 5.3.1.2 (or) 5.3.2.2	Test report from NABL lab	R	Pre inspection Report for the same be submitted				
In process -As per Drawing 5152834	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per	r Drawing 5152834	Firm Inspection report	R					
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As per	r Drawing 5152834	Firm Inspection report	W					

*Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause 3(c) sub clause (i) NAI, Trichy may do Surveillance audit of the reports, if applicable. (ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

Radrumugam
Circle Technical Officer (Mech)

to all inspector Cr Naval Armament
Tamamappalli.

G.DEVENDIRANE,1.O.F.S. ASST.WORKS MANAGER
GOVT.OF.INDIA, MIN.OF.DEFENCE
ORDNANCE FACTORY.
TIRIICHIRAPPALL!

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE) 5009300													
Drg . No.							77.6)		QAP No: OFT/QAP/M2HB/5009300					
Nommenclature	SPRING, HELICAL		OF I/QAP/M2HB/3009300											
Material	STEEL WIRE, MUSI	C SPRIN	G QUALITY, ASTM	A228/ A228IVI.										
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by NAI / GM/OFT (Review/Witness) (*)	Remarks					
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R	Sample will be drawn					
Spring, Helical Compression. (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	STEEL WIRE, MUS	SIC SPRING QUALITY, ASTM A228/ A228M.	Test report from NABL lab	R	and sealed by Inspection Agency					
(Raw Material)	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R						
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	STRESS RELIEVE	AT 224°C ± 5°C . FOR 30MIN After Coiling.	Test report from NABL lab	R .						
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 3.3.1 WITH MIL-PRF-3150 SUPPLEMENTARY OIL TREATMENT.	Test report from NABL lab	R	Firm will be undertaking					
In process -As per Drawing 5009300	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As p	per Drawing 5009300	Firm Inspection report	R	100 % Checks and Pre inspection Report for the same be submitted					
Load Test	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	LOAD TEST SHALL	BE CARRIED OUT AS PER DRAWING 5009300	Firm Inspection report	R						
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As p	per Drawing 5009300	Firm Inspection report	W						

[*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT.

Sub clause (ii) is applicable for <u>out sourced</u> components. JRI will be done by NAI & OFT on sampling basis.

Sub clause (ii) is applicable for <u>out sources</u> components. The winder done by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI. For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

Pan Pumugam

Civilian Technical Officer (Mech)

for the cipal inspector Of Naval Armament
The chirappalli.

TO DEVENOURANE, I.O.E.S.

OSST. WORKS MONAGER

GOVY. OF INDIA, MIN. OF DEFENCE

ORDNANCE FACTOR.

ORDNANCE FACTOR.

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)												
Drg . No.	5152839												
Nommenclature	PLUNGER, ADJUST	TING SC		QAP No: OFT/QAP/M2HB/5152839									
Material	STEEL, ASTM A576	TEEL, ASTM A576: 1095 OR STEEL ASTM A686: CLASS W1-8 THRU 10, GRADE 'C'.											
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Remarks							
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R	,				
Plunger, Adjusting Screw (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	1	1095 OR STEEL ASTM A686: CLASS W1- THRU 10, GRADE 'C'.	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency				
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R					
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%		O 829°C. OIL QUENCH. TEMPER FOR HOUR TO RH 13 N 80-84.	Test report from NABL lab	R .					
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 5.3.1.2 (or) 5.3.2.2	Test report from NABL lab	R	Firm will be undertaking 100 % Checks and				
n process -As per Drawing 5152839	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As	per Drawing 5152839	Pre inspection Report for the same be submitted						
inal Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As	per Drawing 5152839	Firm Inspection report	W					

(ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

Civilian Technical Officer (Mech) for Principal isopesior Of Naval Amagnetic

Theoregeatt.

G.BEVENDIRANE, I.O.F.S.

ASST. WORKS MANAGER

GOVT. OF. INDIA, MIN. OF. DEFENCE

ORDNANCE FACTORY

TIRUCHIRAPPALL!

	QUALITY ASSURANCE PLAN												
				(M2HB GUN	N IM PHASE)				Date of Issue / / 2021				
Drg . No.	5504094												
Nommenclature	nenclature SLEEVE ASSEMBLY, BUFFER TUBE, OOW50BMG.: REQD. FOR WITH SAFETY, SPADE GRIP ASSEMBLY (6535477-S)												
Material	AS PER MATERIAL		OFT/QAP/M2HB/5504094										
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Remarks						
	General appearance	Non Critical	Visual	100%		J	Firm Inspection report	R					
Sleeve Assembly, Buffer Tube (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	AS PER MATERIAL	AS PER MATERIAL SPECIFICATION IN THE ASSEMBLY PARTLIST.		R	Sample will be drawn and sealed by Inspection Agency				
indection,	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R					
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawi	ring 5504094 & Components	Test report from NABL lab	R					
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	As per Drawi	ing 5504094 & Components	Test report from NABL lab	. R	Firm will be undertaking 100 % Checks and				
In process	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawi	ing 5504094 & Components	Pre inspection Report for the same be submitted						
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As per Drawi	ing 5504094 & Components	Firm Inspection report	W					

*Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause 3(c) sub clause (i) NAI, Trichy may do Surveillance audit of the reports, if applicable. (ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

Civilian Tandrales I Officer (Neck)
for Principal Inspector Of Mayel Administration
Tiruchises politi.

GOVENOIRAME, 1.0.55.

ASST. WORKS MANAGER

ORDNING MIN. OF D

ORDNINGE FACTOR.

			QL		JRANCE PLAI	N			Issue No : 01 Rev No: 00					
				(M2HB GUN	IIVI PHASE)	-			Date of Issue / / 2021					
Drg . No.	g . No. 6008926													
Nommenclature	SLEEVE,BUFFER T	SLEEVE,BUFFER TUBE, OOW50BMG: REQD.FOR SLEEVE ASSEMBLY, BUFFER TUBE,(5504094) OOW50BMG.												
Material	TUBING,STEEL, ASTM A519 OR ASTM A513:MT1020													
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Remarks								
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R						
Sleeve,Buffer Tube (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	TUBING,STEEL, AS	TM A519 OR ASTM A513 :MT1020	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency					
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R						
n process -As per Drawing 6008926	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As pe	er Drawing 6008926	Firm will be undertaking 100 % Checks and							
inal Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As pe	er Drawing 6008926	Pre inspection Report for the same be submitted							

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT Sub clause (ii) is applicable for out sourced components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

P Arumugan
Civilian Technical Officer (Mech)

for Propal Inspector Of Naval Armament

Tirucairappalli.

G.DEVENDIRANE,I.O.F.S.
ASST.WORKS MANAGER
GOVT.OF.INDIA, MIN.OF.DEFENCE
ORDNANCE FACTORY
TIRUCHIRAPPALLY TAMILMADU

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)												
Drg . No.	6008945												
Nommenclature	menclature LOCK, BOLT LATCH RELEASE OOW50BMG: REQD.FOR SLEEVE ASSEMBLY, BUFFER TUBE,(5504094) OOW50BMG.												
Material	ASTM A684:1065,10		OFT/QAP/M2HB/5008945										
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Remarks							
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R					
Lock,Bolt Latch Release (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	AST	M A684:1065,1074/1075	Test report from NABL lab	. R	Sample will be drawn and sealed by Inspection Agency				
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R					
In process -As per Drawing 6008945	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	A	s per Drawing 6008945	Firm Inspection report	R					
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 6008945	HEAT AT 816°C TO 843°C. OIL QUENCH, TEMPER 30 MINUTES TO HARDNESS SPECIFIED RH A73- 76.5	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be submitted					
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As	W							

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT. Sub clause (ii) is applicable for <u>out sourced</u> components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

P Archaigam
Civilia Technical Officer (Mech)
for a Linspector Of Naval Armament
The Language palli.

OFTEN MONKANE, I.O.E.S.

E.DEVENDIKANE, I.O.E.S.

ASST. WORKS MANAGER

COVT. OF INDIA. MIN. OF DEFENCE

ORDNANCE FACTORY.

TITUCULAR PRAIN

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)													
Drg . No.	5013536								QAP No:					
Nommenclature	THE CONTRACT OF THE CONTRACT O													
Material	terial ASTM A684:1095													
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Remarks							
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R						
Spring,Buffer Tube Sleeve (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%		ASTM A684:1095	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency					
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R						
In process -As per Drawing 5013536	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As	s per Drawing 5013536	Firm Inspection report	R						
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 5013536	HEAT AT 787°C TO 816°C. OIL QUENCH, TEMPER 30 MINUTES TO RH C46-52	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be submitted						
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As	s per Drawing 5013536	W							

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT. Sub clause (ii) is applicable for out sourced components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

Civilian Technical Officer. (Mech)
in Principal Inspector Of Naval Armanent
Tiruchirappalli.

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)													
Drg . No.	5013538	<u></u>							/ / 2021 QAP No:					
Nommenclature	enclature STUD, BUFFER TUBE SLEEVE SPRING OOW50BMG: REQD.FOR SLEEVE ASSEMBLY, BUFFER TUBE, (5504094) OOW50BMG.													
Material	STEEL ASTM A576:1095 ALTERNATE MATERIAL : STEEL,W1 DRILL ROD GRADE C.													
Component Nomenclature/ operations	Characteristics	Remarks												
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R						
Stud, Buffer Tube Sleeve Spring (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%		.576:1095 ALTERNATE MATERIAL : .,W1 DRILL ROD GRADE C.	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency					
materialy	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R						
In process -As per Drawing 5013538	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As	per Drawing 5013538	Firm Inspection report	R						
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 5013538	As per Drg. 5013538	Test report from NABL lab	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be submitted					
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	W									

Jan Har

(ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

illen Technical Ciliner (Moch)

i i pat frageriers (is 7 to al Australia). La reconstit G.DEVENDIRANE, I.O.F.S.

G.DEVENDIRANE, I.O.F.S.

ASST. WORKS MANAGER

ASST. WORKS MANAGER

ORDINANCE FACTORY

TIRUCHIRAPPALLITA METERS.

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)												
Drg . No.	No. 5013537 menclature RIVET, SOLID COUNTERSUNK HEAD OOW50BMG : REQD.FOR SLEEVE ASSEMBLY, BUFFER TUBE, (5504094) OOW50BMG.												
Nommenclature	RIVET, SOLID COU	QAP No: OFT/QAP/M2HB/5013537											
Material	WIRE,STEEL, AST	M A510:1											
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Remarks						
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R	Sample will be drawn				
Rivet,Solid,Countersunk Head (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	WIRE,STEE	EL, ASTM A510:1035 THRU 1038.	Test report from NABL lab	R	and sealed by Inspection Agency				
Materialy	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R					
In process -As per Drawing 5013537	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	A	s per Drawing 5013537	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be						
Final Inspection	General appearance	W	submitted										

*Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause 3(c) sub clause (i) NAI, Trichy may do Surveillance audit of the reports, if applicable.

(ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

NA

OFT OF SERVICE

OFT OF INDIA. MIM. OF DEFENCE

OFT OF INDIA. MIM. OF DEFENCE

OFT OF INDIA.

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)												
Drg . No.	6008949								QAP No:				
Nommenclature	LATCH, BACK PLA	re,oow	50BMG.:REQD.FC	OR WITH SAFET	Y, SPADE GRIP AS	SEMBLY (6535477-S)			OFT/QAP/M2HB/6008949				
Material	STEEL,ASTM A331	OR A322											
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by NAI / GM/OFT (Review/Witness) (*)	Remarks				
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R					
Latch, Back Plate (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%		R A322: 4140, 4150 OR SPEC MIL-S- 22141, IC-4140.	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency				
(naw material)	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R					
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 6008949	HEAT AT 838°C - 860°C OIL QUENCH. TEMPER ONE HOUR MINIMUM TO RH C38-46.	Test report from NABL lab	R					
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 5.3.1.2 (or) 5.3.2.2	Test report from NABL lab	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be				
In process -As per Drawing 6008949	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As p	er Drawing 6008949	Firm Inspection report	R	submitted				
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As p	er Drawing 6008949	Firm Inspection report	W					

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT. Sub clause (ii) is applicable for <u>out sourced</u> components. JRI will be done by NAI & OFT on sampling basis.
For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

G.DEVENDIRANE, I.O.F.S.

G.DEVENDIRANE, I.O.F.S.

ASST WORKS MANAGER

ASST WORKS MANAGER

ORDNANGE FACTORY

	QUALITY ASSURANCE PLAN											
				(M2HB GUN	IM PHASE)				Date of Issue / / 2021			
Drg . No.	5009275											
Nommenclature	PIN,STRAIGHT,HEA	DLESS,	OOW50BMG : REC	D. FOR WITH S	AFETY, SPADE GR	IP ASSEMBLY (6535477-S)			_			
Material	STEEL, ASTM A576	QAP No: OFT/QAP/M2HB/5009275										
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by GM/OFT (Review/Witness) (*)	Remarks			
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R				
Pin,Straight, Headless (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	STEEL, ASTM A576:1 A686: CLASS	095,1070,1080 (OR) STEEL ASTM W1-8 THRU 11, GRADE C	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency			
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 5009275	HEAT AT 787°C - 816°C OIL QUENCH. TEMPER FOR 1 HOUR MIN TO HARDNESS 15N 81-84.	Test report from NABL lab	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be			
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 5.3.1.2 (or) 5.3.2.2	Test report from NABL lab	R	submitted			
In process -As per Drawing 5009275	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As pe	r Drawing 5009275	Firm Inspection report	R				
Final Inspection *Note : As per the Mol	General appearance	w										

PalArumugan Civilian Technical Office

Civilian Technical Officer (Mech) for Principal Inspector Of Naval Amament

Tiruchirappalli.

(ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

OFT OF WORKS WORK OF DEFENCE

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)												
Drg . No.	5009356								QAP No:				
Nommenclature	SPRING, HELICAL	COMPRE	SSION, OOW50BM	G : REQD. FOR	WITH SAFETY, SF	PADE GRIP ASSEMBLY (653547	7-S)		OFT/QAP/M2HB/5009356				
Material	ASTM A228 MUSIC	WIRE											
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Remarks							
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R					
Spring, Helical Compression. (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	ASTI	M A228 MUSIC WIRE	Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency				
(Raw material)	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R					
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	STRESS RELIEVE	AT 224°C ± 5°C . FOR 30 Min After Coiling.	Test report from NABL lab	R	·				
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 3.3.1 WITH MIL-PRF-3150 SUPPLEMENTARY OIL TREATMENT.	Test report from NABL lab	R	Firm will be undertaking				
In process -As per Drawing 5009356	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As p	per Drawing 5009356	Firm Inspection report	R .	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be submitted				
Load Test	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	LOAD TEST SHALL	BE CARRIED OUT AS PER DRAWING 5009356							
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As p	per Drawing 5009356							

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT.

Sub clause (ii) is applicable for <u>out sourced</u> components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

P Armingam Civilian Technical Officer (Mech)

for free pail inspector Of Navai Armament

Ticulirappalli.

DET OF THE WAR OF THE MEETINGS

			OU.	ALITY ASSU	RANCE PLAN				Issue No : 01 Rev No: 00
				(M2HB GUN		_			Date of Issue / / 2021
Org . No.	5262799					A COLOR ODID ACCESSED V	CE2E477 S\		QAP No:
Nommenclature	PIN,BACK PLATE LA	ATCH LO		OFT/QAP/M2HB/5262799					
Waterial	STEEL, SPECIAL Q	UALITY, I							
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Remarks		
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R	Sample will be drawn and sealed by Inspection Agency
Pin, Back Plate Latch Lock Spring	Chemical properties	Non Critical	Chemical Lab analysis	100%	STEEL, 1008, 1010,	UALITY, HOT ROLLED CARBON , 1012, 1015, 1017, 1018, 1020, ASTM A576	Test report from NABL lab	R	
(Raw material)	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R	
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 5.3.1.2 (or) 5.3.2.2	Test report from NABL lab	R	Firm will be undertaking
In process -As per Drawing 5262799	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 5262799		Firm Inspection report	R	100 % Checks and Pre inspection Report for the same be submitted
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As per Drawing 5262799 s) sub clause (i) NAI, Trichy may do Surveillance a		Firm Inspection report	VV	

PARTITION (Mach)

Civilian Technical Officer (Mach)

for the local inspector Of Navel Annament

The contrappalli.

(ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

G.DEVENDIRANE, I.O.F.S.

G.DEVENDIRANE, I.O.F.S.

ASST WORKS MANAGER

ASST WORKS MIN. OF. BEFENCE

GOVT. OF. INDIA, MIN. OF. BEFENCE

ORDNANCE FACTORY

TIRUCHIRAPPALLITY AMILY ADII

TIRUCHIRAPPALLITY ANILY ADII

TIRU

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
Drg . No.	11010453								QAP No:			
Nommenclature	A SAME THE A TOLL OF THE PROPERTY OF THE PROPE											
Material	STEEL, ASTM A322 OR A331: 4140 rial FOR CASTING: STEEL, MIL-S-22141; IC 4140. TENSILE TEST SHALL NOT APPLY. INSPECTION SHALL BE IN ACCORDANCE WITH CLASS 4 OF MIL-ST 2175.											
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Remarks					
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R				
Lock, Back Plate Latch (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	FOR CASTING: STEEL SHALL NOT APPLY. IN	STEEL, ASTM A322 OR A331: 4140 FOR CASTING: STEEL, MIL-S-22141; IC 4140. TENSILE TEST SHALL NOT APPLY. INSPECTION SHALL BE IN ACCORDANCE		R	Sample will be drawn and sealed by Inspection Agency			
(Naw Material)	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	- WITH C	LASS 4 OF MIL-STD-2175.	Test report from NABL lab	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 11010453	HEAT AT 838 °C to 860°C OIL QUENCH. TEMPER ONE HOUR MINIMUM TO RH C44-50.	Test report from NABL lab	R				
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 5.3.1.2 (or) 5.3.2.2	Test report from NABL lab	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be			
In process -As per Drawing 11010453	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 11010453		Firm Inspection report	R	submitted			
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As p	per Drawing 11010453	Firm Inspection report	W				

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT.

Sub clause (ii) is applicable for <u>out sourced</u> components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

for Principal hopeder Of Neval Armaner? Tiruchirappatti.

CONT. OF CHANGE WANGE OF CLOSE CANCER MOSE WANGE WANGE CONTRACTOR

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
Drg . No.	6243607		DILL COLC COMECE	MC - PEOD FOE	WITH SAFFTY SE	PADE GRIP ASSEMBLY (653	35477-S)		QAP No: OFT/QAP/M2HB/6243607			
					(WIIII OAI EI I I O	,, <u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>			OF [/QAP/M2HB/6243607			
Material	STEEL, CMPSN 105											
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by NAI / GM/OFT (Review/Witness) (*)	Remarks			
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R	Sample will be drawn			
Spring, Back Plate Latch Lock (Raw	Chemical properties	Non Critical	Chemical Lab analysis	100%	STEEL, CMPSN 1050, 1055 OR 1065, ASTM A684.		Test report from NABL lab	R	and sealed by Inspection Agency			
material)	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 6243607	HEAT AT 816°C - 843°C OIL QUENCH. TEMPER FOR 1 HOUR MIN TO HARDNESS SPECIFIED 15N 81-84.	Test report from NABL lab	R				
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171 WITH MIL-PRF-3150	Finish 3.3.1	Test report from NABL lab	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be submitted			
In process -As per Drawing 6243607	Dimensions Specified in the Inspection report of the	Non Critical	Dimensional measurement	100%	As per Drawing 6243607		Firm Inspection report	R	Submitted			
Final Inspection	component General appearance	Non Critical	Visual and Dimensional Checks	100%	As per	Drawing 6243607	Firm Inspection report	W CM/OF				

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT. Sub clause (ii) is applicable for out sourced components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
Drg . No.	5013581											
Nommenclature	PIN, STRAIGHT, HE	QAP No: OFT/QAP/M2HB/5013581										
Material	STEEL, ASTM A576											
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Remarks						
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R				
Pin, Straight, Headed (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	STEEL, ASTM A576: 1095, 1070, 1080, 1045 OR STEEL, ASTM A686: CLASS W1-8 THRU 10, GRADE 'C'.		Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency			
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%		816°C. OIL QUENCH. TEMPER FOR ONE O HARDNESS SPECIFIED. (15N 82-85.5)	Test report from NABL lab	R .				
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 5.3.1.2 (or) 5.3.2.2	Test report from NABL lab	R	Firm will be undertaking 100 % Checks and			
In process -As per Drawing 5013581	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 5013581		Firm Inspection report	R	Pre inspection Report for the same be submitted			
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As	per Drawing 5013581	Firm Inspection report	W				

N'A

(ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

G. DEVENBIRANE, I.O.F.S.

G. DEVENBIRANE, I.O.F.S.

ASST. WORKS MANAGER

ASST. WORKS MANAGER

ASST. WORKS MANAGER

OF DEVENBERANCE

OF DEVENBERANCE

TIRUCHIRAP PALLITERMINE

TIRUCHIRAP PALLITERMIN

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
Drg . No.	7312517								QAP No:			
Nommenclature	PIN,LOCKING, OOV		QAP No: OFT/QAP/M2HB/7312517									
Material	WIRE, STEEL, ASTI											
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by GM/OFT (Review/Witness) (*)	Remarks			
	General appearance	Non Critical	Visual	100%	WIRE, STEEL, ASTM A231, ANNEALED AND COLD DRAWN		Firm Inspection report	R				
Pin,Locking (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%			Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency			
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 7312517	HEAT AT 843°C - 871°C OIL QUENCH. TEMPER ONE HOUR AT 427°C.	Test report from NABL lab	R				
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 5.3.1.2 (or) 5.3.2.2	Test report from NABL lab	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be			
In process -As per Drawing 7312517	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 7312517		Firm Inspection report	R	submitted			
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks			Drawing 7312517 Trichy may do Surveillance at	Firm Inspection report	W				

*Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause 3(c) sub clause (i) NAI, Trichy may do Surveillance audit of the reports, if applicable.

(ii) In case of hard ware items, NAI, Trichy will review the reports, if required.

RAIA THE TRANS AND CIVER Technical Officer (Mech)

for the pail inspector Or Navai Armament Tiruchirappaili.

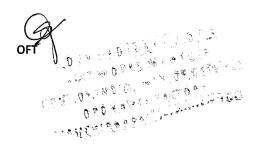
	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
Drg . No.	5504071					SSEMBLY (6535477-S)						
Nommenclature	QAP No: OFT/QAP/M2HB/5504071											
Material	ALLOY STEEL BAR, ASTM A331, GRADES 4140, 4150, 8645 (OR) CARBON STEEL BAR, ASTM A108, GRADE 1117 (OR) ALLOY STEEL INVESTMENT CASTING, SAE AMS-S-22141, GRADES IC-4140, IC-8640, EXCEPT TENSILE TEST SHALL NOT APPLY.											
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Remarks					
	General appearance	Non Critical	Visual	100%	(OR)		Firm Inspection report	R				
Release, Bolt Latch (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	ALLOY STEEL INVES	CARBON STEEL BAR, ASTM A108, GRADE 1117 (OR) ALLOY STEEL INVESTMENT CASTING, SAE AMS-S-22141, GRADES IC-4140, IC-8640, EXCEPT TENSILE TEST SHALL		R	Sample will be drawn and sealed by Inspection Agency			
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%		NOT APPLY.	Test report from NABL lab	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As p	per Drawing 5504071	Test report from NABL lab	R				
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	MIL-STD-171 Finish 5.3.1.2 (or) 5.3.2.2		R	Firm will be undertaking 100 % Checks and			
In process -As per Drawing 5504071	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 5504071		Firm Inspection report	R	Pre inspection Report for the same be submitted			
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As per Drawing 5504071		Firm Inspection report	W				

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT. Sub clause (ii) is applicable for <u>out sourced</u> components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

EnaArtumus arta Civillan Technical Officer (Mech)

for Principal inspector Of Naval Armament Tiruchirappalli.



	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
Drg . No.	org . No. 13016069 CASTING TRIGGER ,OOW50BMG.: REQD. FOR WITH SAFETY, SPADE GRIP ASSEMBLY (6535477-S)											
Nommenclature	QAP No: OFT/QAP/M2HB/13016069											
Material	ALLOY STEEL BAR, 4340 PER ASTM A108, A322, AMS 6414, AMS 6415, AMS 6409, AMS 6484, AMS-S-5000. Waterial FOR INVESTMENT CASTING: STEEL, SAE AMS-S-22141, GRADE IC 4340. TENSILE TEST SHALL NOT APPLY. INSPECTION SHALL BE IN ACCORDANCE WITH SAE AMS 2175, CLASS 2, GRADE B.											
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Remarks					
	General appearance	Non Critical	Visual	100%	ALLOY STEEL BAR, 4340 PER ASTM A108, A322, AMS 6414,		Firm Inspection report	R				
Casting Trigger (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	FOR INVESTMENT GRADE IC 4340.	IS 6409, AMS 6484, AMS-S-5000. CASTING: STEEL, SAE AMS-S-22141, . TENSILE TEST SHALL NOT APPLY.	Test report from NABL lab	R	 Sample will be drawn and sealed by Inspection Agency 			
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%		BE IN ACCORDANCE WITH SAE AMS 5, CLASS 2, GRADE B.	Test report from NABL lab	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 13016069 As per Drawing 13016069 MACHINED PART: HEAT TO AUSTENITIZING TEMPERATURE, QUENCH AND DOUBLE TEMPER TO RH A74-78 IAW SAE AMS 2759. NO DECARBURIZATION PERMITTED. CASTING: STRESS RELIEVED AFTER CASTING PROCESS		Test report from NABL lab	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be			
In process -As per Drawing 13016069	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 13016069		Firm Inspection report	R	submitted			
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As per Drawing 13016069 Firm Inspection report W			W				

1. Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT. Sub clause (ii) is applicable for <u>out sourced</u> components. JRI will be done by NAI & OFT on sampling basis.
For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

Givillan Technical Öllicer (Mach)

for Principal Inspector Of Navai Amemant Thruchirappoliti

G.DEVENDIRANE, I.O.F.S.

G.DEVENDIRANE, I.O.F.S.

ASST. WORKS MANAGER

ASST. WORKS MIN. OF. DEFENCE

MIN. OF. DEFENCE

ORDNANCE FACTORY

ORDNANCE FACTORY

ORDNANCE FACTORY

ORDNANCE FACTORY

ORDNANCE FACTORY

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
Drg . No.	g . No. 5009352 Spring, Helical compression, Oow50BMg : ReQD. FOR WITH SAFETY, SPADE GRIP ASSEMBLY (6535477-S)											
Nommenclature	OFT/QAP/M2HB/5009352											
Material	STEEL WIRE, MUSIC	STEEL WIRE, MUSIC SPRING QUALITY, ASTM A228 / A228M										
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by NAI / GM/OFT (Review/Witness) (*)	Remarks			
	General appearance	Non Critical	Visual	100%	STEEL WIRE, MUSIC SPRING QUALITY, ASTM A228 / A228M		Firm Inspection report	R				
Spring, Helical Compression.	Chemical properties	Non Critical	Chemical Lab analysis	100%			Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency			
(Raw material)	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	STRESS RELIEVE	AT 224°C ± 5°C . FOR 30 Min After Coiling.	Test report from NABL lab	R				
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 3.3.1 WITH MIL-PRF-3150 SUPPLEMENTARY OIL TREATMENT.	Test report from NABL lab	R	Firm will be undertaking			
In process -As per Drawing 5009352	Dimensions Specified in the Inspection report of the	Non Critical	Dimensional measurement	100%	As per Drawing 5009352		Firm Inspection report	R	100 % Checks and Pre inspection Report for the same be submitted			
Load Test	component Mechanical properties	Non Critical	Mechanical Lab analysis	100%	LOAD TEST SHALL BE CARRIED OUT AS PER DRAWING 5009352		Firm Inspection report	R				
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As	per Drawing 5009352	Firm Inspection report	W CMOET				

**Note : As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT.

Sub clause (ii) is applicable for out sourced components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade : Raw material to finished product QA by NAI. (ii) In house : Dimension inspection and Load test on sampling basis by NAI.

PASA NATIONAL (Mech)

NATIONAL TOUGHTON CHICAR (Mech)

List Principal Magnetics of Rays' American

List Chicar (Mech)

COVT. OF INDID. MEMOR OF OFFE WEE

ORDINANCE PACTORY MANAGER

ORDINANCE PACTORY MANAGER

TIRUCHERAPPREEL TRANSPORTER

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
Drg . No.	13018130								QAP No:			
Nommenclature	nenclature TRIGGER BLOCK,OOW50BMG. : REQD. FOR WITH SAFETY, SPADE GRIP ASSEMBLY (6535477-S)											
Material	4140 OR 4340, 30-34	40 OR 4340, 30-34HRC.										
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by NAI / GM/OFT (Review/Witness) (*)	. Remarks			
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R				
Trigger, Block (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	4140 OR 4340, 30-34HRC.		Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency			
(naw material)	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 13018130	FERRITIC NITROCARBURIZINE, BLOCK.	Test report from NABL lab	R				
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	As p	per Drawing 13018130	Test report from NABL lab	R	Firm will be undertaking 100 % Checks and			
In process -As per Drawing 13018130	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 13018130		Firm Inspection report	R	Pre inspection Report for the same be submitted			
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	Ası	per Drawing 13018130	Firm Inspection report	W				

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT. Sub clause (ii) is applicable for out sourced components. JRI will be done by NAI & OFT on sampling basis.

For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

PAramagiann
Under Vecknisch Officer (Moch)
Le Prinsiper increaser Of Versi American

G. DEVENDIRANE, I.O.F.S.

G. DEVENDIRANE, I.O.F.S.

ASST WORKS MANAGER

ASST WORKS MANAGER

GOVT. OF. INDIA, MIN. OF. DEFENCE

ORDNANCE FACTORY

TIRUCHIRAPPALLITAMILMADIS

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)												
Org . No.	13018131 SPRING, OOW50BM								QAP No:				
Nommenclature	OFT/QAP/M2HB/13018131												
Material	STEEL, CARBON S	TEEL, CARBON STEEL, COLD ROLLED, ASTM A684: 1055, 1060, 1065, 1070, 1074 OR 1075, SHEET, GAUGE 25 (THICKNESS 0.533 ± 0.076)											
Component Nomenclature/ operations	Characteristics	aracteristics Class Type of check Quantum of check Reference document Acceptance norms Format of record (Review/Witness (*)							Remarks				
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R					
Spring (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	STEEL, CARBON STEEL, COLD ROLLED, ASTM A684: 1055, 1060, 1065, 1070, 1074 OR 1075, SHEET, GAUGE 25 (THICKNESS 0.533 + 0.076)		Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency				
(nav matema)	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R					
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 13018131	AUSTINITIZE, QUENCH AND TEMPER IAW AMS 2759, TEMPER TO ROCKWELL HARDNESS 15N 82-85.	Test report from NABL lab	R					
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 5.3.1.2 (or) 5.3.2.2	Test report from NABL lab	R	Firm will be undertaking 100 % Checks and				
n process -As per Drawing 13018131	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 13018131		Firm Inspection report	R	Pre inspection Report for the same be submitted				
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%	As per	Drawing 13018131	Firm Inspection report	W					

(*) Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause No. 3(b), Sub clause (i) is applicable for In-House manufacturing and inspection by GM/OFT.

Sub clause (ii) is applicable for <u>out sourced</u> components. JRI will be done by NAI & OFT on sampling basis. For springs: (i) Trade: Raw material to finished product QA by NAI. (ii) In house: Dimension inspection and Load test on sampling basis by NAI.

PNA - imugam

Ci Schnical Officer (Mech)

fe Spector Of Naval Armament

7. rappalli.

OFFENDIRAME, 1.0.1.5.

G. DEVENDIRAME, 1.0.1.5.

ASST. WORKS MANAGER

COVI.OF. INDIA. MIN. OF DEFENCE

ORDHANCE PACTORY AND INTERPOLITY AND IN

	QUALITY ASSURANCE PLAN (M2HB GUN IM PHASE)											
Dig.140.	13018132			`					/ / 2021 QAP No:			
Nommenclature	nclature SCREW, OOW50BMG : REQD. FOR WITH SAFETY, SPADE GRIP ASSEMBLY (6535477-S)											
Material	STEEL, ASTM A322	OR A331	; 4140, 4340									
Component Nomenclature/ operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection by GM/OFT (Review/Witness) (*)	Remarks			
	General appearance	Non Critical	Visual	100%			Firm Inspection report	R				
Screw (Raw material)	Chemical properties	Non Critical	Chemical Lab analysis	100%	STEEL, ASTM A322 OR A331; 4140, 4340		Test report from NABL lab	R	Sample will be drawn and sealed by Inspection Agency			
	Mechanical properties	Non Critical	Mechanical Lab analysis	100%			Test report from NABL lab	R				
Heat Treatment	Mechanical properties	Non Critical	Mechanical Lab analysis	100%	As per Drawing 13018132	HEAT AT 838°C TO 860°C OIL QUENCH. TEMPER 1 HOUR MINIMUM TO RHC 34-38. HEAT TREATMENT METHOD IS FOR GUIDANCE EXCEPT THAT HARDNESS REQUIREMENT IS MANDATORY AND TIME AT TEMPERING TEMPERATURE SHALL NOT BE REDUCED BELOW THAT SPECIFIED.	Test report from NABL lab	R	Firm will be undertaking 100 % Checks and Pre inspection Report for the same be			
Protective Finish	General appearance	Non Critical	Visual and Dimensional Checks	100%	MIL-STD-171	Finish 5.3.1.2	Test report from NABL lab	R	submitted			
In process -As per Drawing 13018132	Dimensions Specified in the Inspection report of the component	Non Critical	Dimensional measurement	100%	As per Drawing 13018132		Firm Inspection report	R .	-			
Final Inspection	General appearance	Non Critical	Visual and Dimensional Checks	100%		Drawing 13018132	Firm Inspection report	VV				

*Note: As per the MoU No: OFT / SRCG / M2HBGun / MoU /01 Dt: 20.09.2021, Clause 3(c) sub clause (i) NAI, Trichy may do Surveillance audit of the reports, if applicable.

(ii) In case of hard ware items, NAI, Trichy will review the reports, if required

PNATumugath Civilian Technical Officer (Mech)

for Principal Inspector Of Naval Armament Tiruunirappalli.