

## QUALITATIVE REQUIREMENT (QR) OF WATER SCOOTER FOR 2 MEN

### General

The Water Scooter is commonly used personal watercraft for water sport activities and in some countries used for patrolling purpose and by police and life-guards. The rider uses the watercraft mainly sitting on it and typically holds 2 people, have an inboard engine driving a pump jet with impeller to create thrust for propulsion and steering.

This is an excellent force multiplier and can enhance the operational efficiency of security forces for special operations, patrolling, interception and reinforcement in water-bodies. Water scooters have excellent manoeuvrability and capability to perform in water. This Water Scooter in Indian context is ideal for use by police in riverine areas, lakes and coastal areas for multifarious tasks.

### Qualitative Requirements (QRs)


As per users, the Water Scooter should have a capacity to carry two adults (i.e. one QRT person and driver), Capable for cruising and quick response in placid waters, flowing water having water current and in narrow water lanes where it is difficult to have access by boats. All fixtures and accessories should be of marine grade. **The product should be approved by CE/MMMA certification.**


S/No.	QRs/Technical Specification	
1.	Length	3000 mm (min)
2.	Breadth	1200 mm (min)
3.	Height	1000 mm (min)
4.	Engine	4 stroke
5.	Seating Capacity	02 persons
6.	Endurance	02 Hours (min) at Cruising speed with full load.
7.	Speed	
	(a) Cruising	25 Knot/ 46 Km/hr/29 mph
	(b) Maximum	45 knot /83 Km/hr/ 52 mph
8.	Full throttle rpm	Min – 5000 RPM
9.	Minimum operating depth of water	2 Feet
10.	Horse power	Minimum 110 HP to meet the speed criteria mentioned at srl No. 7
11.	Propulsion system	Jet propulsion system.
12.	Fuel	Petrol
13.	Impeller material	Stainless Steel and anti-corrosive.
14.	Pay load	200 Kg (minimum)
15.	Seating and seat material	Water proof, vinyl, cushioned, bolstered saddle shape seating with grab/strap.

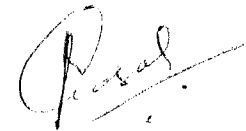
S/No.	QRs/Technical Specification	
16.	Hull and deck material	a) Fibre Glass Reinforced Composite (base material /Vinyl Ester/additives /core material/ Gel coat)/Polycab/Polytech light weight b) Skid resistant c) V shape hull for better stability.
17.	Hull and Deck protection	a) Skid resistant b) Floor board c) Boarding step
18.	Fender material	Suitably broad and thick, all round, marine grade, rubber fender
19.	Fuel tank capacity	Fuel tank under the seat to meet the endurance criteria mentioned at Srl No. 06 with provisioning of low fuel indicator.
20.	Accessories	a) Light weight Mini Telescopic Oars (02 Nos) b) Tow hook c) Slings d) Solas approved adult vest type life jackets (2 Nos) e) 2 Nos Hinged PVC Fender
21.	List of Manuals	User and maintenance manual, Service manual, parts catalogs.
22.	Tools	Combination plier and screw driver set along with mandatory standard tool kit for routine maintenance.
23.	Spares	On Board spares and filters for 2 year or 500 hours operations as per maintenance schedule of OEM.
24.	Colour	As per requirement of user end.
25.	Product support.	The product support should be available in India for minimum 10 years.
26.	Cooling system	Water cooled.
27.	Starting	Electric self starter
28.	Steering and Controls	a) Handle bar b) Handle bar throttle controls c) Tilting steering
29.	Emergency engine shutoff	Required
30.	Engine Protection and Warning system	a) Buzzer system b) Safety trip and monitoring system. c) Fuel level warning d) Temperature warning


A series of handwritten signatures and initials are present at the bottom of the page, including names like 'Srinivas', 'N. Lakshmi', 'Rosal', and others, along with some illegible scribbles.


S/No.	QRs/Technical Specification	
31.	Clogging by weeds	Effective inbuilt clogging countermeasures
32.	Bilge System	Must be provided
33.	Lifting arrangement	2 to 3 Nos lifting hook provided at suitable place for lifting of Water Scooter.
34.	Horn	Electric Horn.
35.	Light	Head light suitable for night operation for clear visibility upto 50 Mtr.
36.	Gear operation	a) Provision of forward, Neutral and reverse. b) Throttle type - Finger.
37.	Battery	12 Volt gel type maintenance free battery.
38.	Speedo meter, RPM meter/ Tachometer, Electronic Clock	01 No. each, standard, waterproof
39.	Storage	Under Seat Storage, Glove box, Front storage well
40.	Certification	Product should be approved by CE/NMMA certification.


  
 (Sanjeev Kumar Singh),  
 IPS, ADG (Log), BSF

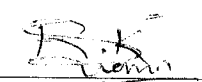
  
 (Lt Col S K Singh)  
 Comdt, AR


  
 (Dr. M M Gosal), SSO  
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 WW. BSF

  
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 Sqn Cdr, NSG

  
 (Sreelesh G.S), DC  
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 (ASI/Comd Kishor Swami)  
 SSB

  
 (Ravi Yadav), Surveyor  
 IRS

  
 (Parvati Sarathi Sahoo)  
 DC, CRPF

APPROVED/NOT APPROVED

  
 (Rajni Kant Mishra, IPS)  
 DG BSF

**TRIAL DIRECTIVE OF WATER SCOOTER FOR 02 MEN****General**

The Water Scooter is commonly used personal watercraft for water sport activities and in some countries used for patrolling purpose and by police and life-guards. The rider uses the watercraft mainly sitting on it and typically holds 2 people, have an inboard engine driving a pump jet with impeller to create thrust for propulsion and steering.

This is an excellent force multiplier and can enhance the operational efficiency of security forces for special operations, patrolling, interception and reinforcement in water-bodies. Water scooters have excellent manoeuvrability and capability to perform in water. This Water Scooter in Indian context is ideal for use by police in riverine areas, lakes and coastal areas for multifarious tasks.

**QR and Trial Directive**

As per users, the Water Scooter should have a capacity to carry two adults (i.e. one QRT person and driver), Capable for cruising and quick response in placid waters, flowing water having water current and in narrow water lanes where it is difficult to have access by boats. All fixtures and accessories should be of marine grade. The product should be approved by CE/NMMA certification.

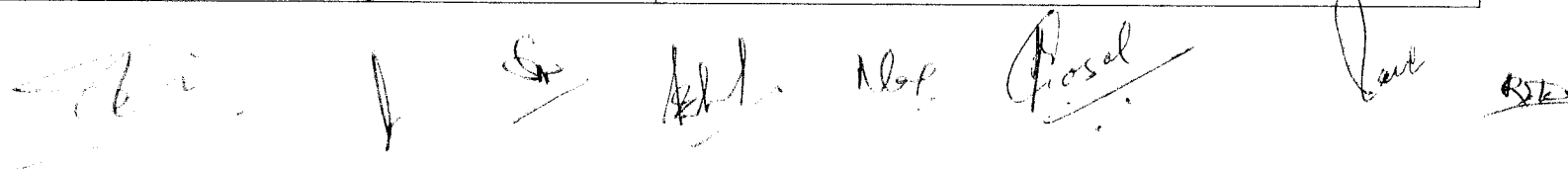
S/No.	QRs/Technical Specification		Trial Directive/procedure suggested for trial for Board of Officers
1.	Length	3000 mm (min)	To be measured by standardized steel measuring tape.
2.	Breadth	1200 mm (min)	To be measured by standardized steel measuring tape.
3.	Height	1000 mm (min)	To be measured by standardized steel measuring tape.
4.	Engine	4 stroke	Engine performance to be checked during speed trial. Check functioning of instrument panel. Check panel arrangements.
5.	Seating Capacity	02 persons	To be checked with full load during trial.
6.	Endurance	02 Hours (min) at Cruising speed with full load.	To be checked with full load during trial.
7.	<u>Speed</u> (a) Cruising (b) Maximum	25 Knot/ 46 Km/hr/29 mph 45 knot /83 Km/hr/ 52 mph	To be physically checked by running the scooter at cruising speed for 2 hours. To be physically checked by running the scooter at maximum speed for 15 minutes.
8.	Full throttle rpm	Min – 5000 RPM	To be physically checked during full load trial and the engine specification provided by manufacturer.
9.	Minimum operating depth of water	2 Feet	To be checked with full load during trial.

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S/No.	QRs/Technical Specification		Trial Directive/procedure suggested for trial for Board of Officers
10.	Horse power	Minimum 110 HP to meet the speed criteria mentioned at srl No. 7	Certificate to be checked provided by builder and engine specification provided by manufacturer.
11.	Propulsion system	Jet propulsion system.	To be checked physically, supported by certificate provided by builder and the engine specification provided by manufacturer supported by class certificate. .
12.	Fuel	Petrol	To be physically checked during trial.
13.	Impeller material	Stainless Steel and anti-corrosive.	Check the certificate provided by the firm.
14.	Pay load	200 Kg (minimum)	To be physically checked during trial.
15.	Seating and seat material	Water proof, vinyl, cushioned, bolstered saddle shape seating with grab/strap.	To be checked by making 02 person seated comfortably and by pouring water.
16.	Hull and deck material	a) Fiberglass Reinforced Composite (base material /Vinyl Ester/additives /core material/ Gel coat)/Polytech light weight b) Skid resistant c) V shape hull for better stability	Physically to be checked during trial.
17.	Hull and Deck protection	a) Skid resistant b) Floor board c) Boarding step	Physically to be checked during trial.
18.	Fender material	Suitably broad and thick, all round, marine grade, rubber fender	To be checked physically during trial.
19.	Fuel tank	Fuel tank under the seat to meet the endurance criteria mentioned at Srl No. 06 with provision of low fuel indicator.	After calculating the endurance the fuel tank be filled with fuel for endurance requirement.
20.	Accessories	a) Light weight Mini Telescopic Oars (02 Nos) b) Tow hook c) Slings d) Solas approved Adult vest type life jackets (2 Nos) e) 2 Nos Hinged PVC Fender	To be physically checked during inspection. Life Jacket to be SOLAS with certification by Classification Auth
21.	List of Manuals	User and maintenance manual, Service manual, parts catalogs.	To be physically checked during inspection.





S/No.	QRs/Technical Specification		Trial Directive/procedure suggested for trial for Board of Officers
22.	Tools	Combination plier and screw driver set along with mandatory standard tool kit for routine maintenance.	To be physically checked during inspection.
23.	Spares	On Board spares and filters for 2 year or 500 hours operations as per maintenance schedule of OEM.	To be physically checked during inspection.
24.	Colour	As per requirement of user end.	To be physically checked during inspection.
25.	Product support.	The product support should be available in India for minimum 10 years.	Check the certificate provided by the firm.
26.	Cooling system	Water cooled.	To be physically checked during full load trial.
27.	Starting	Electric self starter	To be physically checked during trial for minimum 10 times by starting the engine using self-starter and manual starting.
28.	Steering and Controls	a) Handle bar b) Handle bar throttle controls c) Tilting steering	The function of steering system checked during trial.
29.	Emergency engine shutoff	Required.	To be physically checked during trial.
30.	Engine Protection and Warning system	a) Buzzer system b) Safety trip and monitoring system. c) Fuel level warning d) Temperature warning	The function of system will be checked during trial.
31.	Clogging by weeds	Effective inbuilt clogging countermeasures	Check the operational efficiency is not compromised
32.	Bilge System	Must be provided	The function of system checked during trial.
33.	Lifting arrangement	2 to 3 Nos lifting hook provided at suitable place for lifting of Water Scooter.	To be physically checked during trial.
34.	Horn	Electric Horn.	To be physically checked the function of the horn during trial.
35.	Light	Head light suitable for night operation for clear visibility upto 50 Mtr.	To be physically checked the function of the light during trial.
36.	Gear operation	a) Provision of forward, Neutral and reverse. b) Throttle type - Finger.	To be physically checked the function of the gear and throttle during trial.
37.	Battery	12 Volt gel type maintenance free battery.	To be physically checked by starting the engine during trial.

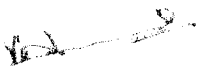
S/No.	QRs/Technical Specification	Trial Directive/procedure suggested for trial for Board of Officers	
38.	Speedo meter, RPM meter/Tachometer, Electronic Clock	01 No. each, standard, waterproof	Check the function of the meter while running of scooter during trial .
39.	Storage	Under Seat Storage, Glove box, Front storage well	To be physically checked during trial.
40.	Certification	Product should be approved by CE/NMMA certification.	To be checked during trial and hand over the certificate at the time of delivery.


  
(Sanjeev Kumar Singh),  
IPS, ADG (Log), BSF

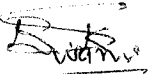
  
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(ASI/Comd (Ram) Kishor Swami)  
SSB

  
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IRS

  
(Partha Sarathi Sahoo)  
DC, CRPF

**APPROVED/NOT APPROVED**

  
(Rajni Kant Mishra, IPS)  
DG BSF

# QUALITATIVE REQUIREMENT (QR) OF WATER SCOOTER FOR 3 MEN

## General

The Water Scooter is commonly used personal watercraft for water sport activities and in some countries used for patrolling purpose and by police and life-guards. The rider uses the watercraft mainly sitting on it and typically holds 3 people, have an inboard engine driving a pump jet with impeller to create thrust for propulsion and steering.

This is an excellent force multiplier and can enhance the operational efficiency of security forces for special operations, patrolling, interception and reinforcement in water-bodies. Water scooters have excellent manoeuvrability and capability to perform in water. This Water Scooter in Indian context is ideal for use by police in riverine areas, lakes and coastal areas for multifarious tasks.

## Qualitative Requirements (QRs)

As per users, the Water Scooter should have a capacity to carry three adults (i.e. two QRT person and driver), Capable for cruising and quick response in placid waters, flowing water having water current and in narrow water lanes where it is difficult to have access by boats. All fixtures and accessories should be of marine grade. **The product should be approved by CE/NMMA certification.**

S/No.	QRs/Technical Specification	
1.	Length	3250 mm (min)
2.	Breadth	1200 mm (min)
3.	Height	1000 mm (min)
4.	Engine	4 stroke
5.	Seating Capacity	03 persons
6.	Endurance	02 Hours (min) at Cruising speed with full load.
7.	Speed	
	(a) Cruising	25 Knot/ 46 Km/hr/29 mph
	(b) Maximum	45 knot /83 Km/hr/ 52 mph
8.	Full throttle rpm	Min – 5000 RPM
9.	Minimum operating depth of water	2 feet
10.	Horse power	Minimum 150 HP to meet the speed criteria mentioned at Srl No. 07
11.	Propulsion system	Jet propulsion system or better.
12.	Fuel	Petrol
13.	Impeller material	Stainless Steel and anti-corrosive.
14.	Pay load	300 Kg (minimum)
15.	Seating and seat material	Water proof, vinyl, cushioned, bolstered saddle shape seating with grab/strap.



S/No.	QRs/Technical Specification	
16.	Hull and deck material	a) Fiberglass Reinforced Composite (base material /Vinyl Ester/additives /core material/ Gel coat)Skid resistant/Polytech light weight b) V shape hull for better stability
17.	Hull and Deck protection	a) Skid resistant b) Floor board c) Boarding step
18.	Fender material	Suitably broad and thick, all round, marine grade, rubber fender
19.	Fuel tank	Fuel tank under the seat to meet the endurance criteria mentioned at Srl No. 06 with provisioning of low fuel indicator.
20.	Accessories	a) Light weight Mini Telescopic Oars (02 Nos) b) Tow hook c) Slings d) Solas approved Adult Vest type life jackets (3 Nos) e) 2 Nos Hinged PVC Fender
21.	List of Manuals	User and maintenance manual, Service manual, parts catalogs.
22.	Tools	Combination plier and screw driver set along with mandatory standard tool kit for routine maintenance.
23.	Spares	On Board spares and filters for 2 year or 500 hours operations as per maintenance schedule of OEM.
24.	Colour	As per requirement of user end.
25.	Product support.	The product support should be available in India for minimum 10 years.
26.	Cooling system	Water cooled
27.	Starting	Electric self-starter
28.	Steering and Controls	a) Handle bar b) Handle bar throttle controls c) Tilting steering
29.	Emergency engine shutoff	Required.
30.	Engine Protection and Warning system	a) Buzzer system b) Safety trip and monitoring system. c) Fuel level warning d) Temperature warning
31.	Clogging by weeds	Effective inbuilt clogging countermeasures
32.	Bilge System	Must be provided.

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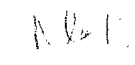
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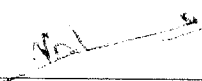
S/No.	QRs/Technical Specification	
33.	Lifting arrangement	2 to 3 Nos lifting hook provided at suitable place for lifting of Water Scooter.
34.	Horn	Electric Horn.
35.	Light	Head light suitable for night operation for clear visibility upto 50 Mtr.
36.	Gear operation	a) Provision of forward, Neutral and reverse. b) Throttle type - Finger.
37.	Battery	12 Volt gel type maintenance free battery.
38.	Speedo meter, RPM meter/Tachometer, Electronic Clock	01 No. each, standard, waterproof
39.	Storage	Under Seat Storage, Glove box, Front storage well
40.	Certification	Product should be approved by CE/NMMA certification.

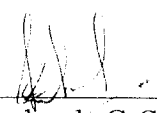
  
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 IPS, ADG (Log), BSF

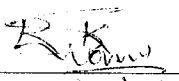
  
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 IRS

  
 (Partha Sarathi Sahoo),  
 DC, CRPF

**APPROVED/NOT APPROVED**

  
 (Rajni Kant Mishra, IPS)  
 DG BSF

## TRIAL DIRECTIVE OF WATER SCOOTER FOR 03 MEN

### General

The Water Scooter is commonly used personal watercraft for water sport activities and in some countries used for patrolling purpose and by police and life-guards. The rider uses the watercraft mainly sitting on it and typically holds 3 people, have an inboard engine driving a pump jet with impeller to create thrust for propulsion and steering.

This is an excellent force multiplier and can enhance the operational efficiency of security forces for special operations, patrolling, interception and reinforcement in water-bodies. Water scooters have excellent manoeuvrability and capability to perform in water. This Water Scooter in Indian context is ideal for use by police in riverine areas, lakes and coastal areas for multifarious tasks.

### QR and Trial Directive

As per users, the Water Scooter should have a capacity to carry three adults (i.e. two QRT person and driver), Capable for cruising and quick response in placid waters, flowing water having water current and in narrow water lanes where it is difficult to have access by boats. All fixtures and accessories should be of marine grade. **The product should be approved by CE/MMMA certification.**

S/No.	QRs/Technical Specification		Trial Directive/procedure suggested for trial for Board of Officers
1.	Length	3250 mm (min)	To be measured by standardized steel measuring tape.
2.	Breadth	1200 mm (min)	To be measured by standardized steel measuring tape.
3.	Height	1000 mm (min)	To be measured by standardized steel measuring tape.
4.	Engine	4 stroke	Engine performance to be checked during speed trial. Check functioning of instrument panel. Check panel arrangements.
5.	Seating Capacity	03 persons	To be checked with full load during trial.
6.	Endurance	02 Hours (min) at Cruising speed with full load.	To be checked with full load during trial.
7.	Speed (a) Cruising (b) Maximum	25 Knot/ 46 Km/hr/29 mph 45 knot /83 Km/hr/ 52 mph	To be checked by running the scooter at the cruising speed for 2 hours. To be checked by running the scooter at the maximum speed for 15 minutes.
8.	Full throttle rpm	Min – 5000 RPM	To be physically checked during full load trial and the engine specification provided by manufacturer.
9.	Minimum operating depth of water	2 feet	To be checked with full load during trial.

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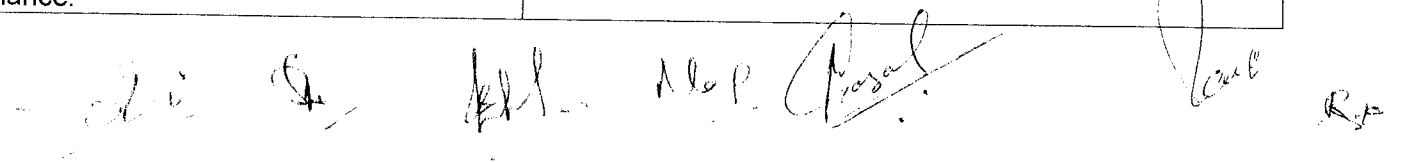
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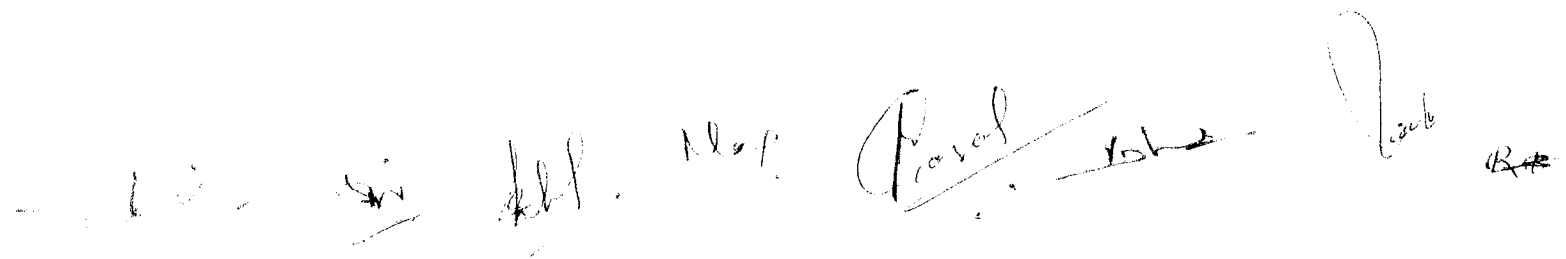
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S/No.	QRs/Technical Specification		Trial Directive/procedure suggested for trial for Board of Officers
10.	Horse power	Minimum 150 HP to meet the speed criteria mentioned at Srl No. 07	Certificate to be checked provided by builder and engine specification provided by manufacturer.
11.	Propulsion system	Jet propulsion system or better.	To be checked physically, supported by certificate provided by builder and the engine specification provided by manufacturer supported by class certificate.
12.	Fuel	Petrol	To be physically checked during trial.
13.	Impeller material	Stainless Steel and anti-corrosive.	Check the certificate provided by the firm.
14.	Pay load	300 Kg (minimum)	To be physically checked during trial.
15.	Seating and seat material	Water proof, vinyl, cushioned, bolstered saddle shape seating with grab/strap.	To be checked by making three person seated comfortably and by pouring water.
16.	Hull and deck material	a) Fibre Glass Reinforced Composite (base material /Vinyl Ester/additives /core material/ Gel coat)/Polytech light weight b) Skid resistant c) V shape hull for better stability.	Physically to be checked during trial.
17.	Hull and Deck protection	a) Skid resistant b) Floor board c) Boarding step	Physically to be checked during trial.
18.	Fender material	Suitably broad and thick, all round, marine grade, rubber fender	To be checked physically during trial.
19.	Fuel tank	Fuel tank under the seat to meet the endurance criteria mentioned at Srl No. 06 with provision of low fuel indicator	After calculating the endurance the fuel tank be filled with fuel for endurance requirement..
20.	Accessories	a) Light weight Mini Telescopic Oars (02 Nos) b) Tow hook c) Slings d) Solas approved Adult vest type life jackets (3 Nos) e) 2 Nos Hinged PVC Fender	To be physically checked during inspection. Life Jacket to be SOLAS with certification by Classification Auth
21.	List of Manuals	User and maintenance manual, Service manual, parts catalogs.	To be physically checked during inspection.
22.	Tools	Combination plier and screw driver set along with mandatory standard tool kit for routine maintenance.	To be physically checked during inspection.




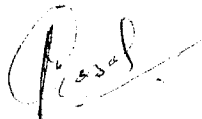
S/No.	QRs/Technical Specification		Trial Directive/procedure suggested for trial for Board of Officers
23.	Spares	On Board spares and filters for 2 year or 500 hours operations as per maintenance schedule of OEM.	To be physically checked during inspection.
24.	Colour	As per requirement of user end.	To be physically checked during inspection.
25.	Product support.	The product support should be available in India for minimum 10 years.	Check the certificate provided by the firm.
26.	Cooling system	Water cooled.	To be physically checked during full load trial.
27.	Starting	Electric self starter	To be physically checked during trial for minimum 10 times by starting the engine using self-starter and manual starting.
28.	Steering and Controls	a) Handle bar b) Handle bar throttle controls c) Tilting steering	The function of steering system checked during trial.
29.	Emergency engine shutoff	Required	To be physically checked during trial.
30.	Engine Protection and Warning system	a) Buzzer system b) Safety trip and monitoring system. c) Fuel level warning d) Temperature warning	The function of system checked during trial.
31.	Clogging by weeds	Effective inbuilt clogging countermeasures	Check the operational efficiency is not compromised
32.	Bilge System	Must be provided.	The function of system will be checked during trial.
33.	Lifting arrangement	2 to 3 Nos lifting hook provided at suitable place for lifting of Water Scooter.	To be physically checked during trial.
34.	Horn	Electric Horn.	To be physically checked the function of the horn during trial.
35.	Light	Head light suitable for night operation for clear visibility upto 50 Mtr.	To be physically checked the function of the light during trial.
36.	Gear operation	a) Provision of forward, Neutral and reverse. b) Throttle type - Finger.	To be physically checked the function of the gear and throttle during trial.
37.	Battery	12 Volt gel type maintenance free battery.	To be physically checked by starting the engine during trial.




S/No.	QRs/Technical Specification	Trial Directive/procedure suggested for trial for Board of Officers
38.	Speedo meter, RPM meter/Tachometer, Electronic Clock	01 No. each, standard, waterproof
		Check the function of the meter while running of scooter during trial .
39.	Storage	Under Seat Storage, Glove box, Front storage well
		To be physically checked during trial.
40.	Certification	Product should be approved by CE/NMMA certification.
		To be checked during trial and hand over the certificate at the time of delivery.


  
 (Sanjeev Kumar Singh),  
 IPS, ADG (Log), BSF

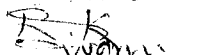
  
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 Sqn Cdr, NSG


  
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 ITBP

  
 (ASI/Comd. Camp Kishor Swami)  
 SSB

  
 (Ravi Yadav), Surveyor  
 IRS

  
 (Parvati Sarathi Sahoo)  
 DC, CRPF

**APPROVED/NOT APPROVED**

  
 (Rajni Kant Mishra, IPS)  
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