

No. IV-15021/08/2013-Prov (MT)-243

भारत सरकार/Government of India

गृह मंत्रालय/Ministry of Home Affairs

पुलिस आधुनिकीकरण प्रभाग /Police Modernization Division

संभरण-I डेस्क/Provision.I Desk

26, Man Singh Road, Jaisalmer House,
New Delhi, the 10th February, 2017.

To,

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

Subject: Qualitative Requirements (QRs) and Trial Directives (TDs) for Recovery Vehicles 5 Ton Capacity.

The QRs and TDs in respect of Recovery Vehicles 5 Ton Capacity, as per Annex-I and Annex-II respectively have been approved by the Competent Authority in MHA.

- 2. Henceforth, all the CAPFs should procure the above item required by them strictly as per revised laid down QRs and TDs.
- 3. The concerned CAPFs will be accountable for correctness of the QRs and TDs.

Encl: As above.

Yours faithfully,

R.K.
10/02/2017

(Ritesh Kumar)

Under Secretary (Prov.I)

Telefax: 2338 1278

o/c






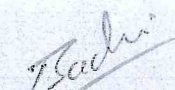
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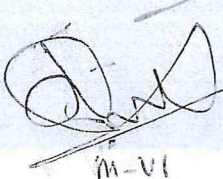

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- 1. SO (IT), MHA: with the request to upload the instant QRs and TDs (copy attached) of Recovery Vehicles 5 Ton Capacity on the MHA website (under the page of Organizational Set up-Police Modernization Division-Qualitative Requirement-Vehicle Equipment list).
- 2. DDG (Procurement), MHA








FINAL QRs/SPECIFICATION OF LIGHT RECOVERY VEHICLE 5 TON CAPACITY

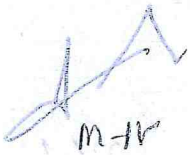
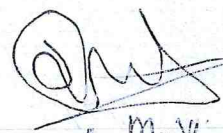

S.NO	PARAMETER	QRs/SPECIFICATION
1	Main Frame	Framed with Rolled Channel & Plates with 2 Nos. Side Swing Outboard Legs accommodate with 5-Ton Capacity Gear Box & Service Drum.
2	Decking	Platform should be made by ISMC 125 x 65 Rolled Channel lying on chassis Long Members fixed with High Tensile U- Clamps & framed with 75x75x6 Equal Angle, 5mm MS Chequered Plate is lying on Frame for sturdiness & Anti – Skid during operation.
3	Main Chassis Dimensions	a) Wheel Base: 3600-4250 mm
		b) Track Front : 1600-2200 mm
		c) Track Rear : 1600-2100 mm
		d) Overall Length : 7000 to 7500 mm
		e) Max. Width : 2000-2500 mm
		f) Front Overhang: 1800 mm Max.
		g) Rear Overhang: 1560 mm Max.
		h) Ground Clearance : Not less than 245 mm
4	Boom Assembly	a) Boom Nos. – Minimum 2(Two) Nos. Swiveling.
		b) Length (Centre of Boom Heel to Center of Sleeve at Top). Minimum – 3000mm
5	Boom Swing	a) In Horizontal Plane – Minimum 120° (Degree)
		b) In Vertical Plane – Minimum 60° (Degree)
6	Tube Dimensions	Diameter – Minimum 85 mm.
7	Lifting Capacity	Lifting capacity of each boom – Minimum 4 Tons & Both Booms – 5 Tons.
8	Max. Clear Reach beyond Chassis at Rear	Top most Position – Minimum 350 mm

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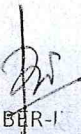

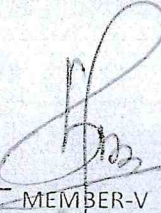
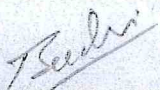
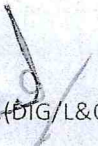
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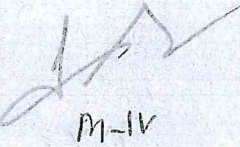
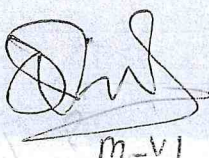
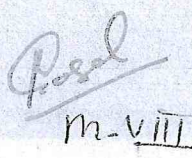
9	Max. Clear reach at sides.	a) Top most Position - Minimum 3200 mm
10	Boom winch (Hand Operated)	a) Lifting Capacity at Max. Reach -2 Tons Minimum b) Drive Arrangement – Ratchet Type c) Rope Diameter- Minimum 10 mm and as per latest IS. d) Drum Diameter – 140 mm min. e) Rope Length – Min.15000 mm. f) Location – Mounted at the bottom of the main frame on both side. g) Drive – Ratchet arrangements. h) Brake arrangements- Pawl and Ratchet i) Rope diameter and construction – ungalvanized conforms to IS 2266 IWRC 1960, 6x36.
11	Service winch (line pull Winch)	a) Drive Arrangement – Gear & pinion b) Max. Drum Diameter – 280 mm c) Rope Diameter- 12-16 mm as latest IS. d) Rope Length – Minimum 50 Meters e) Max. Breaking Strength – Maximum 13.9 Tons f) Winching Speed at idling Speed of Engine – 3 Mtrs/ Min Average g) Safety Device- Shear Pin provided in Jack Bearing/ Gear Box Sprocket h) Lifting Hook Capacity- Minimum 5 Tons i) Max pulling capacity with one layer of rope on drum -05 Ton each boom j) Rope diameter and construction -12 mm dia 6x36 FMC ungalvanised, conforms to IS 2266 IWRC 1960, 6x36.

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		k) Safe working load for rope - 7.5 Ton Static.
		l) Over load cut out device- Shear pin provided on winch GB drive shaft hub and sprocket.
		m) Brake arrangements- Self engineering, spring loaded brake on worm shaft.
		n) Control (Type and Location) – Lowering and raising of control levers located at LH & RH sides at rear of wrecker body.
12	Wrecker Frame	a) Overall Height above vehicle – Min. 1300 mm (Main Frame height)
		b) Mounting Details – Bolted with Sub Frame which is clamped in the Chassis.
13	Out Board Legs	a) Min. Length – 1600 mm
		b) Max. Length -2600 mm
		c) Swing – Horizontal Plane – Min. 150 degrees
		d) Stowage Arrangements – should be provided.
		e) Locking Arrangements -Should be provided with Pins in open position.
14	Control for Winch	a) Type of Controls – Lever Type Spring Loaded.
		b) No. of Controls for Each Winch – 2 (Two) Nos. One on either side.
		c) Control's Location – At Sides near Rear End.
15	Wrecker Body	a) Access to Body Platform – from Back Panels & Side Panels
		b) Mounting Details – Welded Platform Assy
16	Transmission Assembly	a) Drive Arrangements- Chain and Sprocket Arrangements
17	Type of Power Transmission to gear	Through a Flexible Propeller Shaft connected to jack Bearing Shaft and Sprocket.

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18	Crew Cab	Details – It should be separate from Driver's Cabin & made by Tubular Frame of Dia. 26.90 mm & 2.65 mm Thickness Section covered by Metal roof. Tool Box need to be attached so as to accommodate 3 persons at a time to operate the wrecker.
19	Other Parameters	Details – Throttle Control Lever located at either side of Rear End of Chassis. Suitable Eye & Lock hook pins made out of Alloy Steel shall be provided. All Guards made out of Alloy Steel, duly Heat Treated shall be provided. High Tensile Nut Bolts of Standard Make shall be provided. Original Tail Lamps would be repositioned at Rear.
20	Engine	a) Max Engine Power- Not less than 130hp(Water cooled direct injection turbocharged diesel engine and shall meet all emission norms mentioned in latest CMVR) confirming at ARAI/SAE standards.
		b) Max torque – 400-490 Nm at 1500 RPM -1700 RPM
21	Clutch	Single Plate Dry Friction Type.
22	Gear Box	No. of Gears – 5/6- Forward & 1- Reverse. Type – Synchromesh on all Forward Gears and Constant Mesh on Reverse Gear.
23	Transfer Case	a) Type- Constant Mesh Helical Gears
		b) Drive Options- 4x2 –High
24	Steering	a) Type- Integral Hydraulic Power steering
25	Brakes	a) Parking Brake Type – Dual Air/ Hydraulic Type OR Hand operated spring actuated parking brake acting on rear wheels.
		b) Engine Exhaust Brake – Coupled with Service Brakes.
		c) Service Brakes- Dual Air brakes.
26	Frame (Chassis)	a) Type- Ladder Type Heavy Duty Frame with Riveted / Bolted Cross Member & Channel Section Side Member
27	Suspension	a) Front – Semi Elliptical multi leaf spring with Hydraulic double acting shock absorber.
		b) Rear - Semi Elliptical multi leaf spring with helper spring and double acting Hydraulic shock absorber.

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28	Wheels & Tyres	a) Tyres- 10.00X20 – 16 PR or Higher.
		b) No. of wheels - Front -2, Rear – 2/4 & Spare- 1
29	Fuel Tank	Capacity – 100-230 ltrs
30	Electrical System	Battery – 12V, 150AH Capacity
31	Weights(Kgs)	a) Permissible GVW- Max.18000 kg
		b) Permissible FAW- Min.5200 kg
		c) Permissible RAW - Min.13700 kg
32	Performance	Grade ability – Minimum 18 Degrees in 4x4 Mode in 1st Gear
33	Other Parameters	a) Seating Capacity – Driver +4 (including Cabin & LRV Crew Seating)
		b) Drive Type- 4x4
		c) Cabin Type – Semi forward or full Forward Controlled (user to specify)
34	Accessories	a) Fixed Tow Bar Assy- 1 No.
		b) Swiveling Search Light – 2 Nos.
		c) Boom Lights - 02 Nos.
		d) Snatch Block (5 tons capacity) – 2 Nos.
		e) Towing Chain -1 no.
		f) Winch Operating Handle – 2 nos.
		g) Search Light with 15 Mtrs Cable -1 No.
		h) Spare Shear Pin – 2 Nos.
		i) One 'D' shackle at front and One tow hook at rear.
		j) Wooden scotches for Tyres – 08 Nos.
		k) Boom handles – 2 Nos.
l) Fluorescent cones – 2 Nos.		

[Signature]
DIRECTOR GENERAL
I.T.B. POLICE





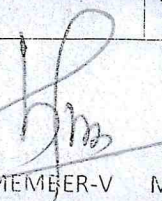


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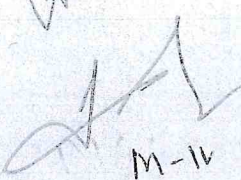
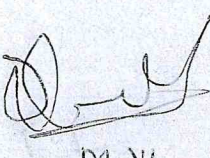
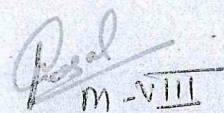
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FINAL TRIAL DIRECTIVES FOR LIGHT RECOVERY VEHICLE 5 TON CAPACITY

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S.NO	PARAMETER	QRs/SPECIFICATION	PROCEDURE SUGGESTED FOR TRIAL	RESULT EXPECTED
1	Main Frame	Framed with Rolled Channel & Plates with 2 Nos. Side Swing Outboard Legs accommodate with 5-Ton Capacity Gear Box & Service Drum.	Will be checked physically with full load	Main frame should be able to perform effecting with prescribed load.
2	Decking	Platform should be made by ISMC 125 x 65 Rolled Channel lying on chassis Long Members fixed with High Tensile U- Clamps & framed with 75x75x6 Equal Angle, 5mm MS Chequered Plate is lying on Frame for sturdiness & Anti - Skid during operation.	Will be checked physically and certificate will be provided by the manufacturer.	It should meet the desired parameters.
3	Main Chassis Dimensions	a) Wheel Base: 3600-4250 mm	Will be checked physically.	It should meet the desired parameters.
		b) Track Front : 1600-2200 mm		
		c) Track Rear : 1600-2100 mm		
		d) Overall Length : 7000 to 7500 mm		
		e) Max. Width : 2000-2500 mm		
		f) Front Overhang: 1800 mm Max.		
		g) Rear Overhang: 1560 mm Max.		
		h) Ground Clearance : Not less than 245 mm		
4	Boom Assembly	a) Boom Nos. -- Minimum 2(Two) Nos. Swiveling.	Will be checked physically.	It should meet the desired parameters.
		b) Length (Centre of Boom Heel to Center of Sleeve at Top). Minimum - 3000mm		
5	Boom Swing	a) In Horizontal Plane - Minimum 120° (Degree)	Will be checked physically.	It should meet the desired parameters.




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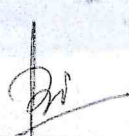




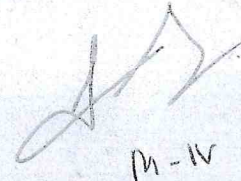
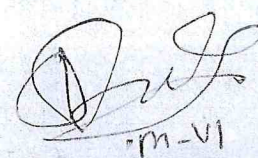
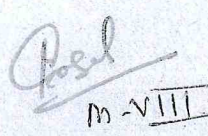
		b) In Vertical Plane – Minimum 60 ° (Degree)		
6	Tube Dimensions	Diameter – Minimum 85 mm.	Will be checked physically.	It should meet the desired parameters.
7	Lifting Capacity	Lifting capacity of each boom – Minimum 4 Tons & Both Booms – 5 Tons.	Will be checked physically.	It should meet the desired parameters.
8	Max. Clear Reach beyond Chassis at Rear	Top most Position – Minimum 350 mm	Will be checked physically.	It should meet the desired parameters.
9	Max. Reach at sides	a) Top most Position - Minimum 3200 mm		
10	Boom winch (Hand Operated)	a) Lifting Capacity at Max. Reach -2 Tons Minimum	Will be checked physically.	It should meet the desired parameters.
		b) Drive Arrangement – Ratchet Type		
		c) Rope Diameter- Minimum 10 mm and as per latest IS.		
		d) Drum Diameter – 140 mm min.		
		e) Rope Length – Min. 15000 mm.		
		f) Location – Mounted at the bottom of the main frame on both side.		
		g) Drive – Ratchet arrangements.		
		h) Brake arrangements- Pawl and Ratchet		
		i) Rope diameter and construction – ungalvanized conforms to IS 2266 IWRC 1960, 6x36.		

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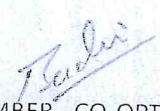

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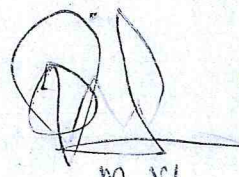
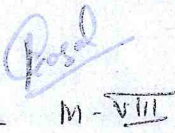
11	Service winch (line pull Winch)	a) Drive Arrangement – Gear & pinion	Will be checked physically with prescribed load	Service winch should be able to perform effectively with prescribed load.
		b) Max. Drum Diameter – 280 mm		
		c) Rope Diameter- 12-16 mm as latest IS.		
		d) Rope Length – Minimum 50 Meters		
		e) Max. Breaking Strength – Maximum 13.9 Tons		
		f) Winching Speed at idling Speed of Engine – 3 Mtrs/ Min Average		
		g) Safety Device- Shear Pin provided in Jack Bearing/ Gear Box Sprocket		
		h) Lifting Hook Capacity- Minimum 5 Tons		
		i) Max pulling capacity with one layer of rope on drum -05 Ton each boom		
		j) Rope diameter and construction -12 mm dia 6x36 FMC ungalvanised, ungalvanized conforms to IS 2266 IWRC 1960.		
k) Safe working load for rope – 7.5 Ton Static.				
l) Over load cut out device- Shear pin provided on winch GB drive shaft hub and sprocket.				

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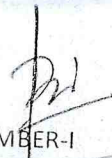




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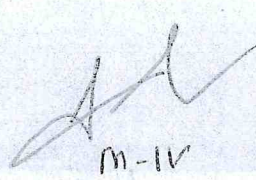
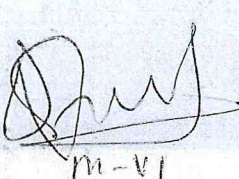
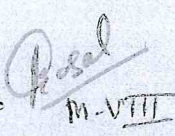
		m) Brake arrangements- Self engineering, spring loaded brake on worm shaft.		
		n) Control (Type and Location) – Lowering and raising of control levers located at LH & RH sides at rear of wrecker body.		
12	Wrecker Frame	a) Overall Height above vehicle – Min. 1300 mm (Main Frame height)	Will be checked physically.	It should meet the desired parameters.
		b) Mounting Details – Bolted with Sub Frame which is clamped in the Chassis.		
13	Out Board Legs	a) Min. Length – 1600 mm	Will be checked physically.	It should meet the desired parameters.
		b) Max. Length -2600 mm		
		c) Swing – Horizontal Plane – Min. 150 degrees.		
		d) Stowage Arrangements – should be provided.		
		e) Locking Arrangements -Should be provided with Pins in open position.		
14	Control for Winch	a) Type of Controls – Lever Type Spring Loaded.	Will be checked physically.	It should meet the desired parameters.
		b) No. of Controls for Each Winch – 2 (Two) Nos. One on either side.		
		c) Control's Location – At Sides near Rear End.		
15	Wrecker Body	a) Access to Body Platform – from Back Panels & Side Panels	Will be checked physically.	It should meet the desired parameters.
		b) Mounting Details – Welded Platform Assy		
16	Transmission Assembly	a) Drive Arrangements- Chain and Sprocket Arrangements	Will be checked physically.	It should meet the desired parameters.

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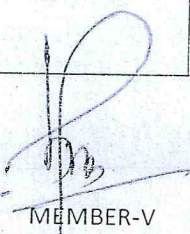
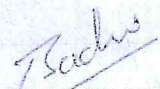

17	Type of Power Transmission to gear	Through a Flexible Propeller Shaft connected to jack Bearing Shaft and Sprocket.	Will be checked physically.	It should meet the desired parameters.
18	Crew Cab	Details – It should be separate from Driver's Cabin & made by Tubular Frame of Dia. 26.90 mm & 2.65 mm Thickness Section covered by Metal roof. Tool Box need to be attached so as to accommodate 3 persons at a time to operate the wrecker.	Will be checked physically.	It should meet the desired parameters.
19	Other Parameters	Details – Throttle Control Lever located at either side of Rear End of Chassis. Suitable Eye & Lock hook pins made out of Alloy Steel shall be provided. All Guards made out of Alloy Steel, duly Heat Treated shall be provided. High Tensile Nut Bolts of Standard Make shall be provided. Original Tail Lamps would be repositioned at Rear.	Will be checked physically & certificate regarding quality & make will be provided by the manufacturer.	It should meet the desired parameters.
20	Engine	a) Max Engine Power- Not less than 130hp(Water cooled direct injection turbocharged diesel engine and shall meet all emission norms mentioned in latest CMVR) confirming at ARAI/SAE standards.	Based on the certificate provided by the manufacturer.	It should meet the desired parameters.
		b) Max torque – 400-490 Nm at 1500 RPM -1700 RPM		
21	Clutch	Single Plate Dry Friction Type.	Based on the certificate provided by the manufacturer.	It should meet the desired parameters.
22	Gear Box	No. of Gears – 5/6- Forward & 1-Reverse. Type – Synchromesh on all Forward Gears and Constant Mesh on Reverse Gear.	Vehicle will be driven in all the gears	The gear change operation should be smooth.


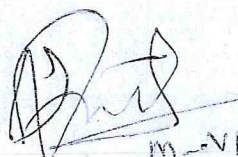

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23	Transfer Case	a) Type- Constant Mesh Helical Gears	Vehicle will be driven in 4X4 operation both low & high.	The changing of gear in 4X4 operation low & high should be smooth.
		b) Drive Options- 4x2 –High		
24	Steering	a) Type- Integral Hydraulic Power steering	Vehicle will be driven and turned Left & right.	The driver should be able to turn vehicle with ease.
25	Brakes	a) Parking Brake Type – Dual Air/ Hydraulic Type OR Hand operated spring actuated parking brake acting on rear wheels.	The brake shall be applied at different speed with full load.	It should be able to stop the vehicle properly within the min distance.
		b) Engine Exhaust Brake – Coupled with Service Brakes.		
		c) Service Brakes- Dual Air brakes.		
26	Frame (Chassis)	a) Type- Ladder Type Heavy Duty Frame with Riveted / Bolted Cross Member & Channel Section Side Member	Based on the certification of the manufacturer.	It should meet the desired parameter.
27	Suspension	a) Front – Semi Elliptical multi leaf spring with Hydraulic double acting shock absorber.	Vehicle should driven in different terrain with full load.	It should be able to with stand all jerks,bumps, stress and strain during recovery of vehicle on full load.
		b) Rear - Semi Elliptical multi leaf spring with helper spring and double acting Hydraulic shock absorber.		
28	Wheels & Tyres	a) Tyres- 10.00X20 – 16 PR or Higher	Will be checked physically.	It should meet the desired parameters.
		b) No. of wheels - Front -2, Rear – 2/4 & Spare- 1		
29	Fuel Tank	Capacity – 100-230 ltrs	Will be checked physically.	It should meet the desired parameters.
30	Electrical System	Battery – 12V, 150AH Capacity	Will be checked physically.	It should meet the desired parameters.

 MEMBER-II
  MEMBER-III
  MEMBER-I
  MEMBER-V
  MEMBER-V
  MEMBER- CO-OPTED
  P.O.(DIG/L&C)

 M-IV
  M-VI
  M-VIII

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31	Weights(Kgs)	a) Permissible GVW- Max.18000 kg	Based on the certificate provided by the manufacturer.	It should meet the desired parameters.
		b) Permissible FAW- Min.5200 kg		
		c) Permissible RAW - Min.13700 kg		
32	Performance	Grade ability – Minimum 18 Degrees in 4x4 Mode in 1st Gear	Should be able to climb and descend on the specified gradient.	The person sitting in the vehicle should feel comfortable & safe.
33	Other Parameters	a) Seating Capacity – Driver +4 (including Cabin & LRV Crew Seating)	Will be checked physically	It should meet the desired parameters.
		b) Drive Type- 4x4		
		c) Cabin Type – Semi forward or full Forward Controlled (user to specify)		
34	Accessories	a) Fixed Tow Bar Assy- 1 No.	Will be checked physically	All the accessories should be as per requirement.
		b) Swiveling Search Light – 2 Nos.		
		c) Boom Lights - 02 Nos.		
		d) Snatch Block (5 tons capacity) – 2 Nos.		
		e) Towing Chain -1 no.		
		f) Winch Operating Handle – 2 nos.		
		g) Search Light with 15 Mtrs Cable -1 No.		
		h) Spare Shear Pin – 2 Nos.		
		i One 'D' shackle at front and One tow hook at rear.		
		j) Wooden scotches for Tyres – 08 Nos.		
		k) Boom handles – 2 Nos.		
l) Fluorescent cones – 2 Nos.				

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MEMBER-I MEMBER-III MEMBER-I MEMBER V MEMBER-V MEMBER- CO-OPTED P.O.(DIG/L&C)

M-IV M-VI M-VIII