

Tender No: 6300033486 : "Development & supply of Equipped Cabins (RHD) for BEML HMV Vehicle 8x8

Technical compliance for cabin

TECHNICAL DETAILS ON RHD CABIN		Remark
SL No	Description	
A	SCOPE OF WORK: Development of Driver's RHD cabin for BEML HEAVY DUTY MILITARY TRUCK, Installation, testing, field trails	
1	The detailed arrangement is shown in Dwg No: 160 999 859 874.	
2	The cabin shall have all driving controls on right hand side.	
3	It shall be made from cold rolled metallic sheets	
4	Sleeper cab type - ready to fit on chassis (drop down) to be provided	
5	Two doors for cabin	
6	One front wind shield partitioned in the centre	
7	Two fixed windows on the side panels	
B	CABIN MOUNTING	
1	Mounting of the swing cabin onto the frame is done using sleeves in the front and prismatic rubber at the rear.	
2	Locking of the cabin in the running condition is done by a control mechanism from the left side	
3	The cab lock release mechanism has to be of mechanical linkages or hydraulic arrangement	
4	Hydraulic system for tilting mechanism of the cabin and Cabin mountings with lock arrangement to be provided	
C	CABIN INTERIORS:	
1	Engine tunnel is to be provided, with suitable insulation & cladding, of required profile	
2	To provide suitable sound proofing & heat resistance insulation for engine hood.	
3	A Gear Shift Lever (GSL) is to be mounted on the engine tunnel, has to have both High & low speed gear selector in it.	
4	The parking brake to be placed on the tunnel (driver side)	
5	individual switches have to be provided in dashboard for drive selection	
6	One sleeper berths have to be positioned suitably behind the driver & co- driver seat	
7	Ducts & louvers to be provided at driver & co-driver sides and for demisting (demister vents have to be provided.)	
8	Air duct (Plastic trim) has to be used for engine cooling riveted to engine tunnel as per existing arrangement.	
9	Accelerator pedal shall be of mechanical type	
10	The clutch and brake pedals are of pendent type	
11	Windscreen washer tank of suitable capacity with integrated pump to be provided	
12	First aid box to be provided with mounting, of suitable size.	
13	Suitable brackets for Fire extinguishers to be provided in the driver's cabin	
14	Suitable brackets for Emergency couch to be provided.	
15	Engine compartment lamp shall be provided to facilitate servicing of engine	
D	Front Cowl:	
1	Covering front cowl with through cut for cooling air of engine to be provided.	
2	Mechanical linkage with release handle above accelerator pedal shall be provided for hood release mechanism	
3	Hinged front cowl to be provided with mechanical stay to facilitate working on the front mounted equipment's	
E	Roof hatch:	
1	The roof hatch has to be of rectangular / circular in shape placed between driver & co driver seat	
2	A suitable arrangement to be provided, with a firm base for standing, on or above the co-driver seat	
3	Hard board trims with 3mm thick to be provided	
4	Roof hatch to be provided with spring loaded pull type lock for closed condition	
5	Rubber & pressed panel to be provided for locking during open condition	
6	handle to be provided for roof hatch open & close operation	
7	Mechanical stay to be provided for gradual partial opening of the hatch	
8	Driver & Co-Driver Seat:	

9	Driver /co driver seat should sprung pneumatically; it should be of adjustable rigidity according to the driver's weight and be adjustable in all directions. Driver's/Co driver seat should be bucket type capable of being adjusted in height as well as horizontally as per leg length of the driver, and with adjustable backrest & headrest Suitable seat covers like artificial leather covers to be provided for both the seats.	
E	CABIN FITMENTS & ACCESSORIES:LH/RH Side Fitments:	
1	Holder clips have to be provided at suitable location	
2	One fixed quarter glass on each side is to be provided meeting the CMVR requirements	
3	Rigid type handles shall be provided on "A" & "B" pillars for ingress driver & crew members, meeting the CMVR requirements	
4	Spherical pin has to be mounted near to the quarter glass & leather strip on sleeper berth for berth locking	
5	A suitable insulation shall be added between outer skin & interior trim	
6	Handle for Co-driver to be provided meeting CMVR requirements	
7	Interior lamps to be fitted above the door cut Out	
8	Suitable grab poles to be provided inside cabin near doors for facilitating entry & exit.	
F	Bulk head & Front Panel Fitments:	
1	Clutch & Brake Assy: Both clutch & brake assy are of pendent type pedal with mechanical linkages	
2	Engine idle speed and engine shut off lever has to be fitted on the dashboard	
3	The steering column assy with telescopic and tiltable in nature to be provided. Necessary trim for steering column assy has to be provided.	
4	The column is to be fitted with a steering wheel of suitable diameter meeting CMVR requirements	
5	Single/ Double Lever combination switches to be used.	
6	fresh air control through louvers inside cabin mechanical linkages / electrical to be provided	
7	Windshield wipers with two / three speed controls & linkages to be provided meeting CMVR requirement.	
8	Plastic water can with liquid solution of suitable capacity for windshield glass cleaning to be provided.	
9	Flexible hoses are to be used for connecting to the heater.	
10	Two handles to be provided on cabin front end for windshield cleaning	
11	Diesel tank & connecting hoses for heater to be fitted above hood panel	
12	Engine oil temperature dependent heater to be used.	
G	Roof Fitments:	
1	A search light has to be fitted on the roof of cabin which can be operated by the driver	
2	Two beacon lamps with metal guards to be provided diagonally at RH front corner & LH rear corner	
3	Two handles are to be provided inside the cabin on the roof	
4	Three no's of suitable sun visors to be provided	
5	Roof trim fastening to be done using screw & washer for roof trim mtg	
6	Bracket to be provided for air intake mounting on roof.	
H	Rear Panel Fitments:	
1	Mounting for air intake bracket has to be provided on RH side	
2	Two no's of gun holder (brackets) to be provided at suitable location (Presentarrangement)	
3	Fixed glasses one on each side of rear panel to be provided	
4	Sleeper berth hinges to be mounted on rear panel	
5	Working light to be provided at rear side of cabin	
6	Two Coat hangers to be provided at suitable location.	
I	Other Fitments:	
1	Box for documents to be placed suitably	
2	Holders for extinguishing equipment to be placed suitably	
3	Roof lighting to be placed suitably meeting CMVR requirement.	
4	LH & RH direction indicators to be provided suitably meeting CMVR requirement	
5	Control Unit of centralized tyre inflation system (CTIS) to be provided on the panel to LH side of Driver, the vehicle side pneumatic lines will be in beml scope.	
6	Top working search light for working with the additional accessories to be provided	
7	Storage space for documents to be provided on the inner side of doors	

8	Adjustable rear view mirrors to be provided on both sides	
9	Suitable bracketary to be provided for mounting of NBC filtration unit below the berth	
10	Detachable stainless steel drinking water tank of (approx.) 100 liters to be provided	
11	Control Unit with knobs for the operation / engagement of Axle differential lock and Inter-axle Differential Lock to be provided on the panel to LH side of Driver.	
12	Black Out system with controls to be provided (Black out head lamp & tail lamp to be supplied in loose condition)	
13	Exhaust Brake engagement lever should be provided near the driver's seat	
14	Electric horn, Air Horn, Head lamp with leveller, side direction indicators, fog lamp, Wide angle & proximity mirror, rear warning buzzer etc., should be provided to meet all CMVR requirements	
J	CABIN INSULATION:	
	The floor of the cabin is plain and made of steel plate with internal anti-vibration isolation, and rubber matting. External surface of the floor is also provided with anti-vibration coating. Holes for draining of any water that may enter are provided on the front part of the floor along with rubber plugs for closing the same. The floor mats are of 3 piece construction to be provided with 10 mm thick insulation.	
1	Rexin to be used with paste to fix the floor mat on the tunnel surface	
	Parts of the floor of the driver's cab form the cover for the engine. On the outer surface of the cover away from the engine thermal and sound insulation is stuck—on, in the front	
2	portion and is held in position by punched plate	
K	DIMENSIONS OF CABIN:	
1	Length : 2107 mm	
2	Width : 2500 mm	
3	Height : 1850 mm	
4	Weight : 770 ± 3% kg	
L	ELECTRICAL AND ELECTRONIC SYSTEMS:	
	Electric Power Sources:	
1	The voltage of vehicle electrical accessories is 24V. All circuits are protected by fuses located in the fuse boxes on the RH upper part of the instrumentation panel	
	Wiper motor, Horn, Bulbs, Headlamp with protection grid, Search light, Buzzer on driver side, Map reading lamp, Roof marker lamp, Reading lamp, Indicator lamps, Head lamps, Relay Holder, fuse box, battery charging socket, Service lamp socket, Horn changeover switch, Jump start arrangement, Electronic cooling control system, Heater and Hot air	
2	Distribution system to be provided	
3	Alternator : Non water tight 28V/55A	
	Technical specification:	
4	Type of electrical system: One conductor and negative pole grounding	
5	Batteries (Accumulators) : 12V, 180 Ahr, 02 batteries connected in series	
	Head lamps : 2 Water tight (lower)	
6	2 Non-Water tight (upper)	
7	Fog head lamp : 2 Water tight (halogen bulbs)	
8	Heater : independent, multi-fuel breeze Full output : 1900W, Decreased o/p : 900W	
9	Rear cluster lamp (with port)/Without port (right)	
10	Front and side turn signals	
	Horn : non watertight, electro-pneumatic	
11	Sockets : One ZAB for external starting two for preservation charger, two for auxiliary lamps, one for inspection lamp & infrascopes, two 7-pole type trailer, one 7-pole socket for towing, one auxiliary socket for illumination.	
	Instrument panel & control equipment of the vehicle:	

12	<p>Panel of Instruments and Switches:</p> <p>1– Switch of lamp for illumination of towing hook (To be used with the contour lights switched on)</p> <p>2 – Tachometer c/w engine hours counter</p> <p>3 – Electronic speedometer c/w counter of distance covered</p> <p>4 – Double air pressure gauge in brake system</p> <p>5 – Button switch to stop the engine</p> <p>6 – Oil pressure gauge c/w warning signal lamp of low oil pr</p> <p>7 – Convoy light switch</p> <p>8 – Control levers of heating and ventilation</p> <p>9 – Fuel gauge with warning signal lamp for low fuel</p> <p>10 – Air pressure gauge for tyres inflation</p> <p>11 – Winch controller</p> <p>12 – Change-over switch of headlamps (upper – lower)</p> <p>13 – Emergency flasher (hazard warning lights) switch</p> <p>14 – change-over switch to shift in auxiliary gears</p> <p>15 – Push-button switch for engine brake</p> <p>16 – Switch for special warning lights – beacons (To be used when transporting an over dimensional cargo)</p> <p>17 – Fan switch</p> <p>18 – Switch for electric fuel pump</p> <p>19 – Ignition box with starter</p> <p>20 – Switch for fog headlamps</p> <p>21 – Interior Dome light switch</p> <p>22 – Rotary switch for outer illumination</p> <p>23 – Voltmeter</p>	
	<p>24 - The instrument panel should also include following features</p> <ul style="list-style-type: none"> • Alternator not charging warning • Winch rope completely paid out (for safety reasons) • Excessive Engine temperature • Low Engine oil pressure warning • Audio & visual indication for Winch in operation. • Provision of Audio & visual warning for engine starter switch 	

13	<p>9.5.2 Signal Lamps: consists of:</p> <ul style="list-style-type: none"> 1 – Driver’s cab signal lamp (red) 2 – Signal lamp of special warning lights (yellow) 3 – Signal lamp of engine electronic cooling malfunction (red) 4 – Signal lamp of engine overheating (red) 5 – Signal lamp of air overpressure in brake circuits (red) 6 – Signal lamp of air overpressure drop in spring cylinders of service brake (red) 7. Signal lamp of parking brake (red) 8 – Signal lamp of towing hook illumination (yellow) 9 – Signal lamp of vehicle turn signals (green) 10 – Signal lamp of trailer turn signals (green) 11 – Signal lamp of accumulators charging (red) 12 – Signal lamp of high beams (blue) 13 – Signal lamp of front wheels drive and inter-axle differentials locks engagement 14 – Signal lamp of axle differentials locks engagement (green) 15 – Signal lamp of electric delivery pump operation (white) 16 – Signal lamp of emergency flasher (hazard warning lights) (red) 17 – Signal lamp of air cleaner (white) 18 – Signal lamp of fog lamps (green) 19 – Signal lamp of engine preheating (yellow) 	
M	PANEL INSTRUMENTS & SWITCHES	
14	Voltmeter	
15	<p>Electronic Speedometer It is a combined instrument that records the total and daily distance covered in Km, instantaneous speed and real time. The range is 0 to 120 Km/h. Clock setting arrangement provided.</p>	
16	<p>Ignition box (to be provided with key not removed warning) STOP – Position to remove the key and to lock the steering wheel. After removing the Key, the steering will be locked 0 - In this position it starts to be active Vehicle illumination, hazard warning lights, multi-fuel heater and brake lights. If it is difficult to turn the key to this position, gently move the steering wheel until The steering lock pawl releases. 1 - Other electric circuits are ON 2 - Position to start the engine</p>	
	Winch controller switch	
17	<p>Fuse box All electric circuits are protected by ceramic fuses positioned in the fuse boxes located on the RH side under the upper cover of instrument panel. Other current fuses, diodes and relays are located in the fuse panel under the front vehicle bonnet</p>	
18	<p>Combination switch Single lever switch with functionality for</p> <ul style="list-style-type: none"> 1. Horn 2. Wipers (2 Speed) 3. High beam / Low beam 4. pass Beam 5. LH & RH turn 	

19	Control Knobs on the Manual brake valve panel for: 1- Tyres deflation 2- Tyres inflation 3- Axle differential locks engagement 4- Front axle drive and inter-axle differential lock engagement	
20	Fuel gauge The gauge will indicate the fuel level which is part of the driver Instrument panel. The operating range is 0 to1	
21	Engine oil pressure (VDO) This gauge is part of the driver instrument panel. The operating range is 0 to 5bar	
22	System air pressure gauge The gauge will indicate the system air pressure. The operating range is 0 to 10 bar	
23	Tachometer & Hour meter	
24	Tyre gauge The operating range is 0 to 10 (KPa x100)	
25	Multi pin socket There is a 2-pin socket provided inside driver's cabin. This is for radio communication purpose and works on 24V dc	
26	Wiring harness The cabin wire harness shall comply with the Standard FLRY-B to DIN 76722 / 72551. The cable size depends upon the current carrying capacity	
27	Battery isolator switch This is to isolate battery from the system. It is fitted inside the driver's cabin i.e. behind the co-driver seat. It operates on 24v dc	
28	LAMPS :	
N	PAINT DETAILS:	
1	Pre treatment Cathode Electro Deposition (CED) painting and top coat painting as per CSN 5450 KHAKI (OG Green) Colour Type: AKRYL LV EM 020 - SYMPO, Minimum thickness 55 microns.	
O	SHOWER TEST:	
1	Shower test for Cabin to be conducted as per IS: 11865-2006.	
2	Spares, Special Tools and Testing Equipment	
3	Lifting shackles/Straps for handling & placement of cabin on chassis is to be provided	
P	ACCEPTANCE CRITERIA:	
1	Factory Acceptance Test (FAT)	