

STATE OF MICHIGAN

Request for Proposal No. 190000001579

Medium Class of Non-Lift and Lift Transit Buses

SCHEDULE F EQUIPMENT CHECKLIST

I BODY SPECIFICATIONS				
		Item	Product Name and Model	Size, Material, and/or Type
A.		General design and construction	Class 1: Glaval Entourage Class 2: Glaval Legacy	Steel cage construction that meets all applicable FMVSS and Buy America regulations including the FMVSS 220 rollover test. Both class buses meet the Altoona test requirements.
B.	1.	Body structure and exterior panels	Glaval	Galvanized steel cage with Fiberglass skin and one piece roof
	2.	Rollover frame, steel cage type	Glaval	Wall structure is 16 gauge galvanized steel channel installed in full lengths and in shorter sections below window frames. 1"x1" lower and 1"x3" upper galvanized steel tubing is welded in horizontally between vertical members to frame in window openings. This adds front to rear reinforcement as well. 1"x1" galvanized steel tubing is stitch welded to the sidewall bottom and top at each vertical member for attaching to the floor and roof sections, respectively. The wall structure is welded to the floor. The steel cage is FMVSS 220 compliant.
	3.	Body section thickness	Glaval	Body wall thickness is 1.35"
	4.	Rollover frame, fiberglass composite	Glaval	n/a
	5.	Body section thickness	Glaval	n/a
	6.	Exterior panels	Glaval	Fiberglass
	7.	Interior panels	Glaval	FRP as specified
	8.	Interior length	Glaval	Varies per floorplan, see floorplans
	9.	Interior width	Glaval	94"
	10.	Interior height	Glaval	76" when using raised floor
	11.	Exterior length	Glaval	Varies per floorplan, see floorplans
	12.	Exterior width	Glaval	96"
	13.	Exterior height	Glaval	122" excluding roof options
	14.	Rubrails	Glaval	Aluminum custom extrusion
	15.	Body overhang	Glaval	Varies per floorplan, see floorplans
C.	1.	Passenger door	A&M Electric	Aluminum door, electrically operated
	2.	Opening Size	A&M Electric	36" or 32" clear opening
D.		Stepwell	Glaval	304 Stainless steel
E.		Interior – Color	Glaval	Light gray
F.		Flooring	Gerflor Sirius	Subfloor – Marine grade plywood, undercoated with Gerflor Sirius floor covering
G.		Emergency exits	Glaval, Transpec 1970	Pushout egress windows, rear door or window as specified, Transpec roof hatch
H.		Gauges	Ford or Freightliner	Standard OEM Gauges per specification
I.		Fare box	Diamond NV	Diamond NV Rectangular Farebox w/2 Vaults
J.		Bumpers	OEM Front/ Romeo Rim Rear	OEM front and Romeo Rim energy absorbing rear bumper as specified

K.		Mud Flaps and Splash Guards	Glaval	Rubber composite front and rear with T brackets as specified
L.		Towing	OEM/Glaval	Rear tow hooks per spec and OEM front
M.	1.	Undercoating	DEGA ZPG-9902S	Spray type undercoat body and cab per specification
	2.	Rustproofing	DEGA ZPG-9902S	Dega coating inside of galvanized steel tubing as specified
N.	1.	Interior mirrors	Glaval	6 x 9 interior mounted as specified at pilot
	2.	Sun visors	Ford or Freightliner	OEM
O.		Exterior Mirrors	Rosco Accustyle and Rosco Crossview	Accustyle are power remote and heated. The Crossview crossover mirror is not.
P.	1.	Seats – Driver	Ford or Freightliner OEM	OEM Ford / Freightliner driver seats with arm rests as specified
	2.	Seats – Passenger	Freedman Featherweight	Various Freedman mid-back seats per floor plan requirements. All with required USR seatbelts, grab handles and seat covers where applicable.
	3.	Seats – Fold-up	Freedman Featherweight Fold-a-way	Featherweight folding per specification
	4.	Seats – Flip-up	Freedman Featherweight Flip-up	Featherweight flip per specification
Q.		Handrails, stanchions	Glaval	Powdercoat yellow where specified and brushed steel where specified
R.		Interior lighting – LED	Various approved OEM	All LED as specified
S.		Exterior lighting - LED	Various approved OEM	All LED as specified
T.	1.	Heating / ventilating – Front System	Ford or Freightliner	As specified
	2.	Heating / ventilating – Rear System	ProAir	(2) 65k rear heaters mounted under seats
U.		Windows	Cleervision	36x36 tinted T-slide plus rear window when ordered. Egress windows have proper markings, red lights, etc.
V.		Paint	Axalta	Paint / Clear coat
W.		Insulation	Glaval	Insulation to meet specification
X.		Lift (platform type)	Braun	NCL10003454HB-2 1000# Lift 34"x54"
Y.		Alternate Lift Manufacturer	Ricon	S-5510 Titanium 1000# Lift 34"x54"

II WHEELCHAIR SECUREMENT AREA						
		Item	Product Name and Model	Size, Material, and/or Type		
A.		Wheelchair securement	Q-Straint L-Track with optional Slide-N-Click mount	54" x 30" on all wheelchair positions		
B.		Wheelchair restraints	Q-Straint	Q-8100-A1T-L with retractable shoulder harness or optional Slide-N-Click mount		

C.		Restraint storage system	Q-Straint	Restraint storage using TDSS under foldaway seats plus one storage bag as requested		
III CHASSIS SPECIFICATIONS						
		Item	Class 1 Product Name/Model	Class 1 Size, Material, and/or Type	Class 2 Product Name/Model	Class 2 Size, Material, and/or Type
A.		Chassis	Ford	F-550	Freightliner CC	S2C
B.		Tilt Wheel/Power Steering	Ford	OEM	Freightliner CC	OEM
C.		Wheelbase(s)	Ford	205"	Freightliner CC	219" – 238" wheelbase depending on model ordered
D.	1.	Engine - Diesel	Ford	6.7L V8 diesel	Freightliner CC	Cummins 6.7L ISB Diesel, 240 HP
	2.	Auxiliary Coolant Heater	Pro-Air (Espar)	Airtronic D5	Pro-Air (Espar)	Airtronic D5
E.		Transmission	Ford	Torqshift six speed auto with OD	Freightliner CC	Allison B220
F.		Alignment	Glaval	Aligned prior to shipment to Michigan to ensure proper arrival after transport	Glaval	Aligned prior to shipment to Michigan to ensure proper arrival after transport
G.	1.	Gross Vehicle Weight Rating (GVWR)	Ford	19,500 lbs	Freightliner CC	25,850 lbs
	2.	Front axle rating	Ford	7,000 lbs	Freightliner CC	9,000 lbs
	3.	Rear axle rating	Ford	14,000 lbs	Freightliner CC	17,500 lbs
H.		Differential	Ford	4.88 gear ratio	Freightliner CC	4.30 gear ratio
I.		Battery			Freightliner CC	Protective cover on terminals – no exposed copper as specified
J.		Battery Cables and Grounds	Ford	Protective cover on terminals –	Freightliner CC	Protective cover on terminals – no

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				no exposed copper as specified		exposed copper as specified
K.		Alternator	Ford	200 Amp	Freightliner CC	OEM Leece Neville 270 Amp, pad mount
L.		Engine Fast Idle	Intermotive	Gateway GTWY506-F	Intermotive	Gateway GTWY805-F-P2
M.		Brakes	Ford	4-wheel vented disc with Anti-Lock Brake System (ABS)	Freightliner CC	OEM Air brakes, Wabco ABS
N.		Fuel tank	Ford	40 gallon	Freightliner CC	OEM 60 gallon mounted between rails
O.		Hazard flashers	Ford	OEM on steering column	Freightliner CC	OEM on turn signal
P.		Shock absorbers	Ford	OEM	Freightliner CC	OEM mounted, SACHS
Q.	1.	Suspension - Front	Ford	Mono beam front suspension nonindependent – front coil springs – anti sway – shock absorbers.	Freightliner CC	OEM 9,000# Taperleaf w/maintenance free bushings
	2.	Suspension - Rear	Ford/MorRyde	MorRyde rear suspension system as specified.	Freightliner CC	OEM 23,000# airliner with chain clearance, single air leveling valve
R.		Stabilizer	Ford	OEM	Freightliner CC	OEM Rear swaybar
S.		Wheels	Ford	19.5 painted steel	Freightliner CC	Accuride 29001 22.5X7.50 10-Hub Pilot 5-Hand Steel Disc Front & Rear Wheels
T.		Tires	Ford	225/70Rx19.5	Freightliner CC	Michelin XZE

						255/70R22.5 16 Ply Radial Front & Rear Tires
U.		Spare Tire – Steer Axle	Ford	225/70Rx19.5	Freightliner CC	Same as Tires
V.		Spare Tire – Drive Axle	Ford	225/70Rx19.5	Freightliner CC	Same as Tires
W.		Drive shaft	Ford/ Glaval	With shaft guards as specified	Freightliner CC/ Glaval	With shaft guards as specified
X.		Wipers / Horn	Ford	OEM – Variable intermittent wipers and dual horn	Freightliner CC	OEM – Variable intermittent wipers and dual horn
Y.		Radiator and cooling system	Ford	OEM as specified	Freightliner CC	750 in2 downflow with lower guard
Z.		Fluids	Ford	OEM as specified	Freightliner CC	OEM as specified
AA.		Engine Cover/Trim	Ford	Engine is under hood and insulated by OEM	Freightliner CC	Engine is under hood and insulated by OEM
BB.		Exhaust system	Ford	Exhaust per specification except where regulation prevents modification	Freightliner CC	Exhaust per specification except where regulation prevents modification

IV		OTHER ITEMS			
		Item	Product Name and Model		Size, Material, and/or Type
A.	1.	Safety – Fire extinguisher	Amerex ABC		5lb mounted vertically per specification
	2.	Safety – Reflective triangles	Glaval		Mounted per pilot
	3.	Safety – Reverse alarm	ECCO		97 dba mounted per pilot
	4.	Safety-Rear door alarm	Intermotive		Flextech
	5.	Safety- Exterior height (clearance) decal	Glaval		As specified – located on dash
	6.	Safety-Lift interlock system	Intermotive		Flextech
	7.	Safety-Warning/engine shutdown system	OEM		OEM
	8.	Safety-Headlight control	OEM		OEM
	9.	Safety-Strobe light	Soundoff 3107LCC		Mounted 6” from rear of bus
B.	1.	Lift circuit breaker	Braun		Installed in battery box on units with

				battery box and under the hood on units with OEM battery mounting
	2.	12-volt power point	Ford or Freightliner	Per specification
	3.	Wire coding and harnesses	Glaval	Per specification
	4.	Electrical panel	Intermotive Flextech	Advanced diagnostics and LED indicators
	5.	Wiring support	Glaval	As specified
	6.	Wiring grounds and capacity	Glaval	As specified
	7.	Constant run solenoid	Glaval	As specified
	8.	Circuit capacity & function	Glaval	As specified
	9.	Wiring protection	Glaval	As specified
	10.	Wiring routing	Glaval	As specified
	11.	Wiring connections	Glaval	Weatherpak on exterior connections per specifications
V	EQUIPMENT OPTIONS			
A.		Air Conditioning, Split unit	Trans Air	TA733 w/rm60 Super 13 w/#16 Suction hose - Ford 6.8L Gas TA733 w/rm60 Super 13 w/#16 Suction hose- Ford 6.7L Diesel TA7722 w/rm90 Dual Super 10- 6.8L Gas TA7722 w/rm90 Dual Super 10- 6.7L Diesel TA7722 w/rm90 Dual Super 10- 6.7L Cummins TA7722 w/rm90 Dual Super 10 w/#16 Suction hose- 6.7L Cummins TA7722 w /rm90 Dual Super 10, w/#16 Suction hose- 6.8L Gas TA7722 w /rm90 Dual Super 10, w/#16 Suction hose- 6.7L Diesel
B.		Rooftop AC with heat	Trans Air	TA733 w/rm60 and heat Super 13 w/#16 Suction hose - Ford 6.8L Gas TA733 w/rm60 and heat Super 13 w/#16 Suction hose- Ford 6.7L Diesel TA7722 w/rm90 and heat Dual Super 10- 6.8L Gas TA7722 w/rm90 and heat Dual Super 10- 6.7L Diesel

				TA7722 w/rm90 and heat Dual Super 10-6.7L Cummins TA7722 w/rm90 and heat Dual Super 10 w/#16 Suction hose-6.7L Cummins TA7722 w /rm90 and heat Dual Super 10, w/#16 Suction hose-6.8L Gas TA7722 w /rm90 and heat Dual Super 10, w/#16 Suction hose-6.7L Diesel
C.	1.	Auxiliary Air Heater - Gas	Pro-Air (Espar)	Airtronic D5 with 7 day timer
	2.	Auxiliary Air Heater/Engine Block Heater (in lieu of aux. coolant heater).	Airtronic D5 with 7 day timer	Airtronic D5 with 7 day timer – includes block heater
D.	1.	Destination Sign – Roller/Curtain	Transign	Transign roller
	2.	Destination Sign - LED	Twin Vision	LED Mobilite
E.		Donation box (in lieu of standard farebox – deduct)	Diamond	Diamod D donation box mounted per specification
F.		Farebox Electrical Prep Only (less standard farebox-deduct)	Glaval	Glaval power prep for farebox prep
G.	1.	Limited Slip Differential (Class One)	Ford	OEM limited slip
	2.	Limited Slip Differential (Class Two)	Freightliner	OEM limited slip
H.		Rear emergency exit window	Lippert	Rear egress window with alarm as specified
I.	1.	Paint - One stripe	Axalta	Per specification
	2.	Paint - Roof second color	Axalta	Per specification
	3.	Paint - Different Full body	Axalta	Per Specification
	4.	Reflective Vinyl Belt Stripe	Avery	10 year vinyl
J.	1.	Lift – Type I (in lieu of standard lift)	Braun	NCL919-2 800# Century
	2.	Lift – Type II – Powered outer barrier (in lieu of standard lift)	Braun	NL919-2 800# Millenium
	3.	Lift - Folding Platform (in lieu of standard lift)	Braun	NVL917 800# Vista
K.	1.	Wheelchair Single Point Securement System (in lieu of one standard L-Track position)	Q-Straint	Q10007 QRT 360 Slide-n-Click
	2.	Additional Wheelchair Position – L Track System	Q-Straint	Q8100-A1-L – same as base bus configuration
	3.	Additional Wheelchair Position – Single Point System	Q-Straint	Q8100-SC-A1 Slide-N-Click
L.		Two-way radio prep package	Glaval	Prep includes two radio ground planes on roof with access panels and wiring per specification
M.	1.	Radio - AM/FM stereo system w/ four speakers	OEM	OEM radio and antenna to be provided where available. Includes 4 speakers
	2.	Public Address System Only w/ two speakers	ASA PA500	Separate PA and Mic with two speakers
	3.	Radio - AM/FM/PA stereo system w/ four speakers	ASA PA500	PA and Mic are separate per

				addendum but with four speakers
	4.	Radio – Additional speaker	ASA	5 ¼”
N.		Rear Air Ride Suspension (Class One)	Kelderman	Rear air ride suspension installed by Kelderman as specified
O.		Rubber Flooring (in lieu of smooth/slip-resistant flooring)	RCA	RCA rubber flooring in lieu of standard
P.		Entrance Stepwell Heater	Lighthouse	Warm Welcome
Q.		Electric Driveline Brake (Retarder)	Telma	Per specification
R.	1.	Seats – Rear five place passenger	Freedman Featherweight	Mid-Back with USB belts except on middle seat, seat covers. No grab handles.
	2.	Seats - Forward Facing Standard Double Seat	Freedman Featherweight	Mid-Back with USB belts, grab handles and seat covers
	3.	Seats – Forward Facing Double Fold-A-Way	Freedman Fold-a-way	Mid-Back Featherweight Fold-away with USB belts, grab handles and seat covers
	4.	Seats – Double Flip-Up	Freedman Flip-up	Freedman Double Flip with seatbelts, seat covers and grab handles.
	5.	Seats- Double w/Single Integrated Child Seat (ICS)	Freedman ICS	ICS with companion seat - with USB belts, grab handles and seat covers
	6.	Seats- Double w/Double Integrated Child Seat (ICS)	Freedman ICS	Double ICS with USB belts, grab handles and seat covers
S.		Driver’s Power Seat Base (Class One)	Adnik	6 way power
T.	1.	Alt Engine – Gas (Class One)	Ford OEM	6.8L V10 Gas
	2.	Alt Engine – Propane (Class One)	Ford 6.8L with 98G Prep & Roush Conversion	Chassis ordered with 98G prep package then upfitted with Roush 65 gallon LPG system
	3.	Alt Engine – Bi-fuel Gas/Propane (Class One)	Ford 6.8L with 98G Prep & Roush Conversion	Chassis ordered with 98G prep package then upfitted with Roush Bi-fuel Propane/gas system
	4.	Alt Engine – CNG (Class One)	Ford 6.8L with 98G Prep & A-1 Alternative Fuels Conversion	Chassis ordered with 98G prep package then upfitted with A-1 Alternative Fuels CNG system
U.		Stop Request System	RC Tronics ADA Compliant	With pull cords, driver alert and push button at wheelchair locations
V.		Back-Up Sensor System	ROSCO	BSSK-1000
W.	1.	Video Surveillance – Two Camera System	REI	HD5-600. 2 Camera, 1 TB HDD per specifications

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	2.	Video Surveillance - Four Camera System	REI	HD5-600. 4 Camera, 1 TB HDD per specifications
	3.	Video Surveillance - Six Camera System	REI	HD5-600, 6 Camera, 1 TB HDD per specifications
	4.	Video Surveillance - DVR System Upgrade	REI	Upgrade from 1TB hard drive
	5.	Video Surveillance – Extra Interior Cameras	REI #710715	1080P camera, same as systems above
	6.	Video Surveillance – Extra Exterior Cameras	REI	Exterior camera, same as systems above
X.		Video Surveillance Preparation Package	Glaval	Prep with up to six cameras and ethernet cabling
VI EXCEPTIONS - List all exceptions in the space below:				
No exceptions other than the 26 ft Class II vehicle slightly exceeds the maximum length due to the fact that the OEM chassis manufacturer does not offer an air brake chassis in the smaller length.				
VII BIDDER COMMENTS				
Class I bid for Ford F550 includes a Ford GPC concession of \$5,200 and Ford mobility concession of \$1,000. Vehicle pricing is based on chassis 2020 model year draft pricing.				