

## Taxi 2000 Vehicle Components Weight Estimates (8/23/01)

	Quan.		Wgt., lb.
<b>VEHICLE CHASSIS</b>			
Aluminum square-tube frame			17
Equipment cover			26
<i>Wheels, axles, bearings, and brackets</i>			
Main support, 16 in O.D. cushion tires (Aerol ASPN 16-T-08 )	4	46.4	
Lower lateral, 5 in O.D. polyurethane (Aerol RCR5-AER5)	2	8.75	
Upper lateral, 5 in O.D. polyurethane (Aerol RCR5-AER5)	4	17.5	
Switch, 4 in O.D. polyurethane (Aerol AEL 4-T-06)	4	10	
LIM bogie, 4 in O.D. polyurethane (Aerol AEL 4-T-06)	4	10	
TOTAL WEIGHT of WHEELS			92.65
<i>Switch mechanism</i>			
Arms, high-strength, high-fatigue-resistant steel	2	12	
Connecting shaft, 1 in O.D., 0.065 wall thickness, 70 in long Al tube	1	1.4	
Bearings	2	0.4	
Spring Assembly	1	0.5	
Rotary solenoid drives (Ledex, Inc. 6S)	2	4	
Snubbers (Enidine, Inc. TK 21)	4	0.1	
Proximity detectors	4	0.02	
TOTAL WEIGHT OF SWITCH MECHANISM			18.4
<i>Auxiliary brake</i>			
Actuator (Duff-Norton, 1/2 ton capacity, #2625)	1	2.75	
Attachment arm, bolts, shoe	1	3	
TOTAL WEIGHT of BRAKE			5.75
<i>Push-mode coupler</i>			
Linear actuator	1	1	
Rotary actuator	1	4	
Coupling arm and support brackets	1	14	
Fastners	1	0.2	
TOTAL WEIGHT of COUPLER			19.2
<i>Shock absorbers</i>			
Hydraulic 4-in stroke shock absorber (EGD, Inc. Series S)	1	28	
High-impact friction energy absorber	1	15	
Mounting brackets	2	1.5	
TOTAL WEIGHT of SHOCK ABSORBERS			44.5
<i>Power system</i>			
Battery, rechargeable, 24-volt, 200 watt-hrs	1	21.4	
Operates switch, aux. brake, computers, one emergency stop.			
Power pickup assemblies	4	10	
On-board power cables	1 set	4	
TOTAL WEIGHT of POWER SYSTEM			35.4
Compressor with motor for Air Conditioner (Delphi Auto)			10.9

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	Quan.	Wgt., lb.
Linear Induction Motors with forced-air cooling (Force Engineering)	2	260
LIM Bogie	1	4.85
Variable-Frequency Drives (Force Engineering)	2	97
Transmitter/receiver assemblies	2	1.8
Computers and protective case	4	10
Fault-detection system (sensors + wiring)	1	2
<b>TOTAL WEIGHT per ASSEMBLED CHASSIS</b>		<b>645</b>
<b>VEHICLE BODY</b>		
<i>Floor assembly</i>		
Mounting channel, Aluminum	1	17
Ribs, 0.030 x 50 in tapered Al sheet	8	7.2
Floor material	1	92
Perimeter tube edge	1	14.2
Composite body sides and roof		144
Windows		38
<i>Door assembly</i>		
Blow-molded door assembly	2	42
Opening linkages	2	6
Locking mechanism	2	2
Actuators and power supply	2	18
Seat assembly	1	36
Padded dashboard w/ airbag assembly	1	18
Assist handles	2	2
<i>HVAC</i>		
Ventilation system	1	9
Electric heater	1	3
Air conditioner	1	25.6
Power connector	1	1
Lighting system	1	2
Load detector	1	0.5
Start/stop button	1	0.2
Voice communication system	1	2
<b>TOTAL WEIGHT per ASSEMBLED BODY</b>		<b>480</b>
Weight reduction due to further optimization of 10%		-112
<b>TOTAL WEIGHT per ASSEMBLED VEHICLE</b>		<b>1013</b>