AlphaEcosys

PRODUCT ONE-PAGER · EN

TUK-TUK ELECTRIC CONVERSION KIT

GASOLINE-TO-ELECTRIC RETROFIT · V2.0 DIFFERENTIAL PLATFORM

KEEP THE VEHICLE — REPLACE ONLY THE POWERTRAIN · OEM HALF-SHAFTS RETAINED

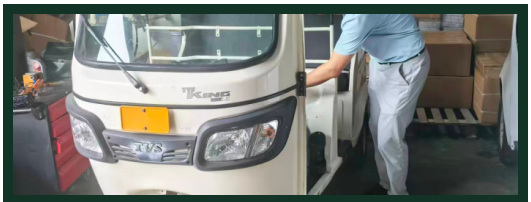
4 / 8 kW	65 N·m	8 kWh	100–120	≈2 h	⅓ Cost
RATED / PEAK	PEAK TORQUE	LFP BATTERY	KM RANGE	INSTALL (TVS KING)	VS. NEW EV 3-WHEELER

CONVERT THE FLEET YOU ALREADY OWN

1.05 M+ aging three-wheelers in Sri Lanka — fuel alone takes ~17% of driver income

The V2.0 kit transforms gasoline auto-rickshaws into zero-emission electric vehicles. Chassis, body, suspension and the original half-shafts are fully retained; only the engine and fuel system are replaced by an integrated 72 V electric drivetrain with an under-seat LFP battery.

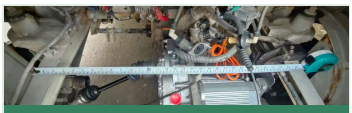
All model-specific engineering is concentrated in a re-machined differential that matches the vehicle's original CV joints — no custom shaft fabrication, no chassis cutting. One kit architecture scales across vehicle models: validated on TVS King, with Bajaj RE and Bajaj Maxima in adaptation.



TVS KING · KIT IN PRODUCTION

WHAT'S IN THE KIT

Complete drive system + model-specific fitting kit — one crate, one installation



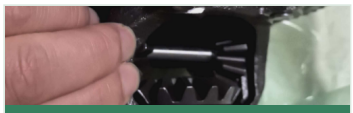
4 kW PMSM Motor
8 kW peak · 65 N·m · IP67 · air-cooled

FOC

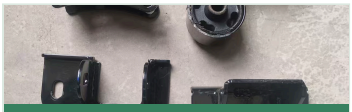
Motor Controller
510 A max · CAN 2.0 · IP66

8:1

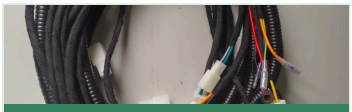
Gearbox
Single-speed · rear drive · oil-lubricated



Re-machined Differential
OEM CV-joint match · inner CVs incl.



Bracket Set
Model-specific · rubber-isolated



Wiring Harness
HV + LV loom · keyed connectors



Digital Dashboard
Speed + state of charge

12V

DC-DC + Controls
72→12 V 22 A · throttle · key switch

KEY SPECIFICATIONS

Reference configuration — TVS King · full data in the spec sheet

SUBSYSTEM	SPECIFICATION
Motor	72 V PMSM · 4 kW rated / 8 kW peak · 65 N·m peak · 6,000 rpm max · IP67 · air-cooled
Controller	72 V · 510 A max AC output · CAN 2.0 · IP66 · cruise / anti-theft / multi-mode
Gearbox + Differential	Single-speed 8:1 reduction, rear drive · re-machined differential matching OEM CV joints
Battery	8 kWh LFP (72 V / 120 Ah) · CAN BMS · ~2,000 cycles to 70% · under-seat · EV-grade cells
Charging	AC charge 4–6 h · on-board charge port
Performance	Top speed 55–60 km/h · range 100–120 km · gradeability ≥ 20% · noise 55–60 dB (vs. 75–85 dB petrol)

CONVERSION IN 4 STEPS

1. Inspect chassis; remove engine, fuel system, exhaust.
2. Bolt in differential, motor, gearbox — OEM shafts refit directly.
3. Lay harness, mount under-seat battery, fit dashboard & controls.
4. Calibrate, QC checklist, test drive, hand over.

WHY V2.0 SCALES

V1.0 — Custom half-shafts per model: slow, costly, not scalable.

V2.0 — Re-machined differential; OEM shafts retained; one architecture, many models.

Roadmap — Two-speed integrated drivetrain with fleet battery-swap compatibility.

WHY CONVERT

- ≈ Rs. 7/km electric vs. Rs. 20–25/km petrol — up to Rs. 20,000 saved per driver / month
- Zero engine maintenance; near-silent 55–60 dB operation
- Keeps the driver's asset — a fraction of new-EV cost
- SOP manual + training: certified workshops, ≈2 h turnaround

VEHICLE COMPATIBILITY

TVS King — AVAILABLE NOW
Kit in production — brackets, differential set and harness validated.

Bajaj RE — IN ADAPTATION
CV-joint interface drawings complete; pilot slots open.

Bajaj Maxima — IN ADAPTATION
Differential assembly drawings prepared; chassis validation next.

Suzhou Yuanneng Light Mobility Electric Technology Co., Ltd.
Electric drivetrain systems & conversion kits for light vehicles — Suzhou, Jiangsu, China

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