

MOTORCYCLE, PATROL, OFF ROAD, MC2, SUZUKI DR-Z400E

DATA SUMMARY

This instruction is authorised for use by command of the Chief of Army. It provides direction, mandatory controls and procedures for the operation, maintenance and support of equipment. Personnel are to carry out any action required by this instruction in accordance with EMEI General A 001.



Figure 1 Motorcycle, Patrol, Off Road, MC2, Suzuki DR-Z400E K4 (E24)

General

1. This EMEI lists basic data for the Motorcycle, Patrol, Off Road, MC2, Suzuki DR-Z400E, as shown in Figure 1.
2. **Role.** The motorcycle is employed to provide mobility and sustainability while undertaking activities in low and medium intensity conflicts. The motorcycle's functionality can also be employed outside the Australian Area of Operations during operations, exercises or training. The primary roles of the motorcycle include:
 - a. route reconnaissance for mobility force elements (carried on the rear of the Long Range Patrol Vehicles (LRPV) and Long Range Logistics Vehicles (LRLV) when not in use);
 - b. area reconnaissance;
 - c. early warning;
 - d. rear warning/protection;
 - e. flank warning/protection;
 - f. communications link during mobility transits; and
 - g. as an administration/liaison vehicle at Forward Observation Base (FOB).
3. **Description.** The motorcycle is based on an Australian Design Rule (ADR)-compliant Suzuki DR-Z400E off-road trail bike. The base motorcycle has been reconfigured to suit capability requirements specifically for Special Forces. It is powered by a liquid-cooled, 398 cm³ single-cylinder petrol engine with electric start. Power is delivered through a five-speed manual constant mesh transmission via chain drive to the rear wheel. Use of the equipment is for a single operator only.

Detail

4. Dimensions and Mass

- a. Height 1 245 mm
- b. Length.....2 310 mm
- c. Width825 mm
- d. Wheelbase 1 475 mm
- e. Ground Clearance.....315 mm
- f. Seat Height935 mm
- g. Dry Mass 134 kg

5. Engine

- a. Type..... four-stroke, liquid-cooled, DOHC
- b. Number of Cylinders 1
- c. Bore90.0 mm
- d. Stroke62.6 mm
- e. Piston Displacement398 cm³
- f. Compression Ratio 12.2:1
- g. Carburettor KEIHIN FCR39
- h. Air Cleanerpolyurethane foam element
- i. Starter System..... electric and primary kick
- j. Lubrication System..... dry sump
- k. Idle Speed 1 800 +/-100 rpm

6. Transmission

- a. Clutch wet multi-plate type
- b. Transmission 5-speed constant mesh
- c. Gear Shift pattern1-down, 4-up
- d. Primary Reduction Ratio 2.960 (74/25)
- e. Final Reduction Ratio..... 3.357 (47/14)
- f. Gear Ratio – Low 2.285 (32/14)
- g. Gear Ratio – Second..... 1.733 (26/15)
- h. Gear Ratio – Third..... 1.375 (22/16)
- i. Gear Ratio – Fourth..... 1.090 (24/22)
- j. Gear Ratio – Top 0.863 (19/22)
- k. Chain DriveRK520KZO, 112 links

7. Chassis

- a. Front Suspensiontelescopic, coil spring, oil damped, rebound, damping force 18-way adjustable, compression, damping force 14-way adjustable
- b. Rear Suspensionlink type, coil spring, oil damped, spring pre-load fully adjustable, rebound damping force 21-way adjustable, compression damping force 26-way
- c. Rear Suspension Coil Spring..... Racetech SRSP-6727-57, heavy-duty, 110 kg
- d. Front Suspension Stroke.....288 mm
- e. Rear Wheel Travel.....295 mm

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- f. Caster27°20'
- g. Trail..... 112 mm
- h. Steering Angle.....45° (right and left)
- i. Turning Radius..... 2.2 m
- j. Front Brake Disc
- k. Rear Brake..... Disc
- l. Hydraulic Brake Fluid – Type..... DOT 4, Glycol-based
- m. Front Tyre Size.....80/100-21 M/C51P, tube type
- n. Rear Tyre Size..... 120/90-18 M/C65P, tube type

8. Electrical

- a. Ignition Type.....electronic ignition (CDI)
- b. Ignition Timing 7° BTDC at 1800 rpm
- c. Spark Plug NGK: CR8E or DENSO: U24ESR-N
- d. Generator..... three-phase AC generator
- e. Battery 12V, 21.6 kC (6Ah)/10 HR
- f. Cooling Fans2 x 12V, thermostatic controlled
- g. Thermostatic Switch..... 100°C
- h. Fuse – Cooling Fans..... 5 Amp
- i. Fuse – Main..... 20 Amp
- j. Headlights 12V, 20W (two)
- k. Tail-light.....12V, 21/5W
- l. Turn Signal Light..... 12V, 21W (four)
- m. Speedometer Light LED
- n. Neutral Indicator Light.....12V, 2W
- o. High Beam Indicator Light 12V, 2W
- p. Turn Signal Indicator Light.....12V, 2W

9. Capacities

- a. Main Fuel Tank (including reserve)..... 16.0 L
- b. Reserve..... 750 ml each side
- c. Engine Oil – Oil Change (refer to Paragraph 10 for oil specification)..... 1 700 ml
 - (1) Oil and Filter Change..... 1 800 ml
 - (2) Engine Overhaul 1 900 ml
- d. Front Fork Oil (each leg)..... 720 ml
- e. Rear Suspension Unit Oil (high-pressure nitrogen charged)..... 380 ml
- f. Engine Coolant..... 1 250 ml

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10. Engine Oil. Two types of engine oils are certified for use. Both types of engine oils are synthetic and have been specifically developed for use in motorcycle engines only. These oils do not have friction modifiers that compromise correct operation of wet clutch systems as used in motorcycle transmissions. Depending on the geographical location for operation of the motorcycle(s), the type of oil to be used is described below:

- a. In-country Shell Advance SX4, 15W-50, synthetic
 - (1) NSN 9150-66-142-7733 (4.0 litre)
 - (2) NSN 9150-66-141-6300 (1.0 litre)
- b. When Deployed Castrol R4 Superbike, 5W-40, synthetic
 - (1) NSN 9150-66-152-7522 (3 x 4.0 litre)
 - (2) NSN 9150-66-152-7521 (6 x 1.0 litre)

11. Manufacturer and Suppliers' Details

- a. Manufacturer:
Suzuki Motor Corporation
300 Takatsuka
Hamamatsu, Shizuoka
Japan
- b. Australian Importer/Supplier:
Suzuki Australia P/L
97-105 Cherry Lane
Laverton North, VIC, 3028
Tel: (03) 9931 0500
Fax: (03) 9931 0511
<http://www.suzuki.com.au>
- c. Australian Supplier:
Bale Defence Industries P/L
15-17 Jindalee Road
Port Macquarie, NSW, 2444
Tel: (02) 6581 4337
Fax: (02) 6581 4338
Email: sales@baledefence.com
<http://www.baledefence.com>

12. Point of Contact

National Fleet Manager (NFM)
Lt B Vehicles, CGSVSPO
DPM 7, Defence Plaza Melbourne
661 Bourke Street
MELBOURNE VIC 3000
Tel: (03) 9282 7391

13. Associated Information

- a. SIGC 2340-0004
- b. NSN 2340-66-152-4131
- c. Model Identification DR-Z400E K4 (E24)
- d. RPS – not issued, use Commercial Parts Catalogue and Addendum:
 - (1) Suzuki DR-Z400/E Parts Catalogue, 9th Edition (Suzuki Part No: 9900B-30132-041); and
 - (2) Suzuki DR-Z400E – Addendum to Parts Catalogue (Bale Defence Part No: BDI-3879).
- e. SCES 012343
- f. ILSL MM 10-22

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- g.** Grade of Configuration Management (CM).....Grade D
- h.** User Handbooks (as initially supplied with each motorcycle):
 - (1)** Suzuki DR-Z400E Owner’s Manual (Suzuki Part No: 99011-29F55-01M);
 - (2)** Suzuki DR-Z400E Supplementary Owner’s Manual (Suzuki Part No: 99016-29F55-24A); and
 - (3)** Suzuki DR-Z400E – Addendum to Owner’s Manual (Bale Defence Part No: BDI-2424).
- i.** Other EMEI:
 - (1)** Vehicle B 126 Authority for Use
 - (2)** Vehicle B 126-1 Manual (Service Manual Suzuki Part No: 99500-43024-01E)
 - (3)** Vehicle B 126-2 Manual (Addendum to Service Manual Bale Defence Part No: BDI-3379)
 - (4)** Vehicle B 126-3 Manual (Addendum to Parts Catalogue Bale Defence Part No: BDI-9936)
 - (5)** Vehicle B 126-4 Manual (Addendum to Owner’s Manual Bale Defence Part No: BDI-9935)

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END

Distribution List: **VEH B 02.0 – Code 1** (Maint Level)
(Sponsor: CGSVSPO, Light B Vehicle Section)
(Authority: ECO CGSVSPO 120/10)