

2005-2012



SERVICE MANUAL

TRX500FA

FourTrax Foreman Rubicon™

TRX500FGA

FourTrax Foreman Rubicon™
GPScape™

TRX500FPA

FourTrax Foreman Rubicon™
GPScape™ Power Steering

HOW TO USE THIS MANUAL

This service manual describes the service procedures for the TRX500FA/FGA/FPA.

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operating condition and the emission levels are within the standards set by the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB).

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.


Sections 1 and 3 apply to the whole vehicle. Section 2 illustrates procedures for removal/installation of components that may be required to perform service described in the following sections. Sections 4 through 24 describe parts of the vehicle, grouped according to location.

Find the section you want on this page, then turn to the table of contents on the first page of the section.

Most sections start with an assembly or system illustration, service information and troubleshooting for the section. The subsequent pages give detailed procedure.

If you don't know the source of the trouble, go to section 26 Troubleshooting.

Your safety, and the safety of others, is very important. To help you make informed decisions we have provided safety messages and other information throughout this manual. Of course, it is not practical or possible to warn you about all the hazards associated with servicing this vehicle. You must use your own good judgement. You will find important safety information in a variety of forms including:

- Safety Labels – on the vehicle
- Safety Messages – preceded by a safety alert symbol  and one of three signal words, DANGER, WARNING, or CAUTION.

These signal words mean:

▲ DANGER You WILL be KILLED or SERIOUSLY HURT if you don't follow instructions.

▲ WARNING You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.

▲ CAUTION You CAN be HURT if you don't follow instructions.

- Instructions – how to service this vehicle correctly and safely.












As you read this manual, you will find information that is preceded by a **NOTICE** symbol. The purpose of this message is to help prevent damage to your vehicle, other property, or the environment.

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SYMBOLS

The symbols used throughout this manual show specific service procedures. If supplementary information is required pertaining to these symbols, it would be explained specifically in the text without the use of the symbols.

| | |
|---|---|
|  | <p>Replace the part (s) with new one (s) before assembly.</p> |
|  | <p>Use recommended engine oil, unless otherwise specified.</p> |
|  | <p>Use molybdenum oil solution (mixture of the engine oil and molybdenum grease in a ratio of 1 : 1).</p> |
|  | <p>Use multi-purpose grease (Lithium based multi-purpose grease NLGI #2 or equivalent).</p> |
|  | <p>Use molybdenum disulfide grease (containing more than 3% molybdenum disulfide, NLGI #2 or equivalent). Example: Molykote® BR-2 plus manufactured by Dow Corning U.S.A. Multi-purpose M-2 manufactured by Mitsubishi Oil, Japan</p> |
|  | <p>Use molybdenum disulfide paste (containing more than 40% molybdenum disulfide, NLGI #2 or equivalent). Example: Molykote® G-n Paste manufactured by Dow Corning U.S.A. Honda Moly 60 (U.S.A. only) Rocol ASP manufactured by Rocol Limited, U.K. Rocol Paste manufactured by Sumico Lubricant, Japan</p> |
|  | <p>Use silicone grease.</p> |
|  | <p>Apply a locking agent. Use a middle strength locking agent unless otherwise specified.</p> |
|  | <p>Apply sealant.</p> |
|  | <p>Use DOT 4 brake fluid. Use the recommended brake fluid unless otherwise specified.</p> |
|  | <p>Use Fork or Suspension Fluid.</p> |

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1. GENERAL INFORMATION

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GENERAL INFORMATION

SERVICE RULES

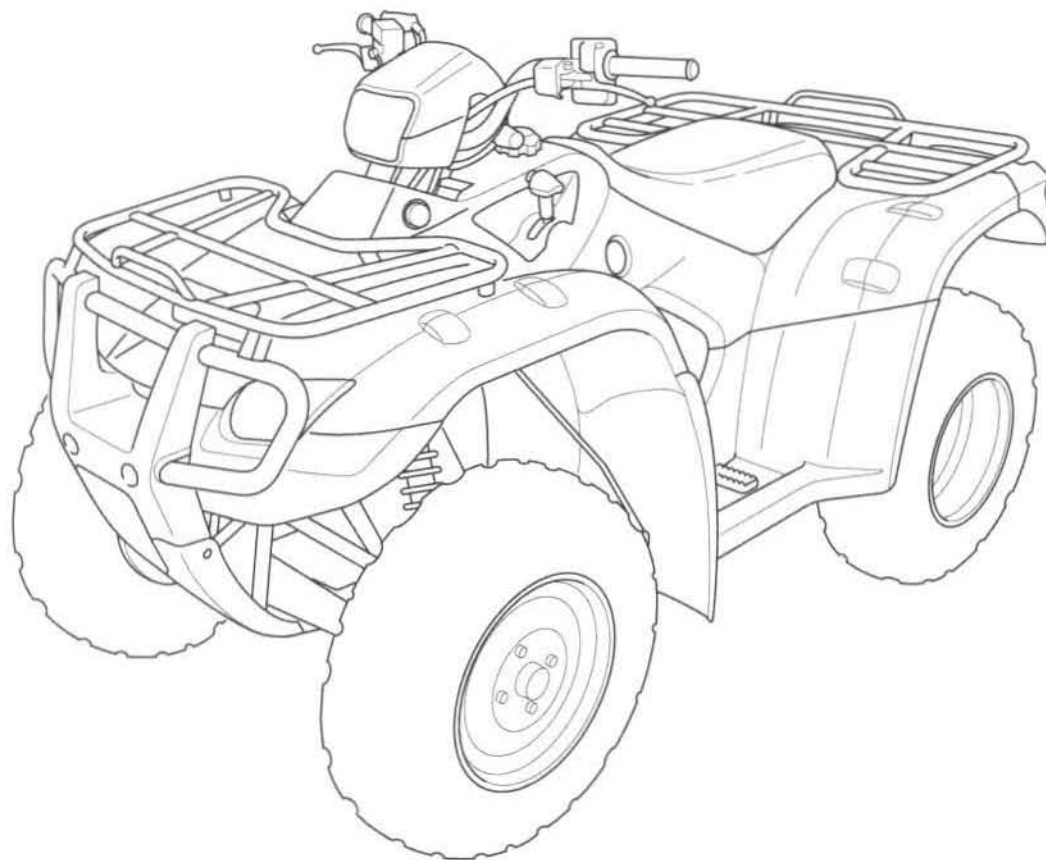
1. Use genuine Honda or Honda-recommended parts and lubricants or their equivalents. Parts that don't meet Honda's design specifications may cause damage to the vehicle.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing the vehicle. Metric bolts, nuts and screws are not interchangeable with English fasteners.
4. Install new gaskets, O-rings, cotter pins, and lock plates when reassembling.
5. When tightening bolts or nuts, begin with the larger diameter or inner bolt first. Then tighten to the specified torque diagonally in incremental steps unless a particular sequence is specified.
6. Clean parts in cleaning solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
7. After reassembly, check all parts for proper installation and operation.
8. Route all electrical wires as show in the Cable and Harness Routing (page 1-24).

MODEL IDENTIFICATION

This manual covers 3 types of TRX500 models:

- FA – 4WD/Automotic transmission
- FGA – 4WD/Automotic transmission/GPScape
- FPA – 4WD/Automotic transmission/GPScape/EPS

'05, '06 shown:



ABBREVIATION

Throughout this manual, the following abbreviations are used to identify the respective parts or systems.

| Abbrev. term | Full term |
|---------------|-------------------------------|
| ECU | Electronic Control Unit |
| EPS | Electric Power Steering |
| ESP | Electric Shift Program |
| DLC | Data Link Connector |
| ECM | Engine Control Module |
| CKP sensor | Crankshaft Position sensor |
| VS sensor | Vehicle Speed sensor |
| HDS | Honda Diagnostic System |
| DTC | Diagnostic Trouble Code |
| SCS connector | Service Check Short connector |

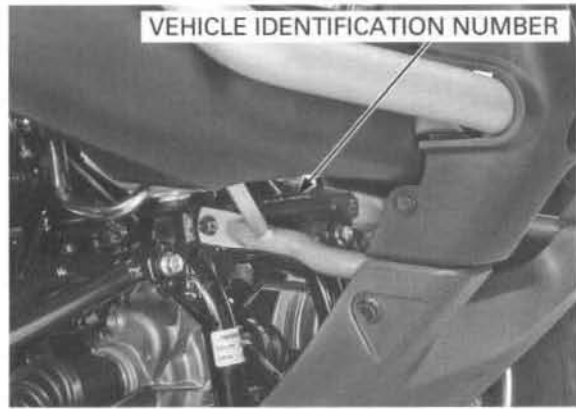
DESTINATION CODE

Throughout this manual, the following codes are used to identify individual types for each region.

| DESTINATION CODE | REGION |
|------------------|-------------------------|
| A | U.S.A. |
| CM | Canada |
| U | Australia, U.K., Sweden |

GENERAL INFORMATION

The Vehicle Identification Number (VIN) is stamped on the front side of the frame.

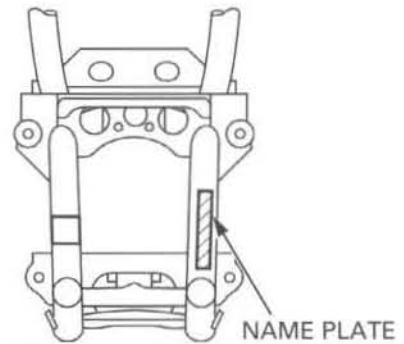


The engine serial number is stamped on the right side of the crankcase.



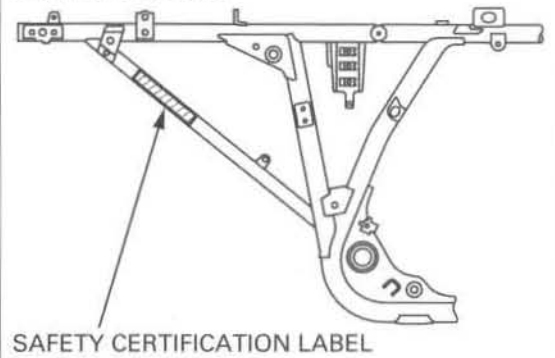
The name plate is attached on the front frame pipe (U type only).

U type only:



The vehicle safety certification label is attached on the right side of the frame (U.S.A. and Canada).

U.S.A. and Canada:

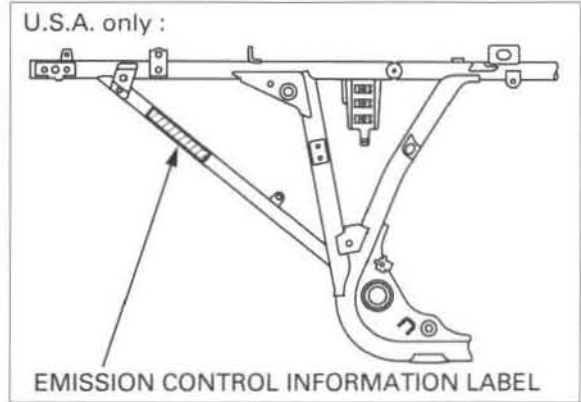


The carburetor identification number is stamped on the left side of the carburetor body.



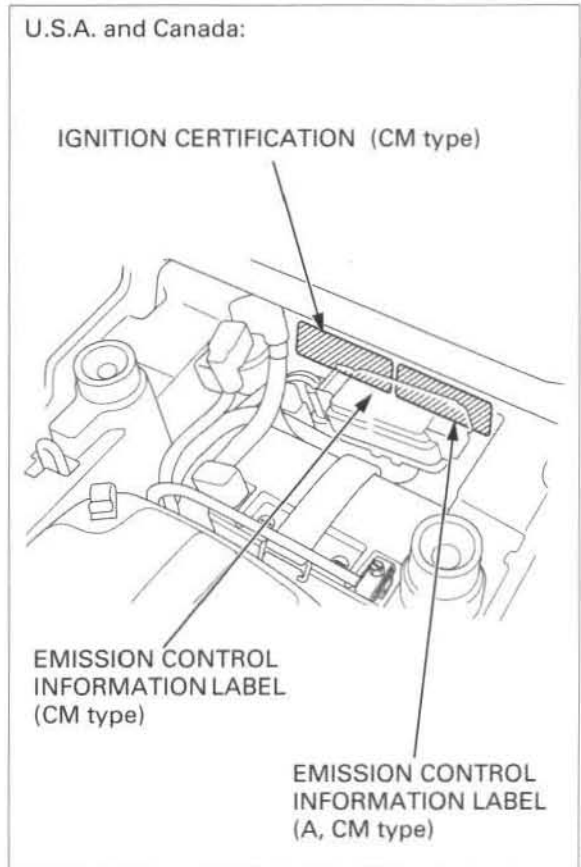
'05 - '07:

The vehicle emission control information label is attached on the right side of the frame (U.S.A. only).



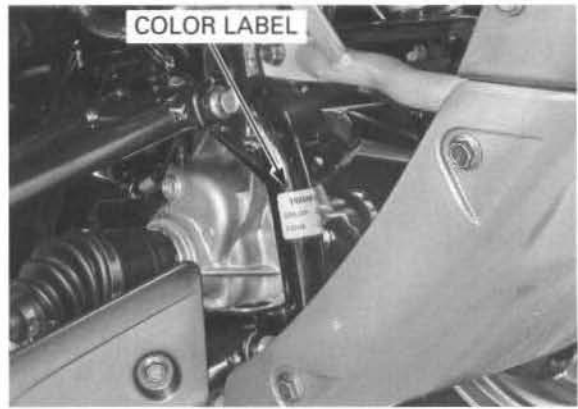
After '07:

The vehicle emission control information label is attached on the rear fender near the battery.



GENERAL INFORMATION

The color label is attached on the front side of the frame. When ordering color coded parts, always specify the designated color code.





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GENERAL SPECIFICATIONS

| ITEM | | SPECIFICATIONS | |
|------------|----------------------------|---|--|
| DIMENSIONS | Overall length | 2,108 mm (83.0 in) | |
| | Overall width | 1,188 mm (46.8 in) | |
| | Overall height | 1,179 mm (46.4 in) | |
| | Wheelbase | 1,286 mm (50.6 in) | |
| | Front tread | 917 mm (36.1 in) | |
| | Rear tread | 925 mm (36.4 in) | |
| | Seat height | 861 mm (33.9 in) | |
| | Footpeg height | 340 mm (13.4 in) | |
| | Ground clearance | 190 mm (7.5 in) | |
| | Curb weight | Except EPS 287 kg (633 lbs) EPS 294 kg (648 lbs) | |
| | Maximum weight capacity | 220 kg (485 lbs) | |
| FRAME | Frame type | Double cradle | |
| | Front suspension | Double wishbone | |
| | Front wheel travel | 170 mm (6.7 in) | |
| | Front damper | Double tube | |
| | Rear suspension | Swingarm | |
| | Rear wheel travel | 170 mm (6.7 in) | |
| | Rear damper | Double tube | |
| | Front tire size | AT25 x 8-12 ★★ | |
| | Rear tire size | AT25 x 10-12 ★★ | |
| | Front rim size | 12 x 6.0 AT | |
| | Rear rim size | 12 x 7.5 AT | |
| | Front tire brand | KT181 (DUNLOP) | |
| | Rear tire brand | KT185 (DUNLOP) | |
| | Front brake | Hydraulic disc brake | |
| | Rear brake | Mechanical drum brake (Leading-trailing) | |
| | Caster angle | 2° | |
| | Trail length | 8 mm (0.3 in) | |
| | Camber angle | 0° | |
| | Fuel tank capacity | '05 - '07 After '07 | 15.8 liters (4.17 US gal, 3.48 Imp gal) 15.0 liters (3.96 US gal, 3.30 Imp gal) |
| | Fuel tank reserve capacity | '05 - '07 After '07 | 3.3 liters (0.87 US gal, 0.73 Imp gal) 2.5 liters (0.66 US gal, 0.55 Imp gal) |
| ENGINE | Cylinder arrangement | Single cylinder, longitudinally installed | |
| | Bore and stroke | 92.0 x 75.0 mm (3.62 x 2.95 in) | |
| | Displacement | 499 cm ³ (30.4 cu-in) | |
| | Compression ratio | 9.2 : 1 | |
| | Valve train | OHV | |
| | Intake valve | opens at 1 mm (0.04 in) lift closes at 1 mm (0.04 in) lift | 13° BTDC 35° ABDC |
| | Exhaust valve | opens at 1 mm (0.04 in) lift closes at 1 mm (0.04 in) lift | 45° BBDC 5° ATDC |
| | Lubrication system | Forced pressure (dry sump) | |
| | Oil pump type | Trochoid | |
| | Cooling system | Liquid cooled | |
| | Air filtration | Oiled urethane foam | |
| | Engine dry weight | 62.9 kg (138.7 lbs) | |
| CARBURETOR | Carburetor type | Constant Velocity (VE type) | |
| | Throttle bore | 36 mm (1.4 in) | |

GENERAL INFORMATION

| | ITEM | SPECIFICATIONS |
|-------------|---|---|
| DRIVE TRAIN | Clutch system Transmission Primary reduction Secondary reduction Final reduction Front Rear Automatic transmission ratio Sub-transmission Drive ratio Low Reverse Gearshift pattern | Centrifugal, wet HONDAMATIC (automatic; non-stage speed) with sub-transmission (constant mesh) 1.045 (70/67) 2.000 (40/20) 3.231 (42/13) 3.154 (41/13) 0.93—3.47 1.583 (38/24) 2.500 (45/18) 3.222 (29/18 x 28/14) D - N - R - L (Sub-transmission) D: 3-mode; Automatic 2-pattern (D1/D2) and Manual (ESP; 5-speeds) L: 2-mode; Automatic and manual (ESP: 5-speeds) R: 1-mode (fixed low ratio) |
| ELECTRICAL | Ignition system Starting system Charging system Regulator/rectifier Lighting system | DC-CDI (Direct current-Capacitor discharge ignition) Electric starter motor and emergency recoil starter Triple phase output alternator FET shorted, triple phase full wave rectifica- tion Battery |

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