



the wrench

Honda Technician Newsletter

The Wrench Special Edition:

TRX650FA/FGA Automatic Transmission Troubleshooting Procedures

To assist technicians in troubleshooting the TRX650 Automatic Transmission System, we've compiled the following troubleshooting procedures and tips from numerous sources, including *The Wrench* articles, the TechLine knowledge base, and model specialists. Use this resource often to become proficient in automatic transmission service, saving your customers and your dealership time and money.

See section 26, *Technical Feature*, of the 2003-2005 TRX650FA/FGA Service Manual for a detailed technical explanation of the operating principles, design, construction, and operation of this Automatic Transmission System.

Before Troubleshooting

Make sure you have followed all of the steps below **before** you start:

1. Understand and verify the conditions under which the problem occurs:
 - ESP or Auto – Does the problem occur **only** in ESP or Auto mode, or in **both** modes?
 - Fill out a **TRX650FA/FGA Troubleshooting Questionnaire** (sent with this issue)
Make sure you interview the customer to get a complete picture of the problem/occurrence.
2. You must start any troubleshooting procedures with a **fully charged battery**.

Troubleshooting Procedures

Begin your troubleshooting by determining if the problem is electrical or mechanical.

Mechanical Troubleshooting

Oil level and oil pressure – A low oil level will cause low oil pressure. You must check oil at all four ports:

- 1 – Main line oil pressure (Service Manual, page 4-5)
- 2 – 1st gear clutch pressure (Service Manual, page 12-10)
- 3 – 2nd gear clutch pressure (Service Manual, page 12-10)
- 4 – 3rd gear clutch pressure (Service Manual, page 12-10)

Slipping – Usually caused by oil pressure leakage:

- Slipping in **all gears** can be caused by: 1) oil pump O-rings damaged or 2) Torque converter problem.
- Slipping in one gear only can be caused by: 1) A, B, or C distribution pipe cracked or 2) Valve body contamination.

Abrupt engagement when applying the throttle slowly – Check the following:

- Idle Speed set too low
- Throttle lever free-play
- Throttle Position Sensor adjustment
- Improper initialization

Sub-transmission difficult engagement – Grinding noise when shifting to Drive or Reverse:

- Shift cable adjustment incorrect – Adjust the cable **underneath the fuel tank**, not at the back of the engine.
 - Idle Speed set too low
 - Idle Speed set too high
- } Incorrect idle speed will disrupt proper operation of the creep control function.
- Sub-transmission is shifted during fast-idle warm-up.

Electrical Troubleshooting

Retrieve Problem Codes:

Start your electrical troubleshooting by retrieving problem codes. Most calls to TechLine are made **before** the technician has checked for codes. You should always check for codes **first**.

After retrieving any problem codes, perform the troubleshooting steps in the Service Manual that pertain to the code(s) you retrieved.

- Problem Code Retrieval Procedure: see Service Manual page 24-7.
- For all possible problem codes, refer to the Troubleshooting Chart on Service Manual page 24-12.
- To erase problem codes, see Service Manual page 24-9.
- Initialization Procedure: see Service Manual, page 24-10. You need to perform this procedure *quickly*.

Valve Body Solenoid:

- Check for tampering to the emergency valve – reset to the original position.
- Check for contamination in the valve body – dirt, water, sludge.
- Check for proper operation.

Speed Sensors:

- Check all connections.
- Check for proper operation – see Service Manual pages 24-18 to 24-23.

Electrical Pin Fit:

- Check all electrical connections for any loose contacts. To check for proper pin fit, order the following Special Tool:

Terminal Inspection Feeler Set

P/N: 07XMJ-001000A

H/C: 7198518

NOTE: When you're checking pin fit with the above tool, a slight drag on the feeler means the pin fit is correct.



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Wrench Contest: Wear Your Winnings!

Welcome to another Wrench Contest! Answer the contest questions correctly and you may win one of the following great prizes:

- Honda Fossil[®] leather wallet
- *The Wrench* Bill Blass[®] short-sleeve shirt
- *The Wrench* deluxe sweatshirt
- *The Wrench* microfiber jacket

Circle the best possible answer to each question below. Do not circle multiple answers or your answer will be counted invalid. Fill out the back of this page and mail it in. That's all there is to it!*

- 1) The end date for the 2002 VFR800/A Seat Rail Product Update Campaign is:**
 - a) October 12, 2004
 - b) November 12, 2005
 - c) November 20, 2006
 - d) Open, Product Update Campaigns do not expire
- 2) The initial valve maintenance interval on a 2004 CB600F is:**
 - a) 600 miles
 - b) 16,000 miles
 - c) 24,000 miles
 - d) None – Uses hydraulic valve adjusters
- 3) After replacing the ECM on a 2004 TRX400FA/FGA, the identification punch mark should be made:**
 - a) after the last digit in the engine serial number
 - b) before the first digit in the VIN
 - c) after the last digit in the VIN
 - d) on the lower left corner of the clutch cover
- 4) The automatic transmission in the TRX650 is:**
 - a) a hydromechanical continuously variable system.
 - b) a 3-speed with torque converter and hydraulic clutch.
 - c) also used in the TRX500.
 - d) None of the above.
- 5) The VTX1800 Idle Air Control system:**
 - a) is the same as the VFR800FI system.
 - b) is similar to the GL1800 system.
 - c) uses a single thermowax controlled valve.
 - d) is nonexistent.
- 6) The CRF250F has a D-ring chain that is _____ than an O-ring chain.**
 - a) wider
 - b) narrower
 - c) heavier
 - d) taller
- 7) GL1800 clutch fluid should be replaced whichever comes first; every two years or _____ miles.**
 - a) 4,000
 - b) 8,000
 - c) 12,000
 - d) 16,000
- 8) All Honda ATVs feature a six month warranty. This statement is:**
 - a) True
 - b) False – the TRX90 is covered for one year.
 - c) False – the TRX650 is covered for one year.
 - d) False – the TRX450R does not have coverage.
- 9) When installing a TRX400FA wheel, the lug nuts must be torqued to _____ lbf-ft.**
 - a) 37
 - b) 47
 - c) 57
 - d) 67
- 10) From the iN homepage, what links do you follow to access the Set-Up Instructions?**
 - a) Service/Unit Info/Set-Up Instructions
 - b) InformationCenter/iN Library/Set-Up Instructions
 - c) Service/Publications/Set-Up Instructions
 - d) Parts/Unit Crates/Set-Up Instructions

*Contest Rules: Winners are determined by random drawing. If your entry is drawn and all answers are correct, you will win a prize. Entries are drawn until all prizes have been awarded.

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Dealer #:

Address:
Dealership/

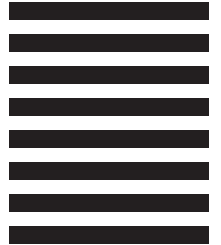
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TRX650FA/FGA Troubleshooting Questionnaire

Complete this questionnaire with the customer **before** you begin troubleshooting the automatic transmission.

What mode did the problem occur in? ESP or AUTO? Both?

What type of conditions were you riding? Mud/water, trails, asphalt, pulling a trailer, climbing hills, other?

Was anything being carried on the racks?

Have any accessories or modifications been made to the ATV? Winch? Large wheels/tires? Lift kit?

Have any repairs been performed recently?

What was the vehicle speed when the problem occurred?

Does the speedometer work correctly? Is it accurate?

Did you try to turn the ignition key OFF and then ON again to see if the problem cleared?

How long before the failure repeated?

RO #: _____

Technician Name: _____

Date: _____