

X-PRO 308-999036

X-PRO 125cc 4-Stroke Pit Dirt Bike Engine Motor with Manual Transmission - Instruction Manual

Model: 308-999036

1. SAFETY INFORMATION

Read and understand all safety warnings and instructions before operating or performing maintenance on this engine. Failure to follow these instructions may result in serious injury or property damage.

- **Always wear appropriate safety gear:** This includes gloves, eye protection, and sturdy footwear when working with the engine.
- **Ensure proper ventilation:** Operate the engine in a well-ventilated area to avoid carbon monoxide poisoning.
- **Engine gets hot:** Avoid touching hot engine parts during or immediately after operation to prevent burns.
- **Fuel handling:** Handle fuel in a well-ventilated area, away from open flames or sparks. Store fuel in approved containers.
- **Electrical connections:** Ensure all electrical connections are secure and properly insulated to prevent short circuits or electrical shock.
- **Keep hands and clothing clear:** Moving parts can cause injury. Keep hands, feet, and loose clothing away from the engine during operation.

2. PRODUCT OVERVIEW

The X-PRO 125cc 4-stroke engine is designed for pit dirt bikes, offering reliable performance with a manual transmission and kick start mechanism. This air-cooled, horizontal single-cylinder engine provides a displacement of 123.7ml.



Image 2.1: Overview of the X-PRO 125cc 4-stroke engine motor.

Key Features:

- 125cc 4-stroke engine for pit bikes.
- Manual transmission for precise control.
- Kick start ignition method.
- Air-cooled, horizontal single-cylinder design.
- Durable aluminum construction.

3. SPECIFICATIONS

Detailed technical specifications for the X-PRO 125cc engine motor:

Engine Model	308-999036
Engine Type	Single-cylinder, 4-stroke, air-cooling, horizontal
Displacement	123.7 ml
Dimensions (L x W x H)	457mm x 313mm x 352mm
Net Weight	23.5 kg (50 lbs)
Max. Power	6.2 kW at 8500 ± 5% r/min
Max. Torque	8.5 N.m at 7500 ± 5% r/min
Compression Ratio	9.3:1
Bore and Stroke	54mm x 54mm
Ignition Method	CDI
Lubrication Method	Pressure and Splash
Min. Fuel Consumption	≤ 367 g/kW.h
Starting Method	Kick

Clutch Method	Manual Wet Multi-Plate
Gearshift Method	Constant mesh, two-stage transmission, 4-speed



Image 3.1: Gear shift pattern diagram on the engine casing, indicating neutral (0) and gears 1-4. Note: Gearshift is prohibited unless accelerator is loosened.

4. SETUP

4.1 Unpacking

- Carefully remove the engine from its packaging.
- Inspect the engine for any signs of shipping damage. Report any damage to the carrier immediately.
- Verify all components listed in the packing list are present.

4.2 Pre-Installation Checks

- **Oil Level:** The engine is typically pre-filled with oil for shipping. It is recommended to drain this oil and replace it with a high-quality, name-brand engine oil suitable for 4-stroke motorcycle engines before first use. Refer to the maintenance section for oil specifications.
- **Plug-in Compatibility:** Before installation, ensure that the engine's electrical plug-in connector is compatible with your bike's wiring harness. If not, an additional adapter or modification may be required.
- **Mounting Points:** Confirm that the engine's mounting points align with your pit bike frame.



Image 4.1: Close-up of the engine's electrical wiring connector. Ensure compatibility with your bike's harness.

5. OPERATING INSTRUCTIONS

5.1 Starting the Engine

- **Fuel Supply:** Ensure the fuel tank has sufficient fuel and the fuel petcock (if applicable) is in the 'ON' position.
- **Choke:** If starting a cold engine, engage the choke. Disengage once the engine warms up.
- **Kick Start:** With the ignition key in the 'ON' position, firmly and smoothly press down on the kick start lever through its full stroke. Repeat if necessary.
- **Warm-up:** Allow the engine to warm up for a few minutes before riding.

5.2 Gear Shifting

This engine features a 4-speed manual transmission. Refer to Image 3.1 for the gear shift pattern.

- **Clutch Operation:** Always fully depress the clutch lever before shifting gears.

- **Upshifting:** From neutral (0), press down for 1st gear. For subsequent gears (2nd, 3rd, 4th), lift the shift lever up.
- **Downshifting:** To downshift, press the shift lever down.
- **Accelerator:** Gear shifting is prohibited unless the accelerator is loosened (throttle closed).

6. MAINTENANCE

Regular maintenance is crucial for the longevity and optimal performance of your X-PRO engine.

6.1 Oil Changes

- **Initial Oil Change:** Perform the first oil change after the initial break-in period (e.g., 1-2 hours of operation) to remove any manufacturing debris.
- **Regular Oil Changes:** Change engine oil every 10-20 hours of operation or as recommended by your pit bike's manual.
- **Recommended Oil:** Use a high-quality 4-stroke motorcycle engine oil (e.g., 10W-40).
- **Procedure:** With the engine warm, place a drain pan beneath the engine. Remove the oil drain plug (refer to Image 6.1) and allow all oil to drain. Replace the drain plug and refill with the specified amount of new oil. Check the oil level using the dipstick.



Image 6.1: Location of the engine's oil drain plug for maintenance.

6.2 General Inspection

- **Spark Plug:** Inspect and clean or replace the spark plug periodically.
- **Air Filter:** Clean or replace the air filter regularly, especially when operating in dusty conditions.
- **Fasteners:** Check all bolts and nuts for tightness. Vibrations can loosen fasteners over time.
- **Cables:** Inspect throttle and clutch cables for proper adjustment and wear. Lubricate as needed.

7. TROUBLESHOOTING

This section provides solutions to common issues you might encounter with your X-PRO engine.

- **Engine Will Not Start:**
 - Check fuel level and ensure petcock is open.
 - Verify spark plug is clean and producing spark.

- Ensure choke is correctly applied for cold starts.
- Inspect electrical connections for looseness or corrosion.
- **Engine Runs Poorly/Lacks Power:**
 - Check air filter for clogging.
 - Inspect spark plug for fouling or incorrect gap.
 - Ensure proper fuel quality and flow.
 - Check valve clearances (advanced maintenance, consult a professional).
- **Strange Noises from Engine:**
 - Immediately stop the engine.
 - Check oil level.
 - Inspect for loose components (e.g., flywheel screws, as noted in customer feedback). Tighten any loose fasteners.
 - If noise persists, seek professional inspection.
- **Gear Shifting Difficulties:**
 - Ensure the clutch is fully disengaged.
 - Verify the accelerator is fully released during shifts.
 - Check clutch cable adjustment.
 - Ensure proper engine oil type and level.

8. WARRANTY AND SUPPORT

For warranty information, technical support, or to purchase replacement parts, please contact X-PRO customer service or visit the official X-PRO store.

X-PRO is committed to providing quality powersports products and support.

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