

Jet JMD-18

JET 18-Inch Mill Drill Machine (Model JMD-18) User Manual

Brand: Jet | Model: JMD-18

1. INTRODUCTION

Mill drills, such as the JET 18-Inch Mill Drill Machine, offer a lighter alternative to traditional milling machines. They combine a belt-driven drill press with the dual-coordinate capabilities of a milling machine's table, providing flexibility and efficiency for various tasks. A locking collet is integrated to prevent the cutting tool from dislodging from the spindle due to lateral forces. Despite their lighter construction, these machines offer space-saving versatility, affordability, and capable light machining performance. This manual provides detailed instructions for the setup, operation, and maintenance of your JET JMD-18 Mill Drill Machine.



Figure 1: Front view of the JET 18-Inch Mill Drill Machine.

2. SETUP AND ASSEMBLY

Upon receiving your JET JMD-18 Mill Drill Machine, ensure all components listed in the packing list are present. Due to the machine's weight (660 pounds), proper lifting equipment and assistance are required for safe placement and assembly. The machine comes with standard accessories including an extra-large worktable, an easy-to-read external depth gauge, a 360° head swivel, a worklamp, an adjustable carbide facemill, a 1/2" drill chuck with chuck arbor, a drawbar, and a drill chuck guard.

2.1 Initial Placement

Place the machine on a sturdy, level surface capable of supporting its weight and operational forces. Ensure adequate clearance around the machine for safe operation and maintenance.

2.2 Electrical Connection

The machine operates on 115/230V, 1Ph power. Connect the machine to a suitable power supply according to local electrical codes and safety regulations. The worklamp has its own 110V supply.

2.3 Component Installation

Install the drill chuck, chuck arbor, and drawbar as per the detailed instructions in the full user manual. Ensure all guards, including the drill chuck guard and swing-away spindle guard, are correctly installed and functional before operation.

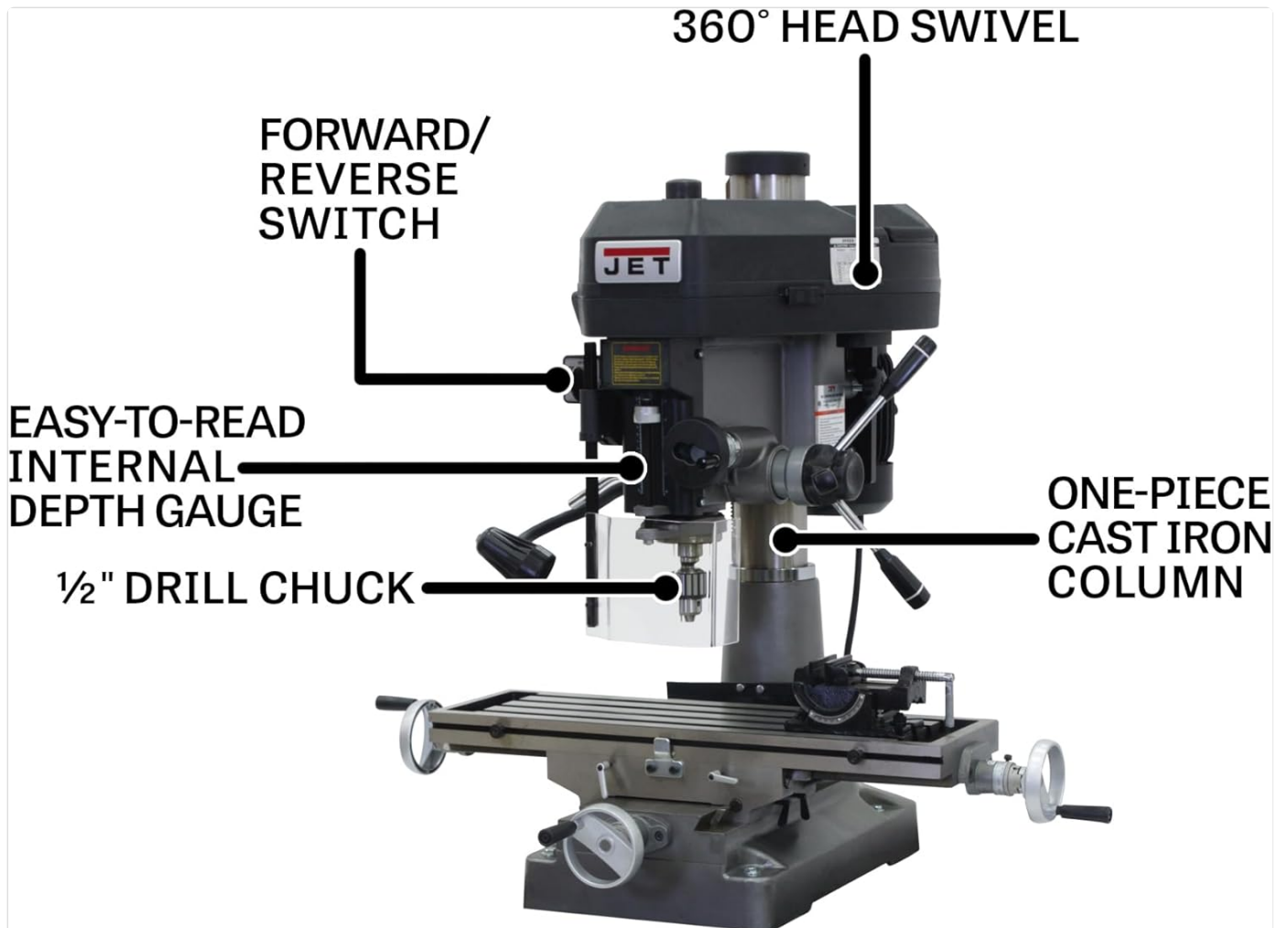


Figure 2: Key components and controls of the JET 18-Inch Mill Drill Machine.

3. OPERATING INSTRUCTIONS

3.1 Spindle Speed Adjustment

The spindle speed of the JET JMD-18 is controlled by step pulleys. To change the speed, open the hinged belt cover located on top of the headstock. A spindle speed belt orientation chart is located on the underside of this cover, indicating the correct belt positions for various RPMs (150 to 3,000 RPM).

1. Open the hinged belt cover to access the pulleys.
2. Loosen the motor tension bolt and pull the motor towards the table to release belt tension.
3. Slide the belt into the desired pulley position according to the chart.
4. Push the motor towards the back of the machine and re-tighten the motor tension bolt to secure the belt.
5. Close the hinged belt cover.



150 – 3,000 RPM SPINDLE SPEED

Figure 3: Spindle speed adjustment via belt and pulleys.

Video Description: A video titled "JET JMD-18 Mill/Drill Machine - Walkthrough (Part 3)" from the vendor JPW Industries - Main demonstrates the process of changing operating speeds of the JET Bench Top 18-inch Mill Drill. It shows how to access the step pulleys, loosen the motor tension, adjust the belt position according to the spindle speed chart located on the cover, and re-tighten the motor tension.

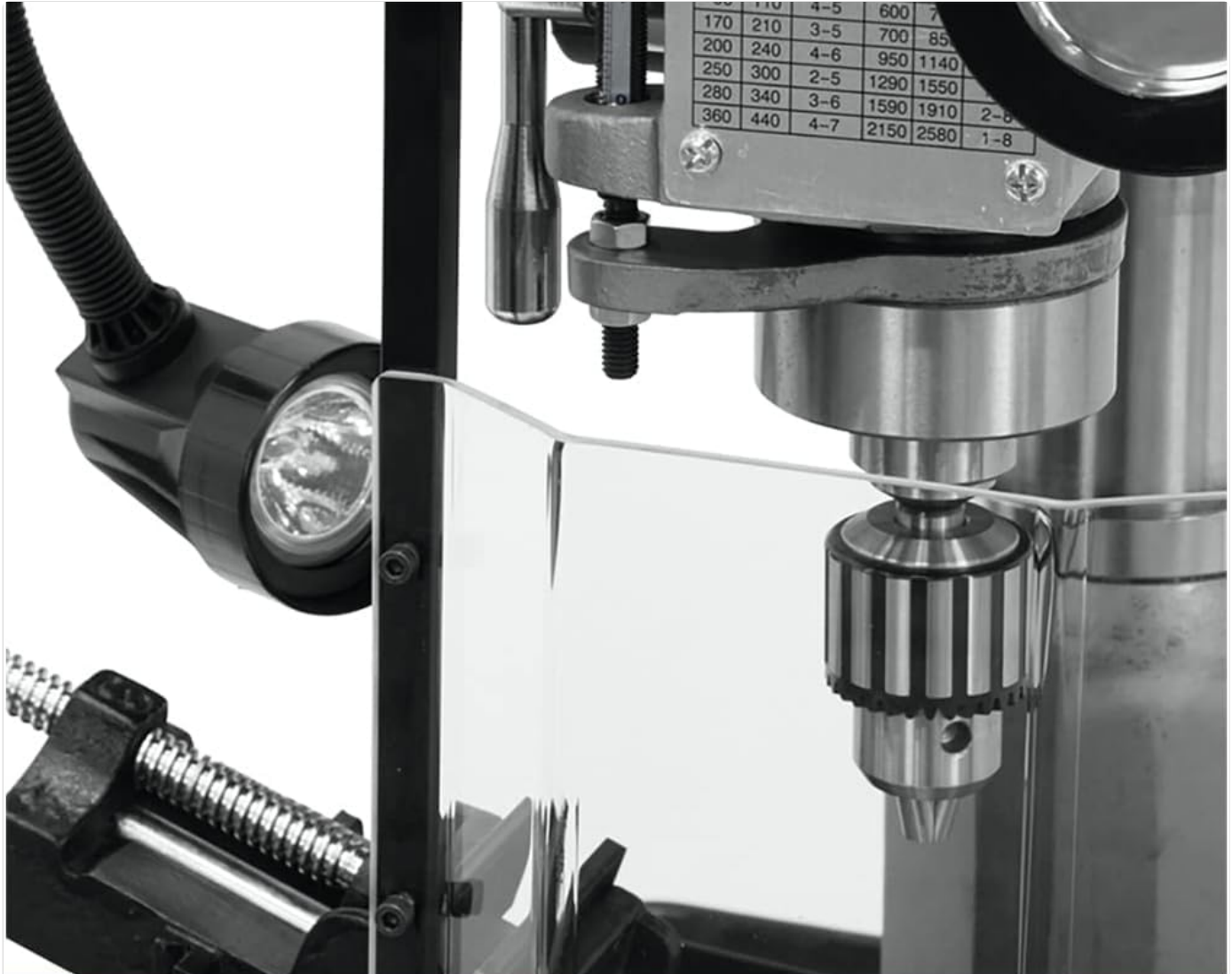
3.2 Headstock Controls

The headstock features several controls for precise operation:

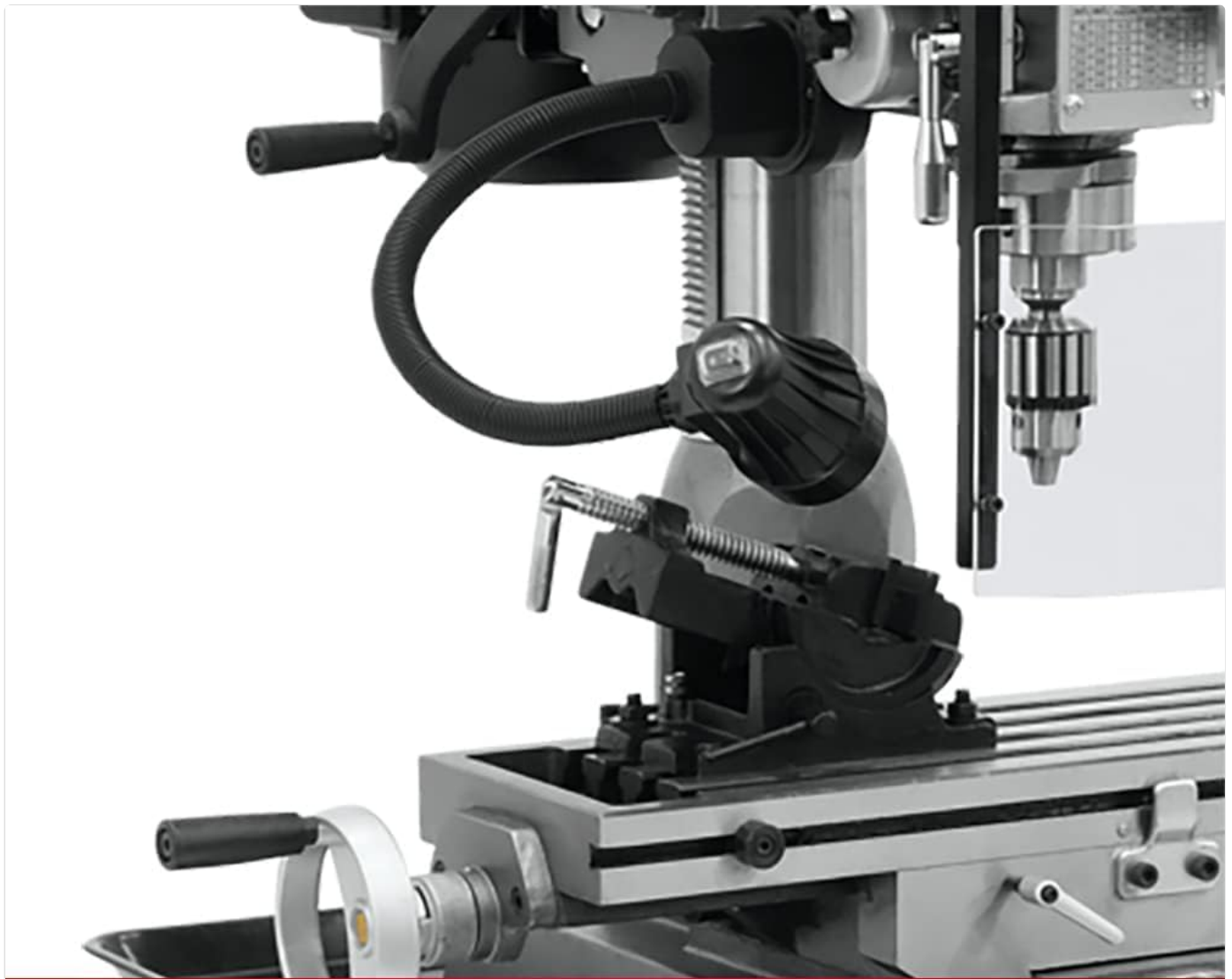
- **Quill Downfeed Handle:** Located on the right side of the headstock, rotate it counter-clockwise to bring the spindle down for drilling or milling operations. Rotate clockwise to retract the spindle.
- **Downfeed Fine Adjustment:** At the front of the headstock, this allows for precise vertical movement. Activate by turning the lock knob on the outside of the downfeed handle control. Rotate clockwise for downward fine adjustment and counter-clockwise for upward. The handwheel has an adjustable micrometer collar, where every revolution equals 0.100 inches of quill travel.
- **Retractable Stow-Away Handle:** The fine adjustment handwheel features a retractable handle for safety.
- **Coarse Adjustment Stop Knob:** Located at the front of the machine, this knob stops travel and can be adjusted in two

ways: threaded for fine adjustment or by depressing a button for gross adjustments.

- **Swing-Away Spindle Guard:** For safety, the machine is equipped with a clear swing-away spindle guard.
- **Quill Locking Handle:** On the left side of the headstock, this handle is used to prevent quill travel when performing milling operations, ensuring stability.
- **Power On Switch:** Allows for forward and reverse spindle operation.
- **Adjustable Halogen Work Lamp:** Located on the left side, this lamp has its own 110V supply, allowing for better illumination of your workpiece.
- **Head Elevating Crank Handle:** Rotates counter-clockwise to lower the headstock and clockwise to raise it. Once the headstock is in the correct position, lock it down using the two column locking hex nuts on the back of the headstock.



WORK LAMP & SPINDLE GUARD



3" DRILL PRESS ANGLE VISE

Figure 4: Work lamp, spindle guard, and angle vise details.

Video Description: A video titled "JET JMD-18 Mill/Drill Machine - Walkthrough (Part 2)" from the vendor JPW Industries - Main provides a detailed demonstration of the headstock controls and features. It covers the quill downfeed handle, fine adjustment, coarse adjustment stop, spindle guard, quill locking handle, power switch, work lamp, and head elevating crank.

3.3 Table Controls

The machine's table offers precise movement in both X (longitudinal) and Y (cross) directions:

- **Longitudinal Handwheel (X-axis):** To adjust the table longitudinally, turn the handwheel. Clockwise movement moves the table to the left (X-positive), and counter-clockwise movement moves it to the right (X-negative). When moving to the opposite side of the table, adjustments are mirrored.
- **Crossfeed Handwheel (Y-axis):** Located at the front of the machine, this handwheel operates the table in the Y-direction. Clockwise movement moves it in the Y-negative direction, and counter-clockwise moves it to Y-positive.
- **Adjustable Micrometer Collars:** Both the X and Y handwheels are equipped with adjustable micrometer collars. To determine the exact distance moved, set the micrometer collar to zero. Each revolution of the handwheel then represents 0.100 inches of travel in the respective direction.

- **Adjustable Rubber Overtravel Stops:** The table is equipped with two adjustable rubber overtravel stops for the X-direction, preventing the table from moving beyond its safe limits in either positive or negative X-direction.
- **Table Locks:** The table also features two table locks for the X-direction and Y-table locks located under the table on the right side. These locks secure the table in position during operations.



9½" x 31¾" CAST IRON TABLE

Figure 5: Detailed view of the cast iron worktable.

Video Description: A video titled "JET JMD-18 Mill/Drill Machine - Walkthrough (Part 1)" from the vendor JPW Industries - Main demonstrates the table controls and features. It shows how to adjust the longitudinal and crossfeed handwheels, use the micrometer collars for precise measurements, and engage the overtravel stops and table locks.

4. MAINTENANCE

Regular maintenance is crucial for the longevity and optimal performance of your JET JMD-18 Mill Drill Machine. This includes routine cleaning, lubrication of moving parts, and inspection for wear and tear. Refer to the comprehensive maintenance schedule in the full user manual for detailed instructions on lubrication points, belt inspection, and general upkeep. Always disconnect power before performing any maintenance or cleaning procedures.

5. TROUBLESHOOTING

Should you encounter any operational issues with your JET JMD-18 Mill Drill Machine, consult the troubleshooting section of the full user manual. This section provides common problems, their probable causes, and recommended solutions. For complex issues or repairs, it is recommended to contact an authorized service center.

6. SPECIFICATIONS

Feature	Specification
Brand	Jet
Power Source	Corded Electric
Maximum Rotational Speed	3000 RPM
Voltage	115 Volts
Amperage	24 Amps
Maximum Chuck Size	0.5 Inches
Color	Gray
Included Components	Mill/Drill Machine, 1/2" Drill Chuck w/ Chuck Key, Adjustable Carbide Facemill, Facemill Arbor, Hardware, Wrenches, Knobs, 3" Angle Vise (JMD-18/18PFN), Can Touch-Up Paint, Draw Bar, Worklamp
Special Feature	Reverse Rotation
Product Dimensions	47"L x 40"W x 51"H
Material	Cast Iron, Steel
Maximum Torque	3.46 Foot Pounds
Number of Speeds	12
Speed	3000 RPM
Item Weight	660 Pounds
Maximum Power	2 Horsepower
Drill Type	Drill Press
Drilling Capacity Wood	12.5 Inches

Drilling Capacity Metal	3 Inches
Item model number	350018
Warranty Description	2 Year

7. WARRANTY AND SUPPORT

The JET JMD-18 Mill Drill Machine is backed by a two-year warranty, reflecting JET's commitment to quality and service. JET Tools has a long-standing reputation for providing reliable products and excellent customer support.











Figure 6: JET's 2-Year Warranty and 30-Point Inspection commitment.

7.1 Authorized Service Centers

If you require any service or repair for your machine, JET has over 750 authorized service centers located nationwide across all 50 states. These centers are equipped to provide expert assistance and ensure your tool continues to perform optimally. For assistance, contact JET's support team to locate a service center near you.

Related Documents - JMD-18

	<p>JET JMD-1452TS DRO Universal Milling Machine Operation Manual</p> <p>Comprehensive operation manual for the JET JMD-1452TS DRO universal milling machine, covering safety, installation, operation, maintenance, and specifications.</p>
	<p>JET JWDP-12 12-Inch Variable Speed Drill Press Operating Instructions and Parts Manual</p> <p>Comprehensive operating instructions, safety guidelines, assembly steps, specifications, troubleshooting, and parts list for the JET JWDP-12 12-Inch Variable Speed Drill Press. Includes warranty and service information.</p>
	<p>JET 1/2-inch Pneumatic Drill (#550670, JCT-5670) - Operation and Parts Manual</p> <p>Comprehensive operation, maintenance, safety, and parts information for the JET 1/2-inch Pneumatic Drill, model JCT-5670 (#550670). Includes specifications, troubleshooting, and warranty details.</p>
	<p>JET Pneumatic Reversible Drill JAT-600/JAT-601 Operation and Parts Manual</p> <p>Comprehensive operation, maintenance, safety, and parts manual for JET JAT-600 and JAT-601 Pneumatic Reversible Drills. Includes specifications, troubleshooting, and warranty information.</p>
	<p>JET Drill Press Operator's Manual - JDP Series</p> <p>This operator's manual provides essential safety instructions, specifications, assembly, operation, and maintenance details for JET JDP-14J, JDP-14M, JDP-17M, JDP-14JF, JDP-14MF, and JDP-17MF drill press models.</p>
	<p>JET JDP-20EVS Variable Speed Drill Press: Operating Instructions and Parts Manual</p> <p>Comprehensive operating instructions and parts manual for the JET JDP-20EVS Variable Speed Drill Press, covering safety, installation, operation, maintenance, and parts identification. Includes specifications for JDP-20EVS/230 and JDP-20EVS/460 models.</p>

