

SERVICE MANUAL

T8.320 / T8.350 / T8.380 / T8.410 / T8.380 SmartTrax™ / T8.410 SmartTrax™ Powershift Transmission (PST) Tractor

PIN ZGRE05001 and above; PIN ZHRE01013 and above

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SERVICE MANUAL

T8.320 PST TIER 4B [ZGRE05001 -], T8.350 PST TIER 4B [ZGRE05001 -], T8.380 PST TIER 4B [ZGRE05001 -], T8.380 SmartTrax™ PST TIER 4B [ZGRE05001 -], T8.410 PST TIER 4B [ZGRE05001 -], T8.410 SmartTrax™ PST TIER 4B [ZGRE05001 -]

Link Product / Engine

Product	Market Product	Engine
T8.320 PST TIER 4B [ZGRE05001 -]	Europe	F2CFE613G*B002
T8.350 PST TIER 4B [ZGRE05001 -]	Europe	F2CFE614G*B002
T8.380 PST TIER 4B [ZGRE05001 -]	Europe	F2CFE614D*B002
T8.410 PST TIER 4B [ZGRE05001 -]	Europe	F2CFE614C*B002
T8.380 SmartTrax™ PST TIER 4B [ZGRE05001 -]	Europe	F2CFE614D*B002
T8.410 SmartTrax™ PST TIER 4B [ZGRE05001 -]	Europe	F2CFE614C*B002

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INTRODUCTION

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Foreword - Important notice regarding equipment servicing

All repair and maintenance work listed in this manual must be carried out only by qualified dealership personnel, strictly complying with the instructions given, and using, whenever possible, the special tools.

Anyone who performs repair and maintenance operations without complying with the procedures provided herein shall be responsible for any subsequent damages.

The manufacturer and all the organizations of its distribution chain, including - without limitation - national, regional, or local dealers, reject any responsibility for damages caused by parts and/or components not approved by the manufacturer, including those used for the servicing or repair of the product manufactured or marketed by the manufacturer. In any case, no warranty is given or attributed on the product manufactured or marketed by the manufacturer in case of damages caused by parts and/or components not approved by the manufacturer.

The manufacturer reserves the right to make improvements in design and changes in specifications at any time without notice and without incurring any obligation to install them on units previously sold. Specifications, descriptions, and illustrative material herein are as accurate as known at time of publication but are subject to change without notice.

In case of questions, refer to your NEW HOLLAND Sales and Service Networks.

Safety rules

Personal safety



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

 DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

 WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

 CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.

Machine safety

NOTICE: Notice indicates a situation that, if not avoided, could result in machine or property damage.

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

Information

NOTE: Note indicates additional information that clarifies steps, procedures, or other information in this manual.

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

Safety rules - General maintenance safety

General maintenance safety

Keep the area used for servicing the machine clean and dry. Clean up spilled fluids.

Service the machine on a firm, level surface.

Install guards and shields after you service the machine.

Close all access doors and install all panels after servicing the machine.

Do not attempt to clean, lubricate, clear obstructions, or make adjustments to the machine while it is in motion or while the engine is running.

Always make sure that working area is clear of tools, parts, other persons and pets before you start operating the machine.

Unsupported hydraulic cylinders can lose pressure and drop the equipment, causing a crushing hazard. Do not leave equipment in a raised position while parked or during service, unless the equipment is securely supported.

Jack or lift the machine only at jack or lift points indicated in this manual.

Incorrect towing procedures can cause accidents. When you tow a disabled machine follow the procedure in this manual. Use only rigid tow bars.

Stop the engine, remove the key, and relieve pressure before you connect or disconnect fluid lines.

Stop the engine and remove the key before you connect or disconnect electrical connections.

Scalding can result from incorrect removal of coolant caps. Cooling systems operate under pressure. Hot coolant can spray out if you remove a cap while the system is hot. Allow the system to cool before you remove the cap. When you remove the cap, turn it slowly to allow pressure to escape before you completely remove the cap.

Replace damaged or worn tubes, hoses, electrical wiring, etc.

The engine, transmission, exhaust components, and hydraulic lines may become hot during operation. Take care when you service such components. Allow surfaces to cool before you handle or disconnect hot components. Wear protective equipment when appropriate.

When welding, follow the instructions in the manual. Always disconnect the battery before you weld on the machine. Always wash your hands after you handle battery components.



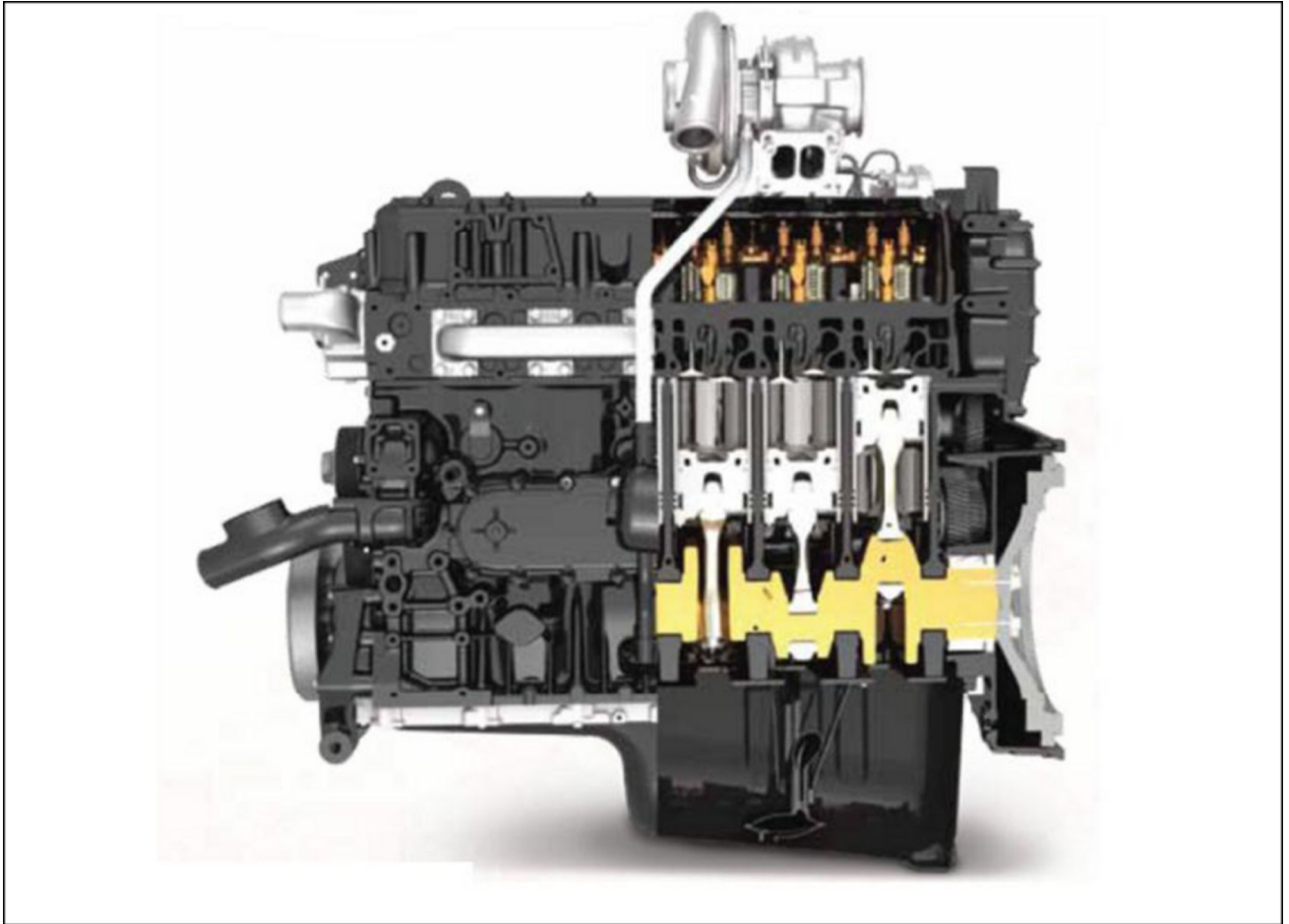
SERVICE MANUAL

Engine

T8.320 PST TIER 4B [ZGRE05001 -], T8.350 PST TIER 4B [ZGRE05001 -], T8.380 PST TIER 4B [ZGRE05001 -], T8.380 SmartTrax™ PST TIER 4B [ZGRE05001 -], T8.410 PST TIER 4B [ZGRE05001 -], T8.410 SmartTrax™ PST TIER 4B [ZGRE05001 -]

Engine - Overview

The Cursor® 9



RAIL15TR00417GA 1

The **Cursor® 9** is a state of the art engine developed by Fiat Powertrain Technologies (FPT). The **Cursor® 9** used in the T8. tractors has some significant internal and external differences from **Cursor® 9** engines used in other CNH products. There are procedures specific to the T8. engines that are different from the **Cursor® 9** used in other CNH applications. These changes were made to fit the engine into the T8. series frames without losing our featured visibility around the hood and chassis.

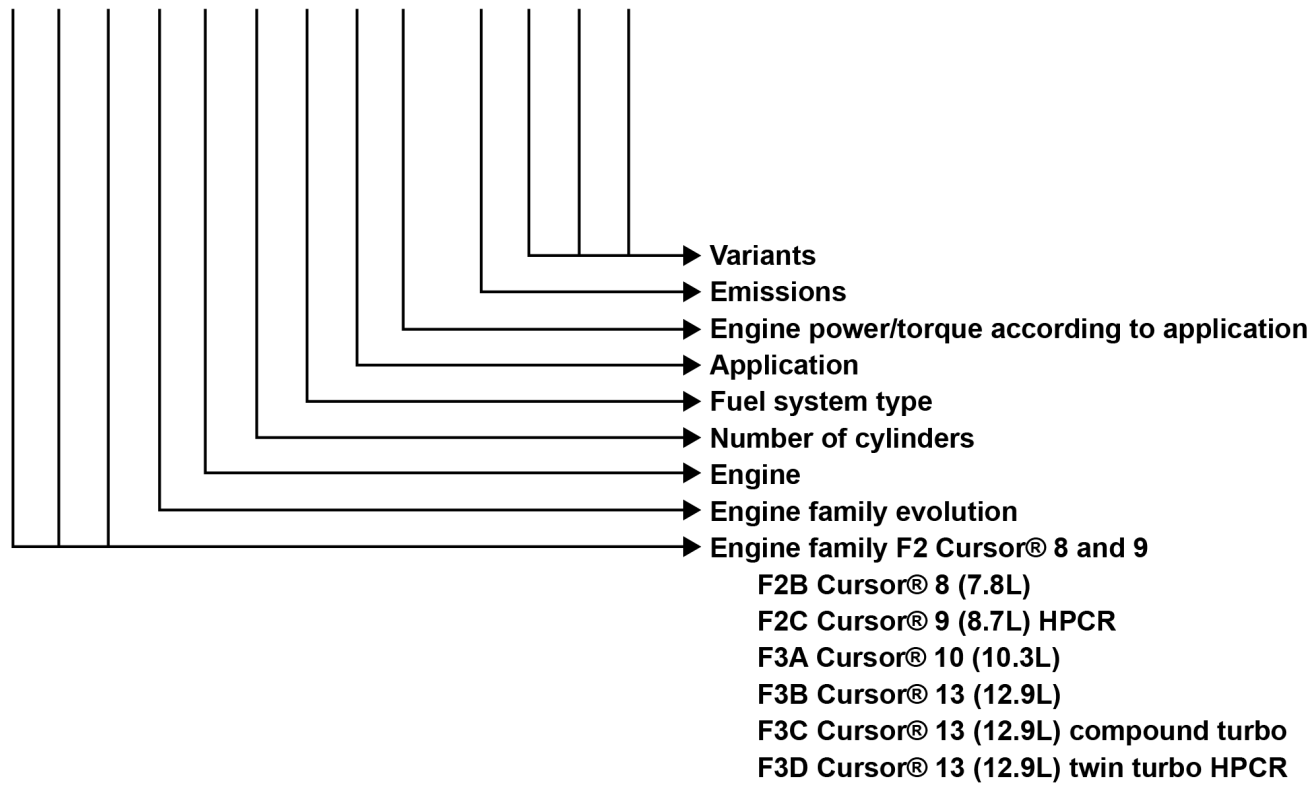
The **Cursor® 9** engine was introduced in the CNH combines in 2006 and migrated into the T9. series tractors. It has proven itself to be a consistent reliable performer. The introduction in the T8. series brings it to new heights with up to **275 kW (374 Hp)** (rated) and **316 kW (429 Hp)** in power boost mode.

- 6 cylinder, 24 valve, turbocharged and aftercooled
- Single overhead cam with roller rocker arms
- Wastegate turbo/Electronic Variable Geometry Turbocharger (EVGT)
- High pressure common rail fuel system
- Selective Catalytic Reduction (SCR) emissions control
- TIER 4B compliant without internal or external Exhaust Gas Recirculation (EGR)

FPT model number designation

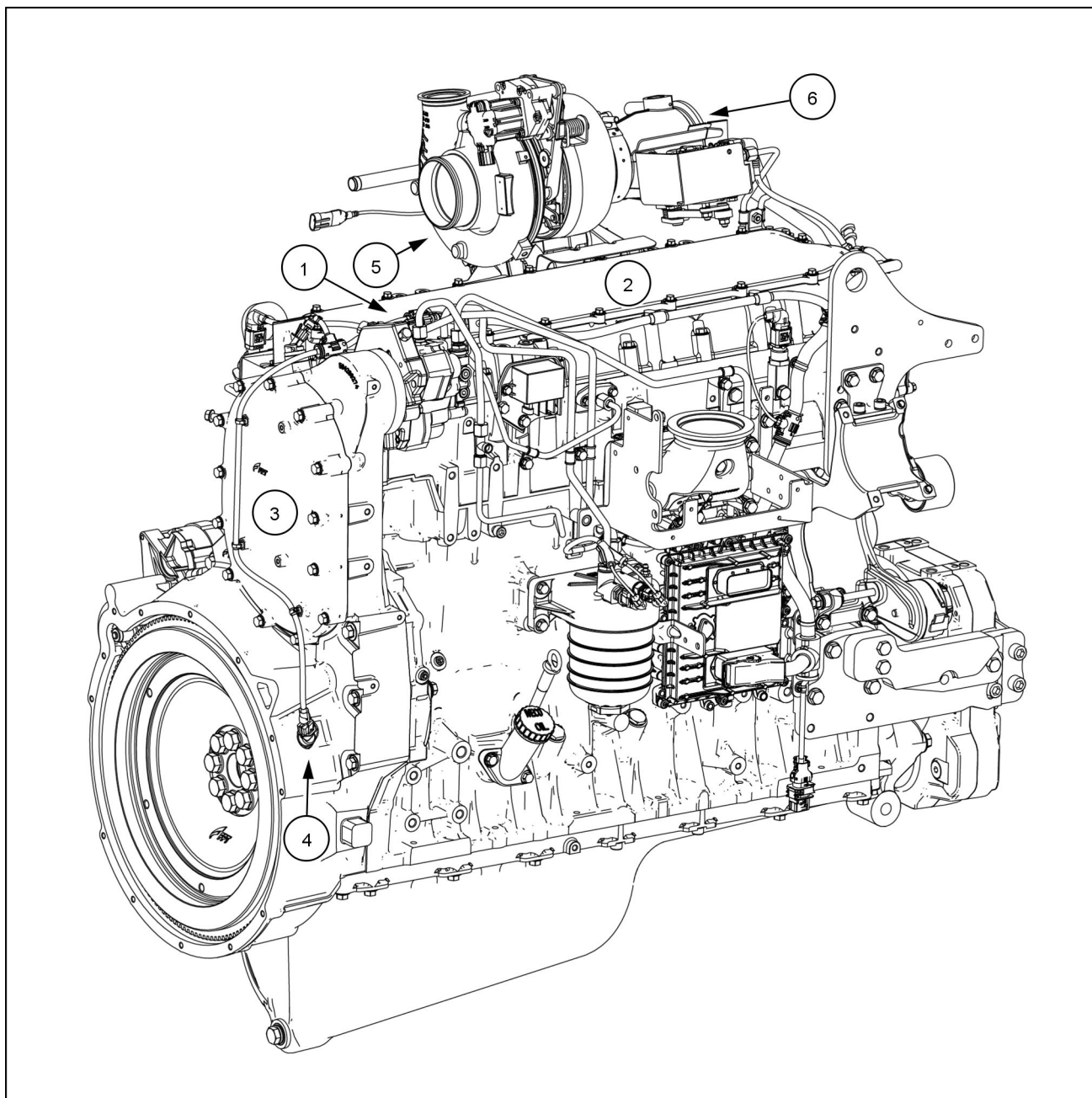
NOTE: The FPT engine designation code has evolved over the years. This is the best current information and may not be applicable to previous FPT engines.

F 2 C F E 6 1 3 C * B 0 0 0



Visual external differences for T8. tractor engines

There are a few things that make the FPT **Cursor®** 9 engine used in the T8. tractors visually and mechanically different from other **Cursor®** 9 applications.



RAIL15TR00608GA 3

1. The fuel pump sits higher and closet to the center line of the engine.
2. A two piece valve cover assembly that allows for valve adjustment without removing the entire cover.
3. The rear cover is an oval shape where on other **Cursor®** 9 engines it's round.
4. The flywheel speed sensor is located on the right side of the engine, others have on the left side of the engine.
5. The turbocharger is moved higher and toward the center line of the engine.
6. Exhaust flap for TIER 4B.



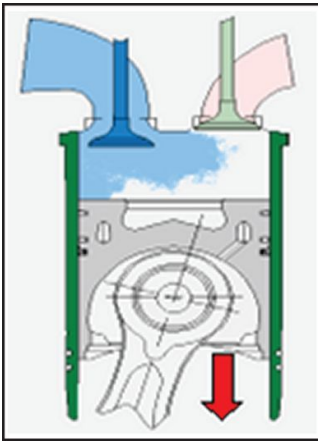
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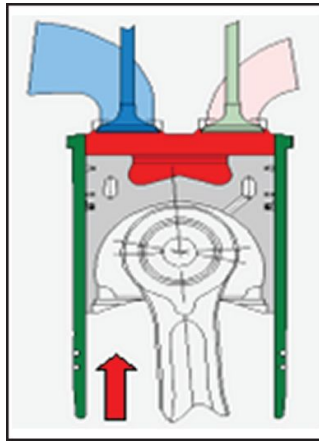
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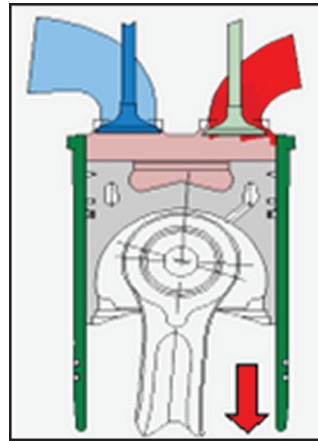
Exhaust brake



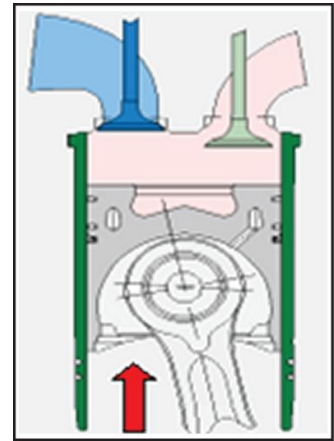
Admission phase:
Intake of fresh air.



Compression phase:
Energy is stored in the compressed air, braking effect increases with compression



Top dead center:
Exhaust valves open, compressed air is released, energy is blown out.



Exhaust phase:
Cylinder is empty, no energy exchange. Exhaust gases impact against the turbine, creating an additional braking effect.

All **Cursor®** engines are equipped with an advanced engine brake system: the Iveco Turbo Brake (IBT) system.

- Decompression engine brake
- Quick responding
- Integrated in the engine control
- Linked to cruise control
- Linked to EBS

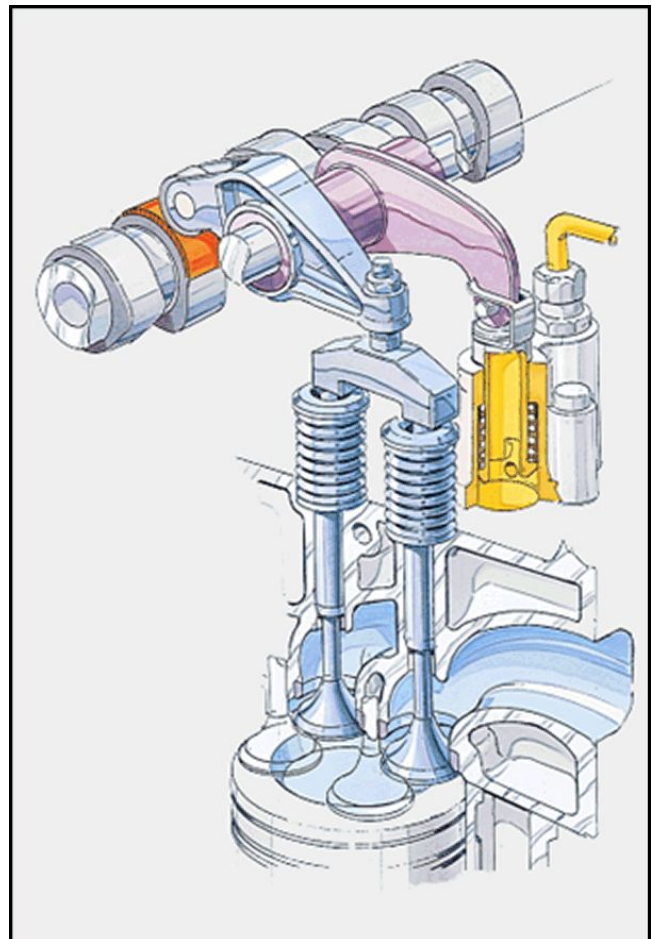
Advantage

- Less brake pad wear
- Automatically engaged

Benefit

- Reduced operation cost
- Operator ease

The engine brake is controlled by the Tractor Control Unit (TCU). The Electronic Service Tool (EST) is used to configure the TCU as to whether or not the tractor has an engine brake.



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