JOHN DEERE

WORLDWIDE COMMERCIAL & CONSUMER EQUIPMENT DIVISION

Lawn Tractors
LTR155, LTR166 and LTR180

MTM1768 FEBRUARY 2002

TECHNICAL MANUAL

JOHN DEERE

Litho in U.S.A.

This technical manual is written for an experienced technician and contains sections that are specifically for this product. It is a part of a total product support program.

The manual is organized so that all the information on a particular system is kept together. The order of grouping is as follows:

- Table of Contents
- General Diagnostic Information
- Specifications
- Electrical Wiring Harness Legend
- Component Location
- System Schematic
- Wiring Harness
- Troubleshooting Chart
- Theory of Operation
- Diagnostics
- Tests & Adjustments
- Repair

Note: Depending on the particular section or system being covered, not all of the above groups may be used.

Each section will be identified with a symbol rather than a number. The groups and pages within a section will be consecutively numbered.

We appreciate your input on this manual. To help, there are postage paid post cards included at the back. If you find any errors or want to comment on the layout of the manual please fill out one of the cards and mail it back to us.

All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

Safety

Specifications and Information

Kohler Engine

Briggs & Stratton Engine

Kawasaki Engine

Electrical

Power Train (Hydrostatic)

Steering

Attachments

Miscellaneous M

HYDROSTATIC TRANSMISSION OIL

IMPORTANT: ONLY use a quality SAE 10W-30 SYNTHETIC engine oil in this transmission. Mixing of two viscosity grade oils is NOT RECOMMENDED. DO NOT use BIO–HY–GARD® in this transmission.

The following John Deere transmission and hydraulic oil is **PREFERRED**:

- **10W-30 SYNTHETIC OIL**.

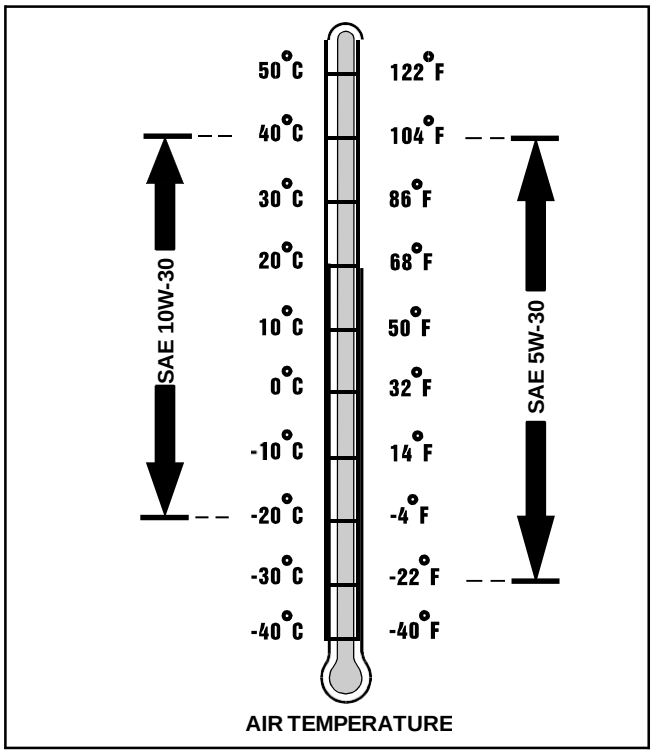
The following John Deere oil is **also recommended** if above preferred oil is not available:

- **John Deere Low Viscosity HY-GARD™ J20D.**

Other oils may be used if above recommended John Deere oils are not available. Use only oils that meet one of the following specifications:

- John Deere Standard JDM J20D;
- John Deere Standard JDM J20C.
- CCMC Specifications G4 or higher.

Use the appropriate oil viscosity based on these air temperature ranges. Operating outside of these recommended oil air temperature ranges may cause premature hydrostatic transmission failure.



John Deere Dealers: You may want to cross-reference the following publications to recommend the proper oil for your customers:

- Module DX,ENOIL2 in JDS–G135;
- Section 530, Lubricants & Hydraulics, of the John Deere Merchandise Sales Guide;
- Lubrication Sales Manual PI7032.

Use only oils that meet the following specifications:

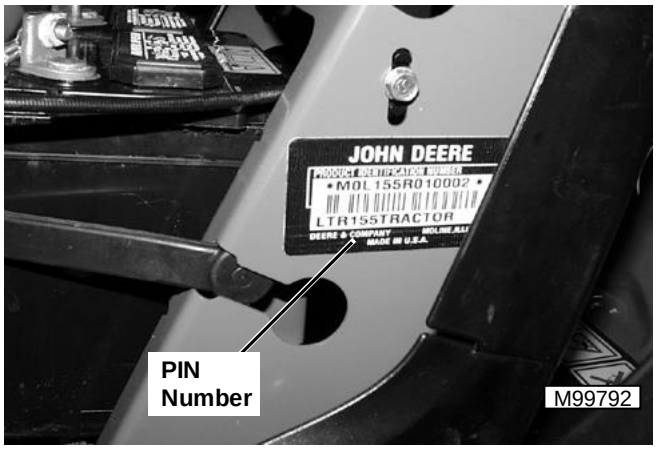
- API Service Classifications SG or higher.

PRODUCT IDENTIFICATION LOCATIONS

When ordering parts or submitting a warranty claim, it is IMPORTANT that you include the product identification number and the component product identification numbers.

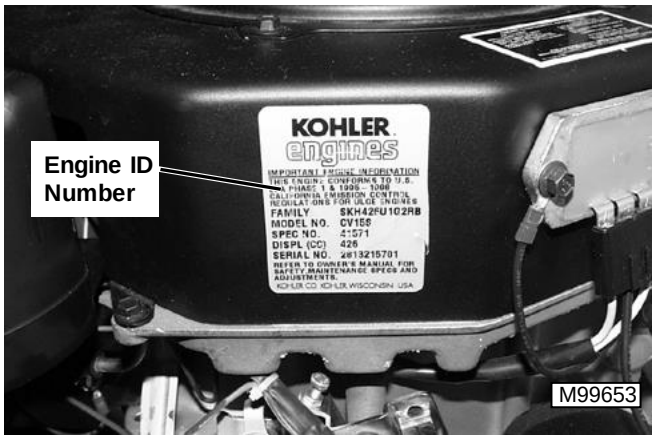
PRODUCT IDENTIFICATION NUMBER (PIN)

(S/N –030000)



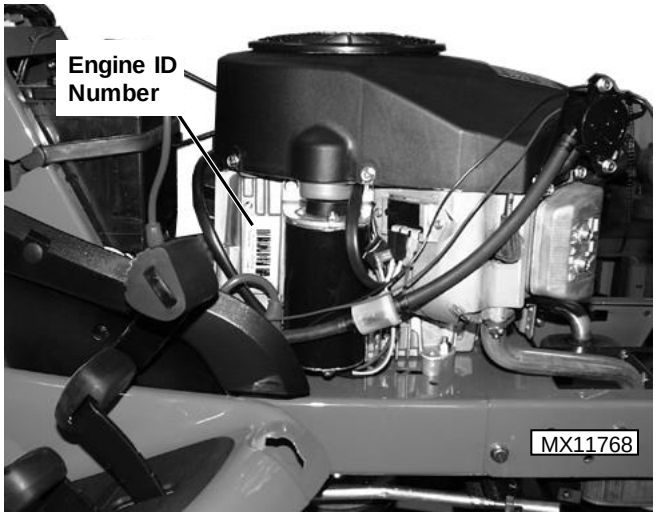
(S/N 030001–)

ENGINE IDENTIFICATION NUMBER—KOHLER

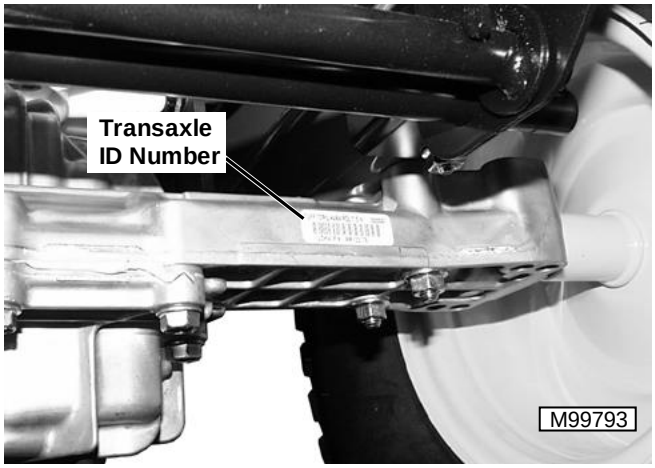


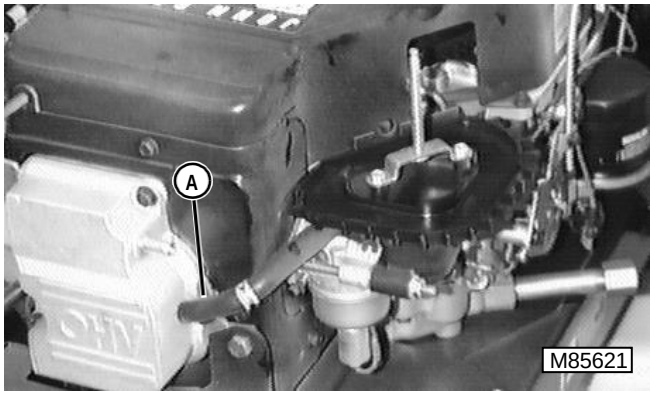
ENGINE IDENTIFICATION NUMBER—BRIGGS & STRATTON

ENGINE IDENTIFICATION NUMBER—KAWASAKI

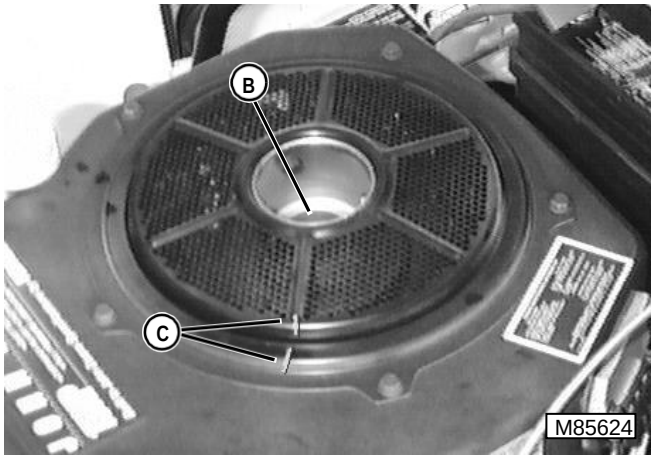


HYDROSTATIC TRANSAXLE IDENTIFICATION NUMBER

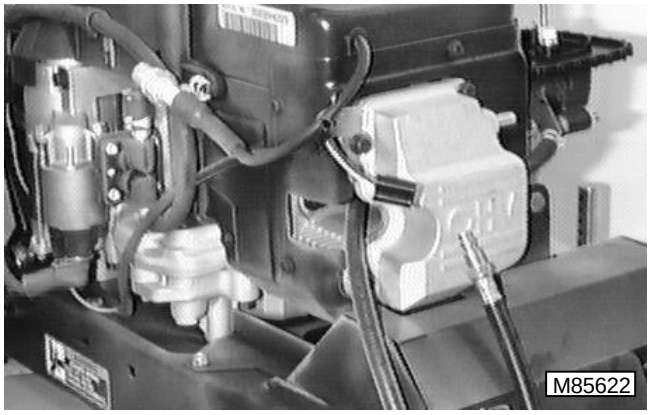




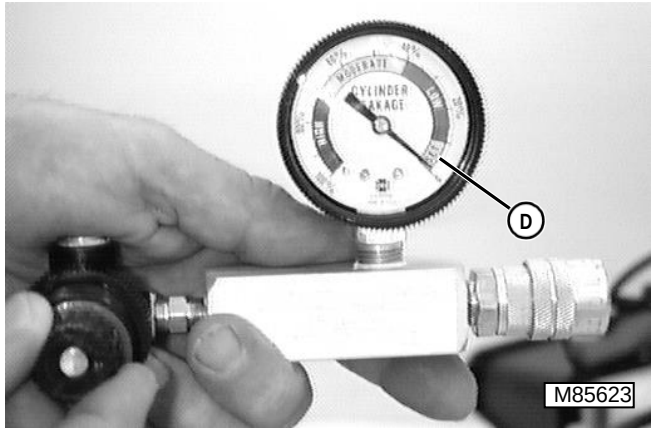
5. Disconnect crankcase breather hose (A) from valve cover breather port and remove air cleaner element from engine so you can listen for air leaks.



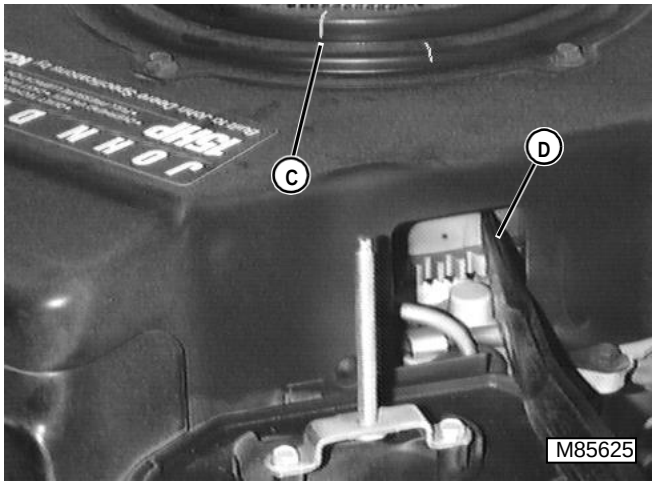
6. Use flywheel mounting cap screw (B) to turn flywheel and find approximate top dead center (TDC) of the compression stroke.
7. Remove spark plug and put a wooden dowel on top of piston to find actual TDC of the compression stroke. Then mark flywheel screen rib and shroud as shown (C) between front and left shroud cap screws.



8. Ground ignition high tension lead using JDM-74A-5 Ignition Test Plug to protect ignition system and install test kit adapter hose into spark plug hole.



9. First turn regulator knob on tester OFF (fully counterclockwise) then attach appropriate air source to coupler below black regulator valve.
10. Gradually turn regulator knob clockwise until needle aligns with “zero” of the yellow “SET” scale (D).



11. Turn flywheel clockwise until screen TDC mark (C) is between shroud TDC mark and front cap screw.

IMPORTANT: Have a helper put a wide blade pry bar (D) between two flywheel teeth (D) and up against engine block post and firmly wedge the pry bar against edge of shroud opening. This must be done properly to prevent piston and crankshaft from turning in a clockwise direction when compressed air is applied.