

# OPERATOR'S MANUAL

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**Workmaster™ 50**

**Workmaster™ 60**

**Workmaster™ 70**

**Tractor**

**Part number 47690424**

1<sup>st</sup> edition English

May 2015



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# 1 - GENERAL INFORMATION

## Note to the owner

This manual contains information concerning the adjustment and maintenance of the tractors. You have purchased a dependable machine, but only by proper care and operation can you expect to receive the performance and long service built into this equipment. Please have all operators read this manual carefully and keep it available for ready reference.

Your NEW HOLLAND dealer will instruct you in the general operation of your new equipment. (Refer to the 'Delivery Report' at the back of this manual.) Your dealer's staff of factory-trained service technicians will be glad to answer any questions that may arise regarding the operation of your tractor. New Holland Top Service is also available. Call 1-866-NEWHLND (1-866-639-4563) or email [na.topservice@cnh.com](mailto:na.topservice@cnh.com).

Your NEW HOLLAND dealer carries a complete line of genuine NEW HOLLAND service parts. These parts are manufactured and carefully inspected to insure high quality and accurate fitting of any necessary replacement parts. Be prepared to give your dealer the model and product identification number of your new equipment when ordering parts. Locate these numbers now and record them below. Refer to the 'General Information' section of this manual for the location of the model and product identification numbers of your machine.

**Please record the following information**

**Model**

---

**Product Identification Number (PIN)**

---

**Date purchased**

---

**Attachment model**

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**Attachment model**

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This is the safety alert symbol. It is used with and without signal words to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

### **⚠ WARNING**

**Illustrations in this manual may show protective shielding open or removed to better illustrate a particular feature or adjustment.**

**Replace all shields before operating the machine.**

**Failure to comply could result in death or serious injury.**

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## Improvements

CNH Industrial N.V. is continually striving to improve its products. We reserve the right to make improvements or changes when it becomes practical and possible to do so, without incurring any obligation to make changes or additions to the equipment sold previously.

## Intended use

DO NOT use this machine for any purpose or in any manner other than as described in the manual, decals, or other product safety information provided with the machine. These materials define the machine's intended use.

Use only approved accessories and attachments designed for your machine. Consult your dealer on changes, additions or modifications that may be required for your machine. Do not make any unauthorized modifications to your machine.

**ATTENTION:** *The engine and fuel system on your machine is designed and built to government emissions standards. Tampering by dealer, customers, operators and users is strictly prohibited by law. Failure to comply could result in government fines, rework charges, invalid warranty, legal action and possible confiscation of the machine until rework to original condition is completed. Engine service and/or repairs must be done by a certified technician only!*

## Operator's age

All persons who will be operating this machine shall possess a valid local vehicle operating permit and/or other applicable local age work permits.

### WARNING

**IMPROPER OPERATION OF THIS MACHINE  
CAN CAUSE DEATH OR SERIOUS INJURY.**

**MAKE SURE THAT EVERY OPERATOR:**

**-is instructed in the safe and proper use of this machine.**

**-reads and understands the operator's manual for this machine.**

**-reads and understands ALL safety signs on the machine.**

**Failure to comply could result in death or serious injury.**

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Read and thoroughly understand this manual before operating this machine. If you are an inexperienced operator, study this manual and receive operating instructions from an experienced operator. Your dealer can assist you in learning machine operation and show you proper operating procedures. Keep this manual readily available, preferably with the machine. If the original manual is damaged, order a new one from your dealer.



## Electro-magnetic compatibility (EMC)

Interference may arise as a result of add-on equipment that may not necessarily meet the required standards. As such interference can result in serious malfunction of the unit and/or create unsafe situations, you must observe the following:

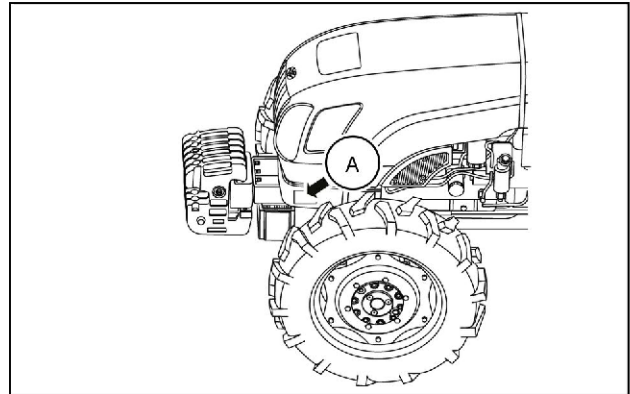
- The maximum power of emission equipment (radio, telephones, etc.) must not exceed the limits imposed by the national authorities of the country where you use the machine
- The electro-magnetic field generated by the add-on system should not exceed **24 V/m** at any time and at any location in the proximity of electronic components
- The add-on equipment must not interfere with the functioning of the on board electronics

Failure to comply with these rules will render the NEW HOLLAND warranty null and void.


## Product Identification Number (PIN)

### Product Identification Number (PIN) plate

The tractor identification decal **(A)** is located on the left-hand side of the battery plate. The first line represents tractor make and model while the second line represents engine serial number and product code followed by transmission serial number. Record the information that is on the decal for quick reference.



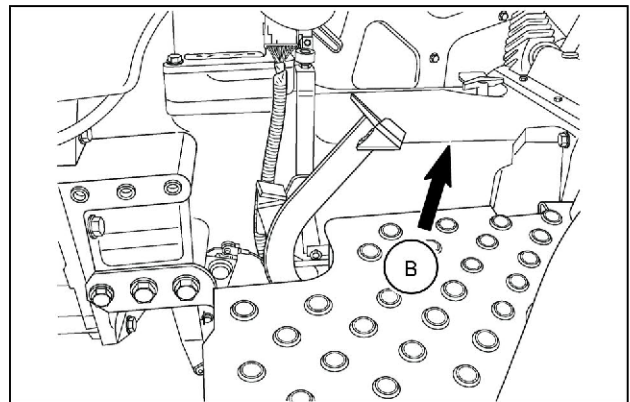
GNIL14TR00508AA 1

	
TRACTOR NO <input type="text"/>	TRACTOR MODEL <input type="text"/>
UNIT <input type="text"/>	ENGINE NO. <input type="text"/>
TRANSMISSION NO <input type="text"/>	PRODUCT CODE <input type="text"/>
MADE IN INDIA	

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### Product Identification Number (PIN) location (Stamped)

The tractor serial number, unit code and engine number are stamped on the top of the transmission housing at **(B)**. These numbers are also repeated on the product identification number (PIN) plate reproduced above.  
Tractor PIN.....



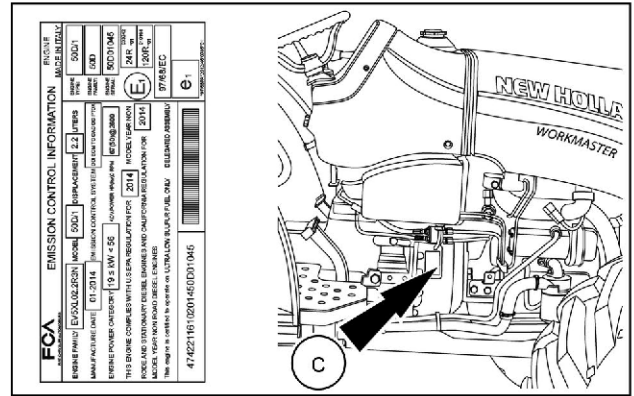
86090118NNN 3

## Engine Product Identification Number (PIN)

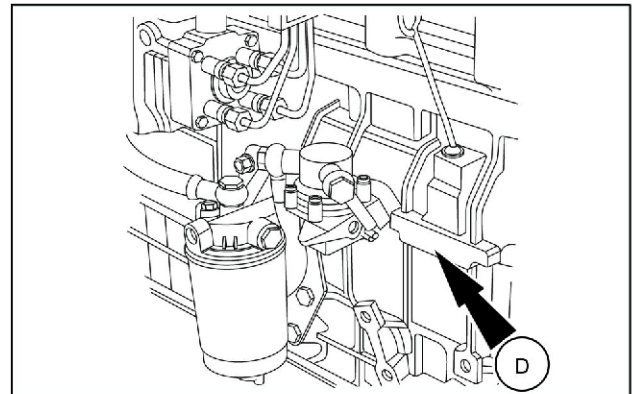
The engine product identification number (PIN) plate **(C)** placed on right-hand side of the engine flywheel block, just below the fuel tank ..

Engine product identification number (PIN) is stamped on the left-hand side **(D)** of the engine crankcase.

Engine PIN.....



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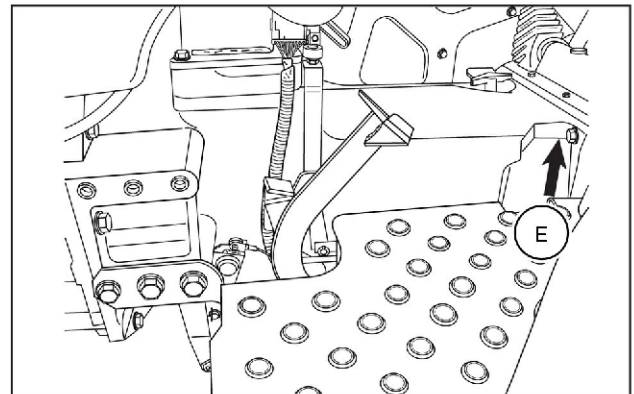


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## Transmission Product Identification Number (PIN)

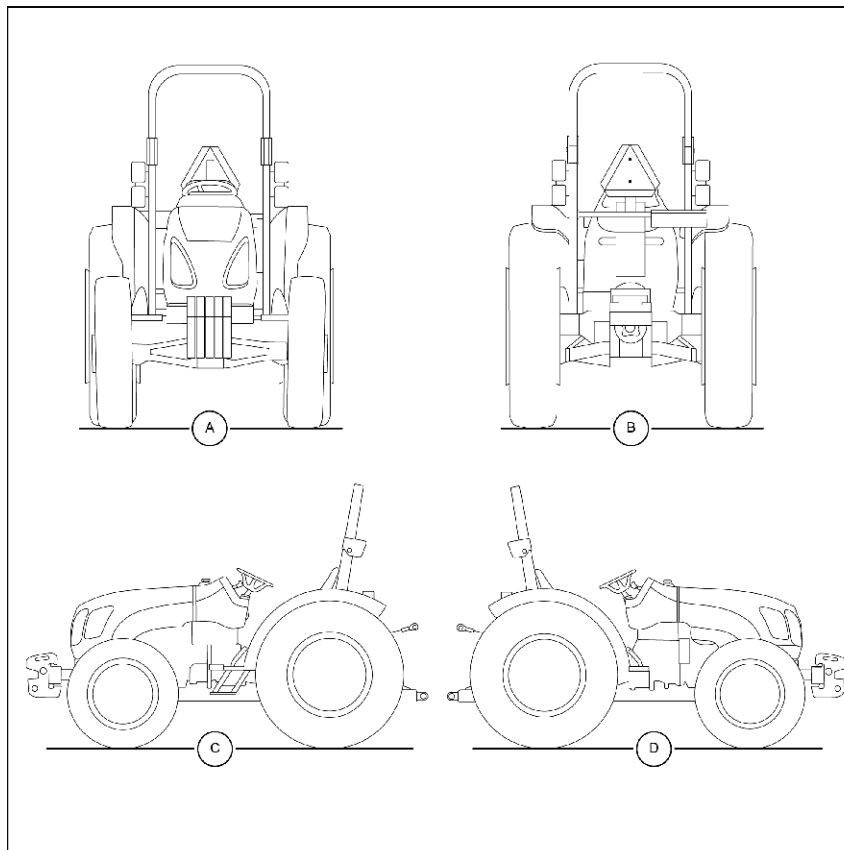
The transmission product identification number (PIN) **(E)** is stamped on left-hand side of transmission housing below driver seat. This information is repeated on tractor identification decal. Record the Transmission identification number (PIN) below for quick reference.

Transmission PIN.....



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## Machine orientation



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**(A)** Front

**(C)** Left-hand side

**(B)** Rear

**(D)** Right-hand side

## Exhaust Gas Recirculation (EGR) - Diesel Particulate Filter (DPF) exhaust treatment - Product overview

### What is Exhaust Gas Recirculation (EGR)?

Your NEW HOLLAND machine is equipped with additional components to comply with national and local exhaust emissions requirements. EGR works by recirculating a portion of the engine exhaust gasses back into the engine combustion chamber to lower combustion temperatures.

The main components of the EGR system include:

- EGR valve
- Diesel Oxidation Catalyst (DOC)
- Particulate Matter Catalyst (PM Cat)
- Exhaust gas temperature sensors
- Throttle valve actuator

### What is a Particulate Matter Catalyst (PM Cat)?

A PM Cat is a high efficiency flow through filter that works based on an open flow design to allow exhaust gases to pass through. It is made up of alternating layers of corrugated metal foil on a porous metal fleece. The filter captures particulate matter long enough for catalytic oxidation. By design, a PM Cat cannot plug up, creating no risk of an uncontrolled regeneration.

### How does it work?

When exhaust enters the DOC, many chemical reactions occur. Nitric Oxide (NO) gas enters the DOC to be oxidized to nitrogen dioxide (NO<sub>2</sub>). When it enters the particulate matter catalyst, NO<sub>2</sub> oxidizes the particulate matter, creating a continuous, efficient, passive regeneration. This reaction occurs best between **220 - 480 °C (428 - 896 °F)**.

### What if the exhaust isn't warm enough?

A special engine management system has been designed for off road applications to maintain the efficiency of the particulate matter catalyst, even in situations such as prolonged idling, or low-load applications. During these scenarios, the engine management software will activate an exhaust temperature management mode to maintain the efficiency of soot reduction. In this mode, the exhaust gas temperature is controlled via management of multiple injections and control of the air system. This design enhances passive regeneration in low load conditions, and reduces the need for an incinerating regeneration.

### Manual regeneration

If the thermal management system is disabled for prolonged periods of time, depending on exhaust temperatures, soot may build up within the particulate matter catalyst. If the soot build-up reaches extreme levels, a manual regeneration initiated by the operator may be necessary. This is enabled through the instrument cluster, and takes about **15 min**. For these reasons, it is recommended to have the thermal management system remain enabled unless the tractor is in high fire-risk conditions.

### Finding a cleaning facility

To find a NEW HOLLAND dealer that is fully equipped to service your system, call the number below.

Top Service: 1-866-639-4563  
na.topservice@newholland.com

### US Environmental Protection Agency (EPA) and California Emissions Control Warranty Statement

NEW HOLLAND warrants to the ultimate purchaser and each subsequent purchaser that the engine is designed, built and equipped so as to conform with US Environmental Protection Agency regulations applicable at the time of

manufacture and that it is free from defects in workmanship or material which would cause it not to meet these regulations for a period of:

- 2 years or **1500 h** of operation, whichever occurs first, for engines less than **19 kW (25 Hp)**.
- 5 years or **3000 h** of operation, whichever occurs first, for engines greater than or equal to **19 kW (25 Hp)**.

**NOTE:** *This warranty applies to all units operated in the United States or Canada.*

## Coverage

The model year, class of diesel engine, and emission application determination for your engine are identified on the Emission Control Information Label. This label is affixed to one of the following areas of the engine: the top of engine's rocker arm cover, the right-hand side of the oil pan, and the right-hand side of the engine front gear cover. The warranty period begins on the date the new equipment is sold to the first retail purchaser. The presence of the emission control label is the indication that the engine conforms to the applicable standards. Any emission control system parts which are proven defective during normal use will be repaired or replaced during the warranty period.

The engine owner has responsibility to perform all the required maintenance listed in the Owner's Manual. NEW HOLLAND will not deny an emission warranty claim solely because no record of maintenance exists; however, a claim may be denied if failure to perform maintenance resulted in the failure of a warranted part.

It is recommended that replacement parts used for maintenance or repairs be NEW HOLLAND Service Parts to maintain the quality originally designed into your emission certified engine. The use of non- NEW HOLLAND parts does not invalidate the warranty on other components unless the use of such parts causes damage to warranted parts.

The manufacturer is liable for damages to other engine components caused by the failure of any warranted emission control system part. NEW HOLLAND is not responsible for failures resulting from improper repair or the use of parts that are not genuine NEW HOLLAND or NEW HOLLAND approved parts.

## Component coverage

New engines certified for sale and registered will have the following items covered by the emission warranty, depending on the emission level of the engine, if the items were first installed on the new engine as original equipment:

### Fuel injection system

- Fuel injection pump
- Fuel injectors
- Fuel injection lines

### Air induction system

- Intake manifold
- Turbocharger system (includes exhaust manifold)
- Charge air cooler

### Positive crankcase ventilation system (if applicable)

- PCV valve
- Oil fill cap

### Exhaust after treatment Devices (if applicable)

- Catalytic converter (DOC)
- Diesel particulate filter (DPF)
- Selective catalytic reduction (SCR)
- Diesel Exhaust Fluid (DEF) tank and dispensing systems
- Particulate Matter Catalyst (PM Cat)

### Exhaust Gas Recirculation Systems (EGR)

- EGR valve assembly
- EGR cooler

### Cold Start Enrichment Systems

Electronic Control Units, Sensors, Solenoids, and Wiring harnesses used in above systems

## Emissions warranty does not cover

- Repairs arising from storage deterioration, failure to maintain the equipment, negligence, alteration, improper use of the equipment, collision or other accident, vandalism, or other casualty, or operation beyond rated capacity or specification.
- Repairs arising from abuse or neglect, including but not limited to: operation without adequate coolant or lubricants, adjustments to the fuel system outside equipment specifications, over-speeding, improper storage, starting, warm-up, or shutdown practices, incorrect fuel or contaminated fuel, oil or other fluids.

- Normal maintenance services, such as engine tune-ups, engine fuel system cleaning, checks, adjustments, shimming, etc.
- Items replaced due to customer demand.
- Labor charges performed by anyone except a dealer authorized by contract to repair the equipment, unless they qualify under special provisions (i.e. outside labor).
- Any and all travel costs for items such as towing, service calls, or transporting a unit to and from the place where the warranty service is performed.
- Normal maintenance costs, including but not limited to: lubricants, coolants, fluids, fuel, filters, and associated labor. Lubricants, filters, and coolants may qualify for warranty reimbursement if they require replacement as a DIRECT RESULT of a defect in material or workmanship.
- Claims involving the inspection or reconditioning of units after storage or prior use.
- Repairs arising from service performed by agents not approved by NEW HOLLAND.
- Repairs arising from any unauthorized modification to the product or the use of non- NEW HOLLAND parts, implements or attachments.
- Removal, replacement, or installation of non- NEW HOLLAND optional equipment, attachments or components.
- Premiums charged for overtime labor costs or out of shop expenses.
- Economic loss including lost profits, crop loss, equipment rental, or other expense.
- Unauthorized modification or updating machines without a warrantable failure.
- Any and all costs of dealer shop supplies incurred with repairs, including but not limited to: solvents, cleaners, anti-seize lubricants, loctite, sealant, adhesive, oil-dry, shop towels, etc.
- Failure of the machine, its implements or attachments caused by improper field application or loading.
- Any and all costs for coolant, fuel, or lube (oil) analysis including supplies and lab recommendations.
- Cost associated with cleaning of machine in preparation for servicing.





## 2 - SAFETY INFORMATION

### Personal safety


#### 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 safety rules

Use caution when you operate the machine on slopes. Raised equipment, full tanks and other loads will change the center of gravity of the machine. The machine can tip or roll over when near ditches and embankments or uneven surfaces.

Never permit anyone other than the operator to ride on the machine.

Never operate the machine under the influence of alcohol or drugs, or while you are otherwise impaired.

When digging or using ground-engaging attachments, be aware of buried cables. Contact local utilities to determine the locations of services.

Pay attention to overhead power lines and hanging obstacles. High voltage lines may require significant clearance for safety.

Hydraulic oil or diesel fuel leaking under pressure can penetrate the skin, causing serious injury or infection.

- Do not use your hand to check for leaks. Use a piece of cardboard or paper.
- Stop the engine, remove the key, and relieve the pressure before you connect or disconnect fluid lines.
- Make sure that all components are in good condition. Tighten all connections before you start the engine or pressurize the system.
- If hydraulic fluid or diesel fuel penetrates the skin, seek medical attention immediately.
- Continuous long term contact with hydraulic fluid may cause skin cancer. Avoid long term contact and wash the skin promptly with soap and water.

Keep clear of moving parts. Loose clothing, jewelry, watches, long hair, and other loose or hanging items can become entangled in moving parts.

Wear protective equipment when appropriate.

Do not attempt to remove material from any part of the machine while it is being operated or while components are in motion.

Make sure that all guards and shields are in good condition and properly installed before you operate the machine. Never operate the machine with shields removed. Always close access doors or panels before you operate the machine.

Dirty or slippery steps, ladders, walkways, and platforms can cause falls. Make sure these surfaces remain clean and clear of debris.

A person or pet within the operating area of a machine can be struck or crushed by the machine or its equipment. DO NOT allow anyone to enter the work area.

Raised equipment and/or loads can fall unexpectedly and crush persons underneath. Never allow anyone to enter the area underneath raised equipment during operation.

Never operate the engine in enclosed spaces as harmful exhaust gases may build up.

Before you start the machine, be sure that all controls are in neutral or park lock position.

Start the engine only from the operator's seat. If you bypass the safety start switch, the engine can start with the transmission in gear. Do not connect or short across terminals on the starter solenoid. Attach jumper cables as described in the manual. Starting in gear may cause death or serious injury.

Always keep windows, mirrors, all lighting, and Slow-Moving Vehicle (SMV) emblem clean to provide the best possible visibility while you operate the machine.

Operate controls only when seated in the operator's seat, except for those controls expressly intended for use from other locations.

Before you leave the machine:

1. Park the machine on a firm, level surface.
2. Put all controls in neutral or park lock position.
3. Engage the parking brake. Use wheel chocks if required.
4. Lower all hydraulic equipment — Implements, header, etc.
5. Turn off the engine and remove the key.

When, due to exceptional circumstances, you would decide to keep the engine running after you leave the operator's station, then you must follow these precautions:

### **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.

### **Wheels and tires**

Make sure that tires are correctly inflated. Do not exceed any recommended load or pressure. Follow the instructions in the manual for proper tire inflation.

Tires are heavy. Handling tires without proper equipment could cause death or serious injury.

Never weld on a wheel with a tire installed. Always remove the tire completely from the wheel prior to welding.

Always have a qualified tire technician service the tires and wheels. If a tire has lost all pressure, take the tire and

1. Bring the engine to low idle speed.
2. Disengage all drive systems.

### 3. **WARNING**

**Some components may continue to run down after disengaging drive systems.**

**Make sure all drive systems are fully disengaged.**

**Failure to comply could result in death or serious injury.**

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Shift the transmission into neutral.

4. Apply the parking brake.

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.

wheel to a tire shop or your dealer for service. Explosive separation of the tire can cause serious injury.

Do not weld to a wheel or rim until the tire is completely removed. Inflated tires can generate a gas mixture with the air that can be ignited by high temperatures from welding procedures performed on the wheel or rim. Removing the air or loosening the tire on the rim (breaking the bead) will NOT eliminate the hazard. This condition can exist whether tires are inflated or deflated. The tire must be completely removed from the wheel or rim prior to welding the wheel or rim.

## **Driving on public roads and general transportation safety**

Comply with local laws and regulations.

Use appropriate lighting to meet local regulations.

Make sure that the SMV emblem is visible.

Make sure that the brake pedal latch is engaged. You must lock brake pedals together for road travel.

Use safety chains for trailed equipment when safety chains are provided with machine or equipment.

Lift implements and attachments high enough above ground to prevent accidental contact with road.

When you transport equipment or a machine on a transport trailer, make sure that it is properly secured. Be sure

the SMV on the equipment or machine is covered while being transported on a trailer.

Be aware of overhead structures or power lines and make sure that the machine and/or attachments can pass safely under.

Travel speed should be such that you maintain complete control and machine stability at all times.

Slow down and signal before turning.

Pull over to allow faster traffic to pass.

Follow correct towing procedure for equipment with or without brakes.

## **Fire and explosion prevention**

Fuel or oil that is leaked or spilled on hot surfaces or electrical components can cause a fire.

Crop materials, trash, debris, bird nests, or flammable material can ignite on hot surfaces.

Always have a fire extinguisher on or near the machine.

Make sure that the fire extinguisher(s) is maintained and serviced according to the manufacturer's instructions.

At least once each day and at the end of the day, remove all trash and debris from the machine especially around hot components such as the engine, transmission, exhaust, battery, etc. More frequent cleaning of your machine may be necessary depending on the operating environment and conditions.

At least once each day, remove debris accumulation around moving components such as bearings, pulleys,

belts, gears, cleaning fans, etc. More frequent cleaning of your machine may be necessary depending on the operating environment and conditions.

Inspect the electrical system for loose connections and frayed insulation. Repair or replace loose or damaged parts.

Do not store oily rags or other flammable material on the machine.

Do not weld or flame cut any items that contain flammable material. Clean items thoroughly with non-flammable solvents before welding or flame-cutting.

Do not expose the machine to flames, burning brush, or explosives.

Promptly investigate any unusual smells or odors that may occur during operation of the machine.

## **General battery safety**

Always wear eye protection when you work with batteries.

Do not create sparks or have open flame near a battery.

Ventilate the area when you charge a battery or use a battery in an enclosed area.

Disconnect the negative (-) terminal first and reconnect the negative (-) terminal last.

When you weld on the machine, disconnect both terminals of the battery.

Do not weld, grind, or smoke near a battery.

When you use auxiliary batteries or connect jumper cables to start the engine, use the procedure shown in the operator's manual. Do not short across terminals.

Follow the manufacturer's instructions when you store and handle batteries.

Battery post, terminals, and related accessories contain lead and lead compounds. Wash hands after handling. This is a California Proposition 65 warning.

Battery acid causes burns. Batteries contain sulfuric acid. Avoid contact with skin, eyes, or clothing. Antidote (external): Flush with water. Antidote (eyes): flush with water for 15 minutes and seek medical attention immediately. Antidote (internal): Drink large quantities of water or milk. Do not induce vomiting. Seek medical attention immediately.

Keep out of reach of children and other unauthorized persons.

