

HONDA

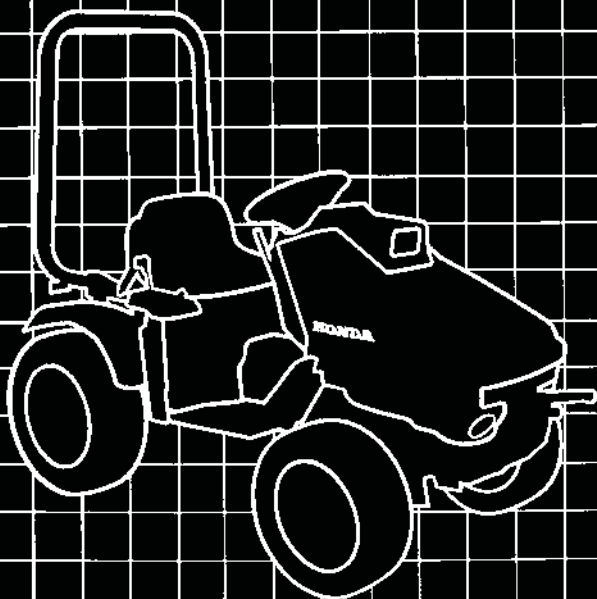
Power

Equipment

Owner's Manual

TRACTOR

H5013



Thank you for purchasing a Honda tractor.

This manual describes operation and maintenance of the Honda H5013 tractor, type A2. (Two Wheel Drive Model) and A4 (Four Wheel Drive Model).

Information in this manual is based on the H5013 A4 model equipped with a rear hydraulic lift unit which is available as an optional part.

All information in this manual is based on the latest product information available at the time of printing.

Honda Motor Co., Ltd. reserves the right to make changes at any time without notice and without incurring any obligation.

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This manual is considered a permanent part of the utility tractor and it must stay with the tractor if resold.

READ THIS OWNER'S MANUAL CAREFULLY. Pay special attention to these symbols and any instructions that follow:

▲ DANGER

—Indicates serious injury or death **WILL** result if instructions are not followed.

▲ WARNING

—Indicates a strong possibility that serious injury or death could result if instructions are not followed.

▲ CAUTION

—Indicates a possibility that minor injury can result if instructions are not followed.

IMPORTANT NOTICE

—Indicates that equipment or property damage can result if instructions are not followed.

NOTE: Gives helpful information.

Honda tractors are designed to give safe and dependable service if operated according to instructions. Operating this tractor requires special effort on your part to ensure your safety and the safety of others.

▲ WARNING

Using this product for a purpose not intended may cause injury or property damage. Read and understand this Owner's Manual before operating this tractor.

If a problem should arise, or if you have any questions about your tractor, consult an authorized Honda tractor dealer.

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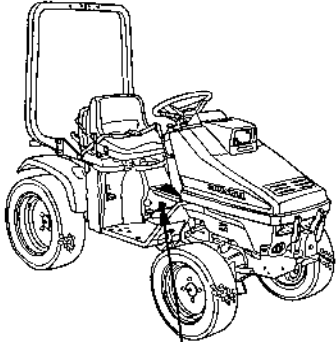
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1. SAFETY INFORMATION

Read all safety instructions before operating.



OPERATION

- ENGAGE DIFFERENTIAL LOCK
 1. SHIFT GEARS ALLOW 4TH.
 2. TURN STEERING WHEEL STRAIGHT POSITION.
 3. DEPRESS DIFFERENTIAL LOCK PEDAL. LOCK WILL REMAIN ENGAGED AS LONG AS PEDAL IS DEPRESSED.
- DISENGAGE DIFFERENTIAL LOCK
 1. REMOVE FOOT FROM DIFFERENTIAL LOCK PEDAL. LOCK WILL DISENGAGE AUTOMATICALLY.
 2. IF DIFFERENTIAL LOCK WERE NOT DISENGAGE, SHIFT TO OPPOSITE DIRECTION AND DRIVE SLIGHTLY.

DIFFERENTIAL LOCK

CAUTION

- TO PREVENT TIPPING, LOSS OF CONTROL, OR DAMAGE:
 - NEVER ENGAGE DIFFERENTIAL LOCK AT HIGH SPEED.
 - NEVER TURN WITH DIFFERENTIAL LOCKED.
 - NEVER OPERATE DIFFERENTIAL LOCK ON PAVED SURFACES.
 - NEVER OPERATE DIFFERENTIAL LOCK ON SLOPES OR HILLS.

WARNING

- TRACTOR TIP OVER CAN CAUSE SERIOUS INJURY.
USE THE SEAT BELT PROPERLY DURING OPERATION.
- DRIVING TOO FAST, ESPECIALLY WITH IMPLEMENTS, CAN LEAD TO TIP OVER AND SERIOUS INJURY.
DO NOT USE 7TH OR 8TH GEAR POSITION WHEN TURNING OR DRIVING ON SLOPES.
- CONTACT WITH ATTACHMENTS OR MOVING PARTS CAN CAUSE SERIOUS INJURY.
BE SURE THE ATTACHMENT AND ENGINE ARE STOPPED COMPLETELY BEFORE PLACING HANDS OR FEET NEAR THE ATTACHMENT.
- TRACTORS CAN BE HAZARDOUS IF OPERATED IMPROPERLY.
READ OWNER'S MANUAL BEFORE OPERATION.

WARNING

- GASOLINE IS FLAMMABLE STOP ENGINE, AVOID HEAT, SPARKS, AND OPEN FLAME WHEN REFUELING.

WARNING

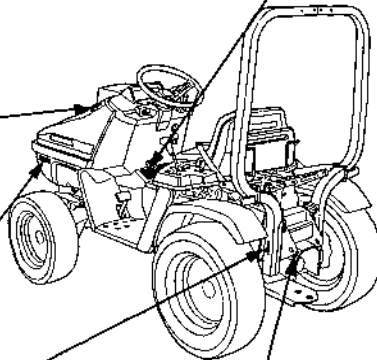
- AVOID INJURY FROM PTO
 - KEEP ALL SHIELDS IN PLACE.
 - KEEP HANDS, FEET AND CLOTHING AWAY.
 - OPERATE ONLY AT RECOMMENDED PTO SPEED.
 - READ OWNER'S MANUAL CAREFULLY.

WARNING

- DO NOT OPERATE WITHOUT ROLLOVER PROTECTIVE STRUCTURE (ROPS).
- USE SEAT BELT PROPERLY.

WARNING

- AVOID INJURY FROM PTO
 - KEEP ALL SHIELDS IN PLACE.
 - KEEP HANDS, FEET AND CLOTHING AWAY.
 - OPERATE ONLY AT RECOMMENDED PTO SPEED.
 - READ OWNER'S MANUAL CAREFULLY.



TRACTOR SAFETY

▲ WARNING Operation of the tractor and its attachments requires special efforts on your part to ensure your safety and the safety of others. Know these requirements before you operate the Tractor or its attachments:

SAFE OPERATING RULES

- Severe personal injury or equipment damage may result if the pre-operation inspection (Page 26) is not performed before operating the tractor or its attachments.
- To avoid severe personal injury or equipment damage, observe the following precautions:
 - All parts, especially guards and shields, should be in good condition, and securely fastened in place.
 - Do not remove any guards, warning labels, shields or safety devices; they are installed for your safety.
 - The rollover protective structure (ROPS) will only help protect you from injury, if:
 - you are also wearing the seat belt.
 - the ROPS is securely attached and has not been modified or structurally damaged.
 - Always wear sturdy shoes and avoid wearing bulky or loose clothing while operating the tractor or its attachments.
 - Never operate the tractor or its attachments when tired or while under the influence of drugs or alcohol.
 - In case of emergency, know how to stop the engine and thoroughly understand the operation of ALL controls.
 - Never permit anyone to operate the tractor or its attachments without proper instructions.
 - Children should not be permitted to operate the tractor or any of its attachments.
 - **KEEP CHILDREN AND PETS AT A SAFE DISTANCE DURING OPERATION**
 - This is an operator only vehicle, do not allow passengers to ride on the tractor or on any of its attachments.
 - The exhaust contains poisonous carbon monoxide gas that can cause loss of consciousness and may lead to death, if the tractor is operated in an enclosed space.

BEFORE STARTING

- The use of heavy equipment and/or pulling excessive loads may adversely affect vehicle stability and control. To avoid loss of control that can result in severe personal injury:
 - Only use recommended hitch attachment points.
 - Limit loads to as suggested on page 54.
 - Be extra careful when turning or backing up.
 - Use counterweight(s) as suggested on page 58.
- Before installing or using any attachment, carefully read all instructions and precautions.

OPERATION

- Be sure to fasten the seat belt whenever driving the tractor with the Rollover Protective Structure (ROPS) attached. Use of either device (seat belt or ROPS) without the other will increase the chance of injury in a rollover.
- Adjust the seat belt so that it is snug.
- Be sure that the main Transmission lever is in "Neutral" and the front and rear P.T.O. levers are in the "OFF" position before starting the engine.
- Operate the tractor at low speed until you become familiar with all of its operating characteristics and controls.
- Do not operate the tractor or its attachments without ensuring the area in front and behind is clear of people and pets.
- Sudden stops of the tractor while driving at high speed or sudden start-up with the steering wheels turned fully in one direction, could cause the tractor to overturn.
- This tractor utilizes Four Wheel Steering (4WS) for a tighter turning circle and greater mobility than tractors with conventional steering. However, the feel of 4WS is slightly different from other tractors. Practice driving in a wide, safe area.
- Never operate the tractor or its attachments when visibility is diminished by darkness or bad weather; your ability to see obstacles will become impaired.
- Watch out for rocks, roots, holes and other obstacles that may cause the Tractor to overturn.
- This tractor and its attachments are intended for use on relatively flat terrain.
- It is illegal to operate this tractor on public streets, roads, or highways.
- It is legal in some areas to operate a tractor without a U.S.D.A. qualified spark arrester. Check local laws and regulations before operating. An optional spark arrester for this product is available from your authorised Honda tractor dealer.

-
- When operating the tractor on a slope, always drive up and down the face of the grade. Turning or driving across the face of a slope may cause the tractor to overturn.
 - To avoid loss of control or overturning, always reduce speed and exercise extreme caution when operating on sloping or uneven surfaces.
 - Attempting to change gears while operating the tractor on a slope may adversely affect vehicle stability and control and severe personal injury could result.
 - Do not back down, or rapidly accelerate up, a sloping surface.
 - To avoid loss of control or overturning, do not turn or stop on sloping surfaces.
 - When descending a slope, disengaging the clutch or shifting to neutral can cause a loss of control that may result in severe personal injury.
 - Do not operate the tractor near the edge of a ditch or an embankment. Slipping off the edge could lead to severe personal injury and equipment damage.

To avoid injury to yourself and others, before leaving the Tractor unattended, ALWAYS.

- park on level ground.
- disengage the power take-off.
- lower the attachment(s).
- Lock the parking brake.
- stop the engine.
- and remove the key.
- If you find it necessary to park on a grade, be sure to lock the parking brake and securely block the wheels.
- Be sure to follow the instructions below whenever applying the differential lock.
 - Be sure that the main transmission lever is set in 4th gear or lower, and reduce engine speed before applying the differential lock.
 - Do not apply while turning the tractor.
Use the lock only when driving straight ahead.
 - Do not rest your foot on the lock pedal while the lock is not in use.
 - Never apply while driving on a paved surface.

MAINTENANCE SAFETY

- Before performing maintenance/inspection, read the instructions thoroughly.
- Before cleaning, inspecting or servicing the tractor, be sure to
 - Move the P.T.O. lever to the "OFF" position and lower any attachments.
 - Stop the engine and remove the key.
 - Remove the spark plug cap.
- If you hit an object, stop the engine and inspect the Tractor and its attachments.
Fix any damage before you resume operation.
- Operating the tractor with damaged, worn or broken parts may result in severe personal injury.
- Leaves, grass clippings, oil and other combustible materials can become a fire hazard. Be sure the body, engine and drive mechanism areas are kept clean.
- All nuts, bolts and fasteners must be tight.
- Do not change the engine governor settings or the engine may be damaged.

STORAGE SAFETY

- To avoid the possibility of fire, allow the engine and exhaust system to cool before storing the tractor in an enclosed space or near combustible materials.
- When storing the tractor, be sure to apply the parking brake and remove the engine key.
- Drain all gasoline from the carburetor and fuel tank, and disconnect the battery ground cable.

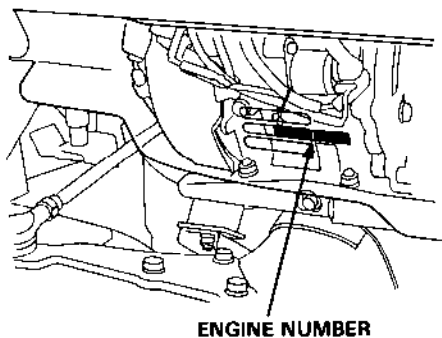
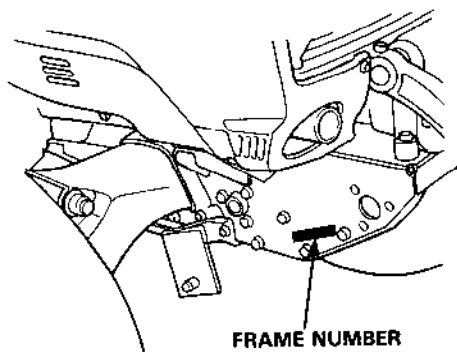
2. SERIAL NUMBERS

Record the frame and engine serial numbers for your reference. Refer to the serial numbers when ordering parts, and when making technical or warranty inquiries (see page 103).

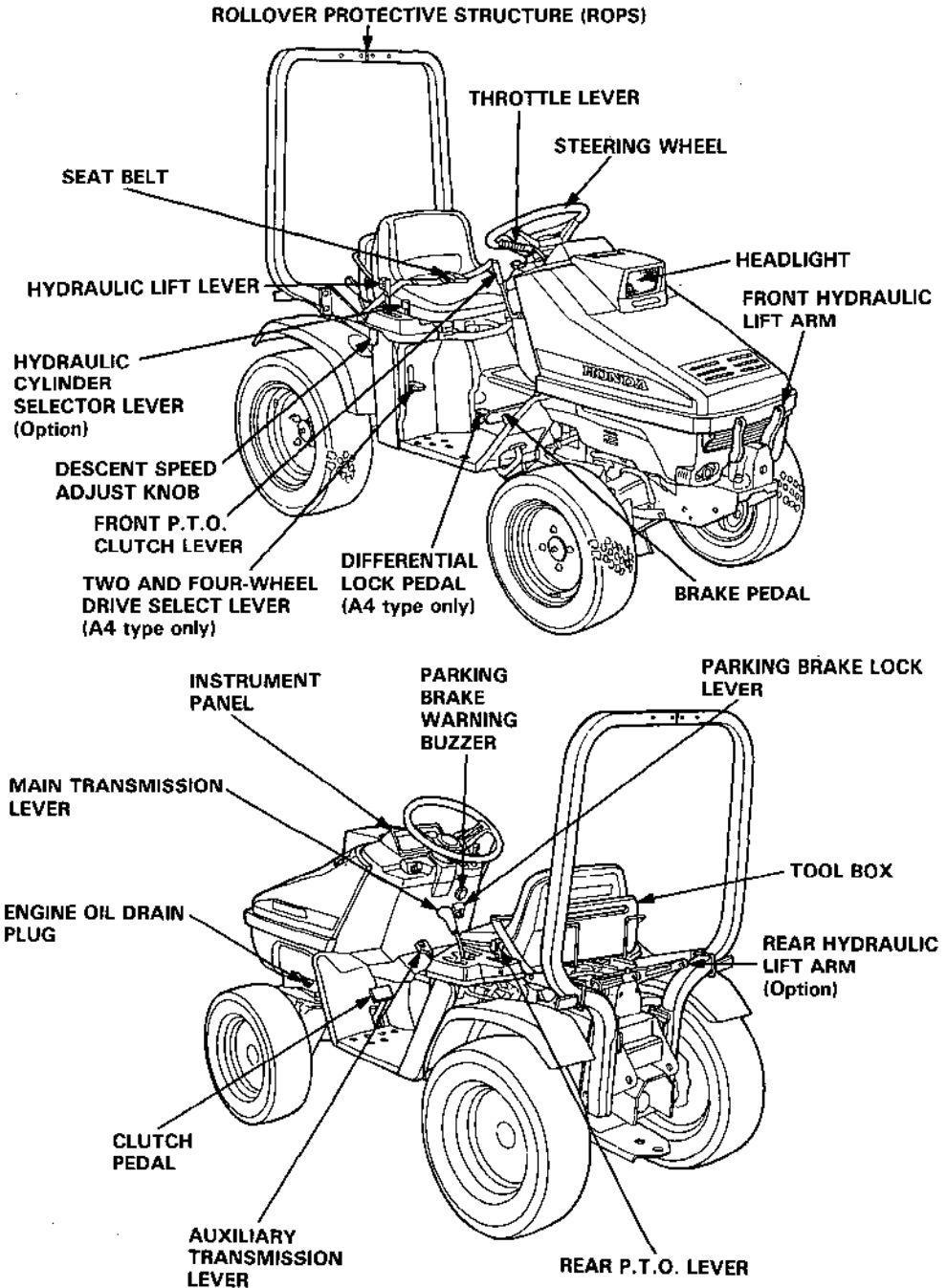
The frame serial number is stamped on the right side of the frame. The engine serial number is stamped under the starter motor (inside the engine compartment).

Frame serial number: _____

Engine serial number: _____

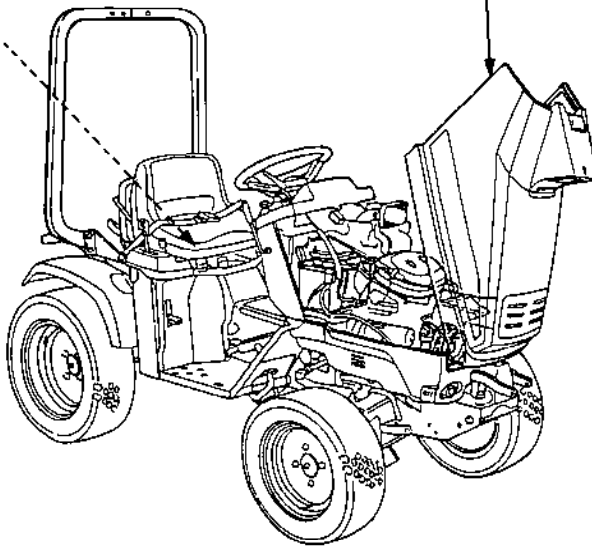


3. COMPONENT IDENTIFICATION



**HYDRAULIC SYSTEM
FLUID FILLER CAP**

ENGINE HOOD

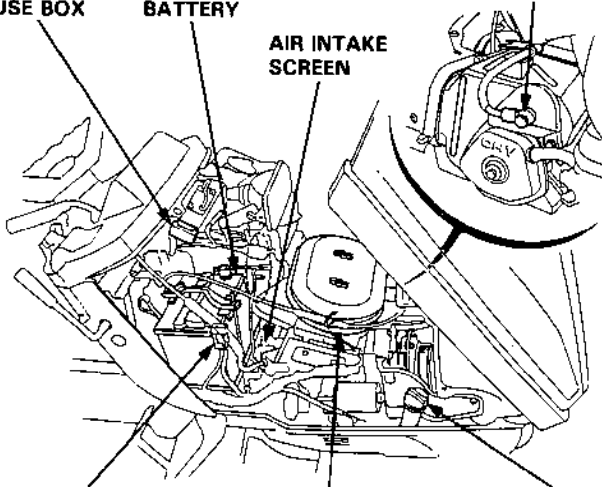


FUSE BOX

BATTERY

**AIR INTAKE
SCREEN**

SPARK PLUG CAP



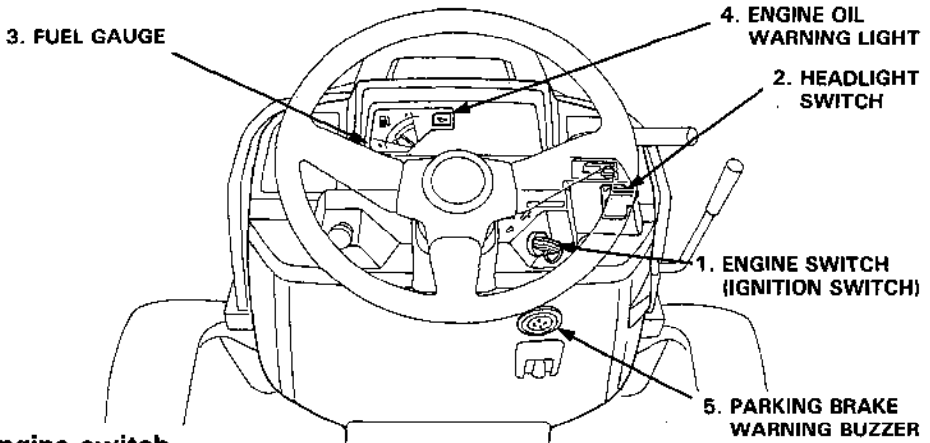
MAIN FUSE

AIR CLEANER

ENGINE OIL FILLER CAP

4. CONTROLS

INSTRUMENT PANEL



1. Engine switch

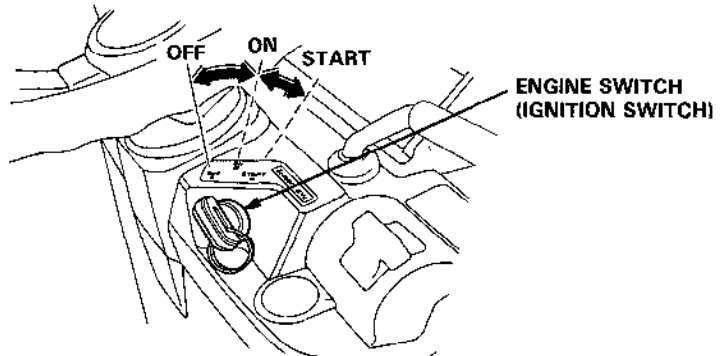
⚠ WARNING Always remove the key from the engine switch whenever the tractor is unattended to prevent children or unauthorized persons from starting the engine.

This tractor is equipped with an automotive type ignition switch, which controls all the electrical circuits.

Key positions: "START" to start the engine.

"ON" to run the engine after starting.

"OFF" to stop the engine (IGNITION OFF).



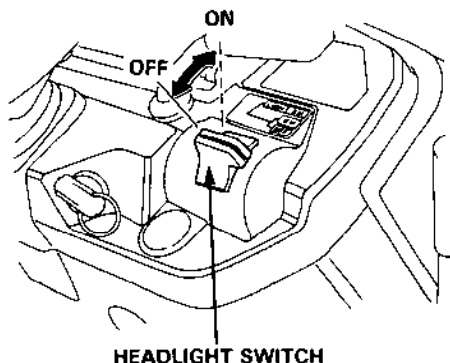
IMPORTANT NOTICE Do not leave the engine switch (ignition switch) "ON" (key on "ON" position) when the engine is not running as the battery will discharge.

NOTE: The starter motor will not work unless the main transmission lever is in "N (Neutral)" the front and rear P.T.O. levers are in the "OFF" position.

2. Headlight switch

The headlight switch turns the headlights ON and OFF.

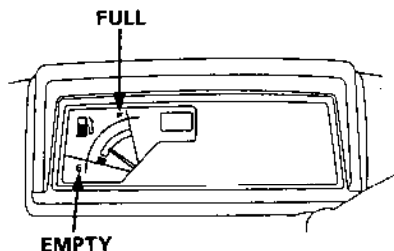
IMPORTANT NOTICE Poor visibility increases the risk of striking hidden objects. Reduce speed when operating the tractor in low light conditions.



3. Fuel gauge

The fuel gauge indicates the amount of fuel in the tank. It operates when the engine switch (ignition switch) is in the ON position.

NOTE: When the ignition switch is in the OFF position, the fuel gauge will indicate a faults fuel level.



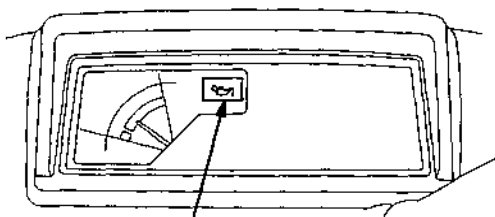
When the fuel gauge needle enters the "E" range, it indicates that the amount of remaining fuel in the tank is about 2.0 liters (0.5 gal). Refill as soon as possible.

4. Engine oil warning light

If the oil level falls below normal operating level while the engine is running, the warning light will come on.

As a test, the oil warning should also light when the engine switch is ON and it should go out after a few seconds. If the warning light comes on while the engine is running, stop the engine immediately, check the engine oil level and add enough of the recommended oil to bring the level to the upper mark on the dipstick (See page 27). If the oil warning light should come on, and the oil level is registering correctly on the oil dipstick, contact your authorized Honda tractor dealer before using the tractor.

IMPORTANT NOTICE Running the engine with insufficient oil level can cause serious engine damage.



ENGINE OIL WARNING LIGHT

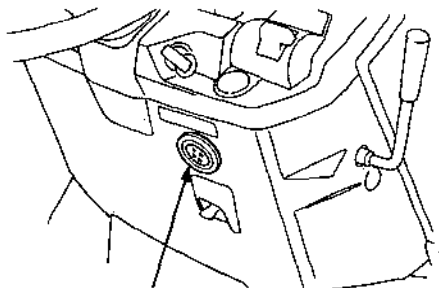
5. Parking brake warning buzzer

There is a parking brake warning buzzer to remind you to release the parking brake lock before driving the tractor.

The warning buzzer will sound continuously if the transmission is shifted into gear while the parking brake is locked.

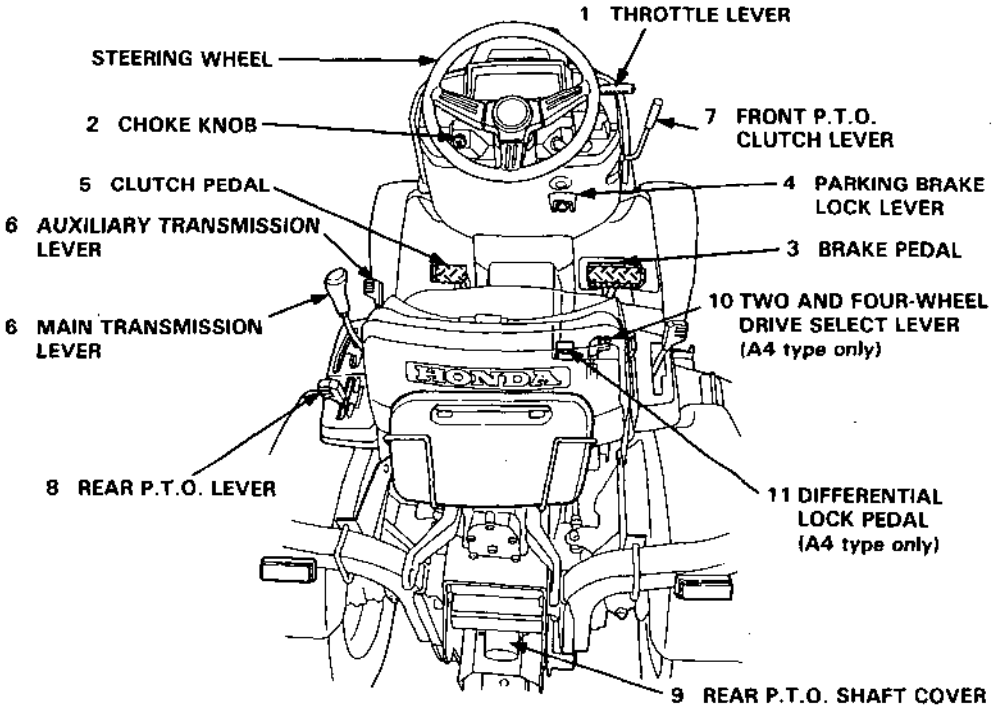
WARNING Operating the tractor with the parking brake locked will result in severe damage to the brake lining, and could lead to a complete brake system failure.

IMPORTANT NOTICE When washing the tractor, do not spray water directly into the warning buzzer holes.



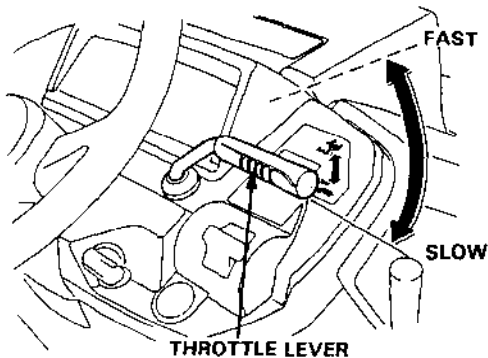
PARKING BRAKE WARNING BUZZER

DRIVE COMPONENTS



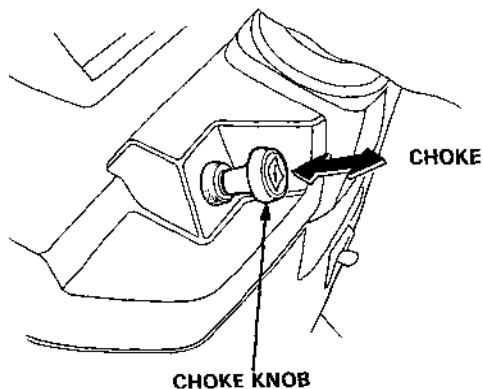
1. Throttle lever

The throttle lever controls engine speed from SLOW (idle) to FAST (max speed); it will stay in any designated position.



2. Choke knob

Operate the choke knob to start the engine when the engine is cold.



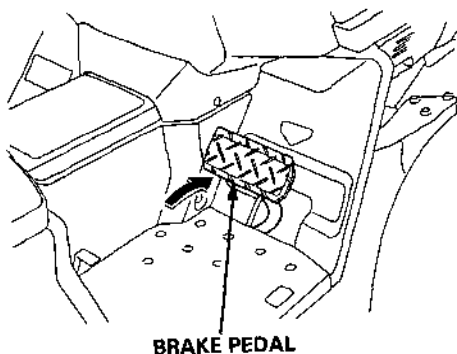
3. Brake pedal

The brake pedal is used to slow the tractor.

When you want to bring the tractor to a full stop, be sure to depress the clutch pedal first, then the brake pedal.

IMPORTANT NOTICE

- **Depressing the brake pedal hard while the tractor is being driven may cause damage to the tractor drive components unless the clutch pedal is depressed first.**
- **Driving the tractor with the brake pedal partly depressed can damage the brake lining.**

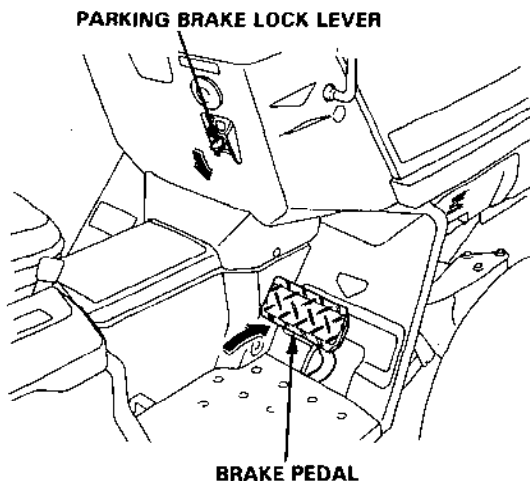


4. Parking brake lock lever

The parking brake lock lever is used when the tractor is stopped.

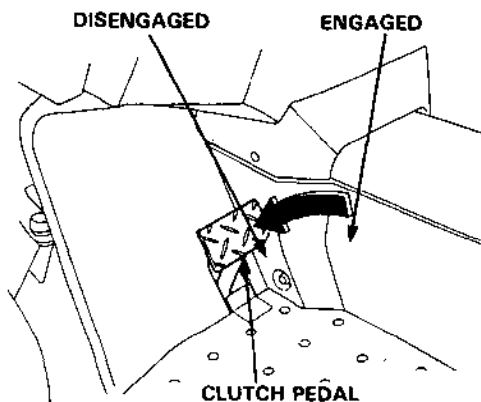
1. Firmly depress and hold the brake pedal.
2. Push and hold the parking brake lock lever.
3. Release the brake pedal and then release the parking brake lock lever.
4. To release the parking brake, push the brake pedal once.

▲ WARNING Operating the tractor with the parking brake locked will result in severe damage to the brake lining, and could lead to a complete brake system failure.



5. Clutch pedal

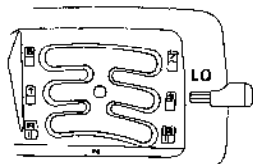
Depress the clutch pedal and come to a complete stop when operating the main transmission lever; auxiliary transmission lever, Two and Four-Wheel drive select lever or the rear P.T.O. lever.



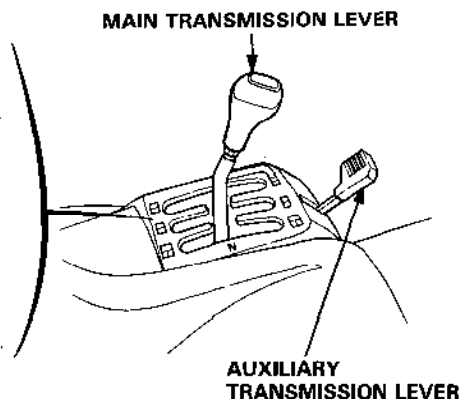
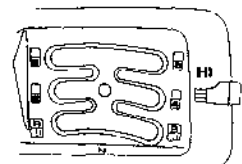
6. Main transmission lever/Auxiliary transmission lever

Eight forward and four reverse speeds can be selected by shifting the main and auxiliary transmission levers. For each slotted position of the main transmission lever, one of two speeds can be selected by either moving the auxiliary lever up (higher position) or down (lower position).

[LOW GEAR POSITION]



[HIGH GEAR POSITION]



IMPORTANT NOTICE

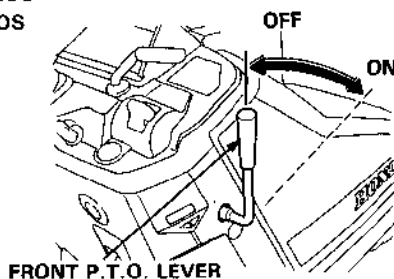
- Transmission damage can occur if the clutch pedal is not depressed first, before moving the shift levers.
- Do not operate the transmission levers while the tractor is moving. This can cause internal transmission damage.

7. Front P.T.O. clutch lever

The lever is used to engage or disengage the front P.T.O. (Power Take Off) shaft.

Lever in "ON" position—P.T.O. shaft rotates

Lever in "OFF" position—P.T.O. shaft stops



When engaging the front P.T.O., always use a quick, smooth motion to prevent premature wear.

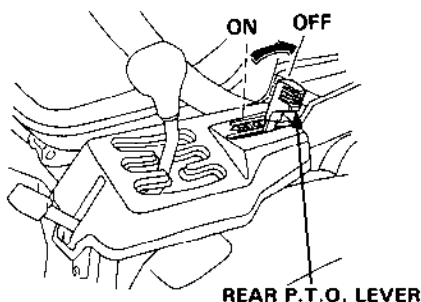
NOTE: An interlock switch prevents the engine from starting unless the P.T.O. clutch lever is in the OFF position.

8. Rear P.T.O. lever

The lever is used to engage or disengage the rear P.T.O. shaft.
The rear P.T.O. shaft rotates when the rear P.T.O. lever is set in the "ON" position and the clutch pedal is released.

Lever in "ON" position and clutch pedal is released—P.T.O. shaft rotates.
Lever in "ON" position and clutch pedal is depressed—P.T.O. shaft disengaged.

Lever in "OFF" position—P.T.O. shaft disengaged.



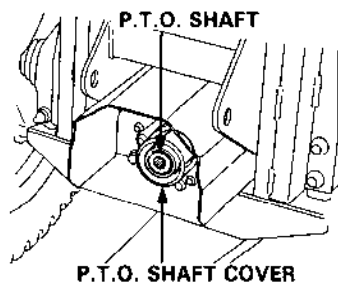
IMPORTANT NOTICE Before operating the P.T.O. lever, completely stop the tractor and depress the clutch pedal to avoid internal transmission damage.

NOTE: An interlock switch prevents the engine from starting unless the rear P.T.O. lever is in the "OFF" position.

9. Rear P.T.O. shaft/shaft cover

The rear P.T.O. shaft is a coupling device which is used to transmit power from the engine to an attachment installed at the rear of the tractor.
Install the cover over the shaft whenever the rear P.T.O. shaft is not used.

WARNING Operating the tractor without installing the cover over the shaft is very hazardous because clothing or other articles may be caught on the rotating shaft.

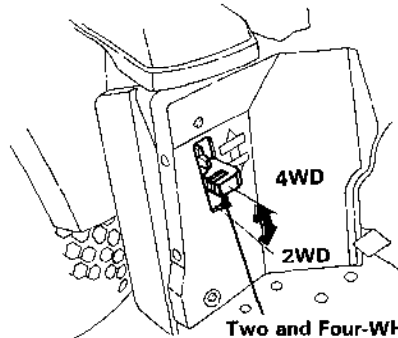


10. Two and four Wheel Drive Select Lever (A4 Type only)

Two and four wheel drive can be selected by operating this lever. To shift into four Wheel Drive, move the shift lever up to the four Wheel Drive position. For two Wheel Drive, move the shift lever down to the two Wheel Drive position.

IMPORTANT NOTICE Before shifting the lever, be sure to bring the tractor to a complete stop and depress the clutch pedal fully.

For operation of the two-and four-wheel drive select lever, refer to page 52.

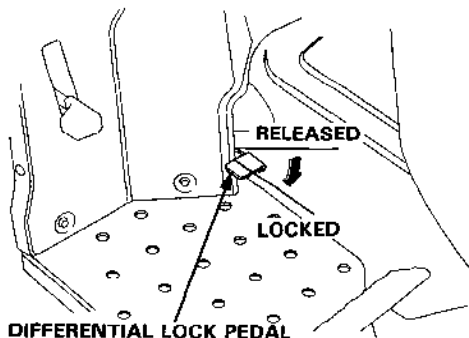


Two and Four-WHEEL DRIVE SELECT LEVER

11. Differential lock pedal (A4 Type only)

When greater straight-line traction is desired on loose or soft terrain, pushing and holding the pedal locks the differential, causing the rear wheels to rotate at the same speed. For normal operation, the pedal should be released (unlocked) so that the differential allows one rear wheel to rotate at a different speed than the other around curves.

To release the lock remove your foot from the pedal. For operation of the differential lock, refer to Page 50.

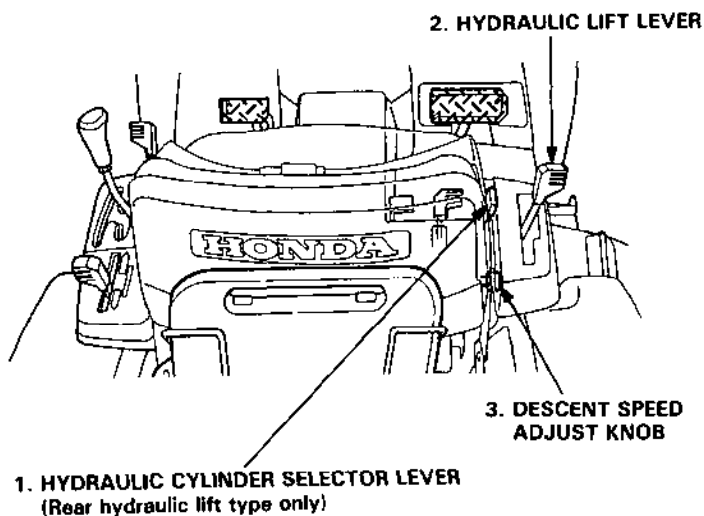


DIFFERENTIAL LOCK PEDAL

HYDRAULIC LIFT SYSTEM

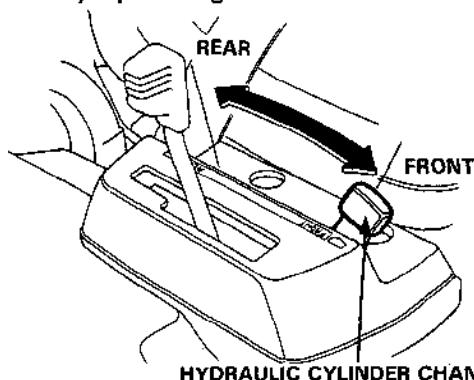
The front attachment can be lifted and lowered by operating the hydraulic lift lever, when the engine is running.

NOTE: On models equipped with a rear hydraulic lift unit, the front and rear attachments can be lifted and lowered by operating the hydraulic cylinder selector lever and hydraulic lift lever, when the engine is running, regardless of whether the clutch is engaged or not.



1. Hydraulic cylinder selector lever (Rear hydraulic lift type only, option)

The oil pressure from the oil pump can be changed to either the front or rear hydraulic system by operating this lever.



IMPORTANT NOTICE

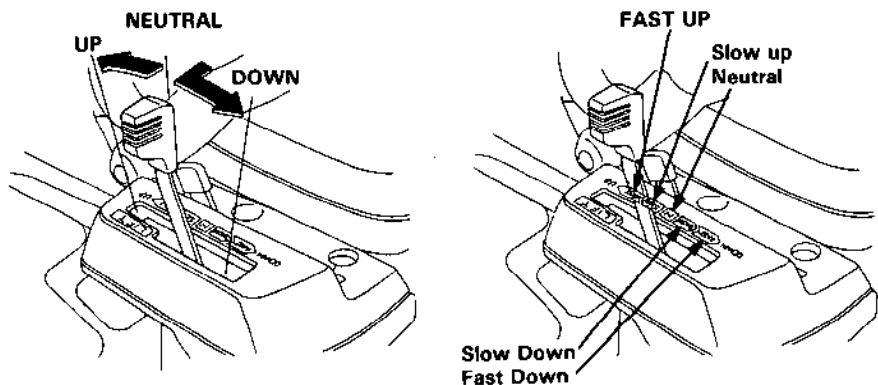
Always move the lever fully into the Front or Rear position. Leaving the lever halfway between these two positions may damage the hydraulic system or interfere with its normal operation.

Observe the following when operating the hydraulic cylinder selector lever:

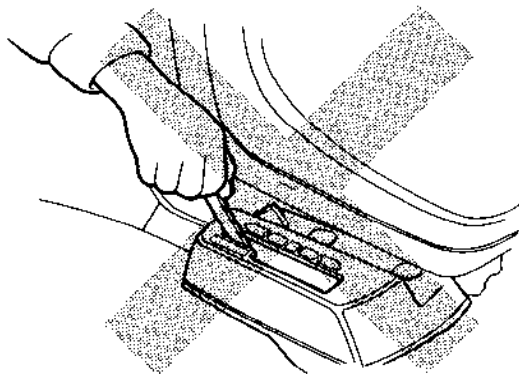
- 1. To prevent lowering of attachment, turn the descent speed adjust knob clockwise fully to SLOW.
- 2. Place the lift lever in the DOWN position.
- 3. Place the selector lever in the FRONT or REAR position.
- 4. Turn the descent speed adjust knob out as necessary to obtain the desired speed.

2. Hydraulic lift lever

The attachment can be raised and lowered by operating this lever. In the SLOW UP position, the attachment will lift slowly and in the FAST UP position, the attachment will lift quickly. In the SLOW DOWN position the attachment will lower slowly and in the FAST DOWN position the attachment will lower more quickly. In either DOWN setting, the attachment will be lowered even though the engine is stopped. The attachment will be stopped at its applied position when the lever is set in NEUTRAL.



IMPORTANT NOTICE Do not hold the lift lever in the FAST UP or SLOW UP position after the attachment is fully raised. Holding the lever in these positions can cause damage to the hydraulic system.



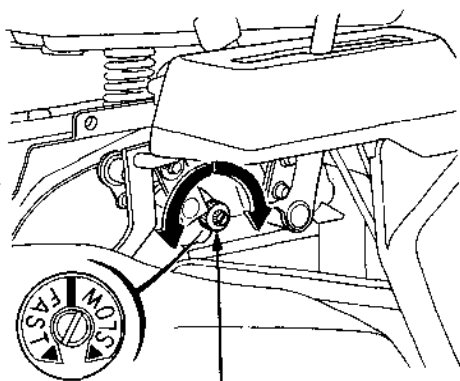
3. Descent speed adjust knob

Descending speed can be pre-adjusted to compensate for the weight of the attachment. Adjust the knob so that an attachment will be lowered to the ground from its highest position within 1-2 seconds with the lift lever in the FAST DOWN position.

Thus, lighter attachments may require more FAST pre-adjustment and heavier attachments may require more SLOW pre-adjustment. However, too much or too little pre-adjustment will limit the operating speed range selectable by the lift lever.

Before adjusting the descending speed, it is necessary to set the lift lever in NEUTRAL.

Turning the knob clockwise toward SLOW will decrease the speed, and turning it counterclockwise toward FAST will increase the speed. The attachment will not be lowered when this knob is turned fully to SLOW.



DESCENT SPEED ADJUST KNOB

CAUTION

- Before performing any inspection or adjustment pay particular attention to your safety as well as the safety of others.
- Always park the tractor on level ground with the park brake set.
- Lower the attachment and set the lift lever in NEUTRAL before adjusting descent speed.

IMPORTANT NOTICE

Do not overtighten the descent speed adjust knob.

When adjusting the descent speed, always make adjustment in increments of 1/4 turn or less. Adjustment range from SLOW-FAST approximately 4 full turns.

5. PRE-OPERATION CHECKS

For safe and efficient operation, always perform the pre-operation checks before using the tractor.

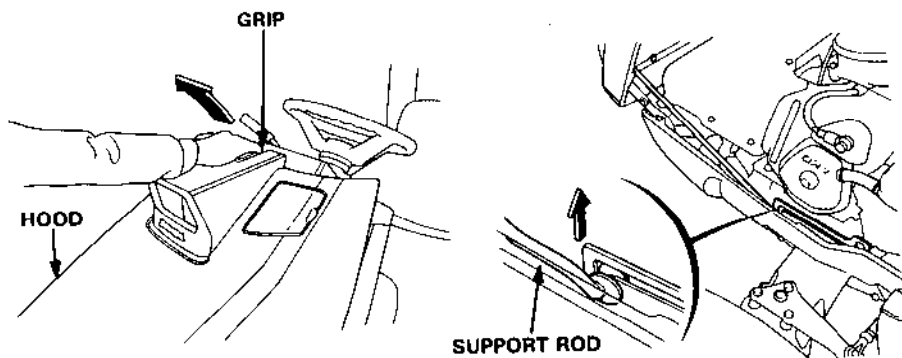
Follow the procedures below and check all of the following items before each use:

1. Park the tractor on a level surface.
2. Lock the parking brake, set the transmission lever in "N" (Neutral) and the front and rear P.T.O. levers in the "OFF" positions.
3. Disconnect the spark plug cap and remove the key to prevent accidental engine start-up.

⚠ WARNING If the engine is started accidentally while you are performing the pre-operation checks, moving parts may cause serious injury.

OPENING/CLOSING THE HOOD

- To open, pull up at the grip area until the hood support rod stops at the fully open position.
- To close, pull up on the hood slightly and release the support rod, then slowly lower the hood.



Engine oil level

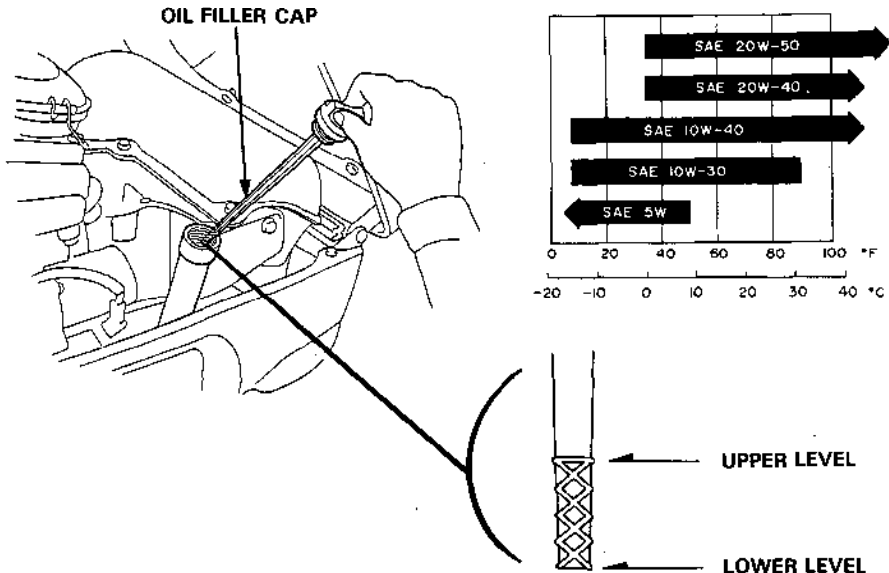
IMPORTANT NOTICE Running the engine with low oil level will cause serious engine damage.

1. Place the tractor on a level surface.
2. Open the hood, remove the oil filler cap and wipe the dipstick clean.
3. Insert the dipstick into the oil filler neck, but do not screw it in.
4. Check the oil level shown on the dipstick. If near or below the lower level mark, fill to the upper level mark with the recommended oil.
5. Install the oil filler cap securely.

Use high-detergent, premium quality 4-stroke engine oil, certified to meet or exceed U.S. automobile manufacturer's requirements for API Service Classification SG, SF/CC, CD.

IMPORTANT NOTICE Using nondetergent oil or 2-stroke engine oil could shorten the engine's service life.

SAE 10 W-30 is recommended for general, all-temperature use. Other viscosities shown in the following chart may be used when the average temperature in your area is within the indicated range.

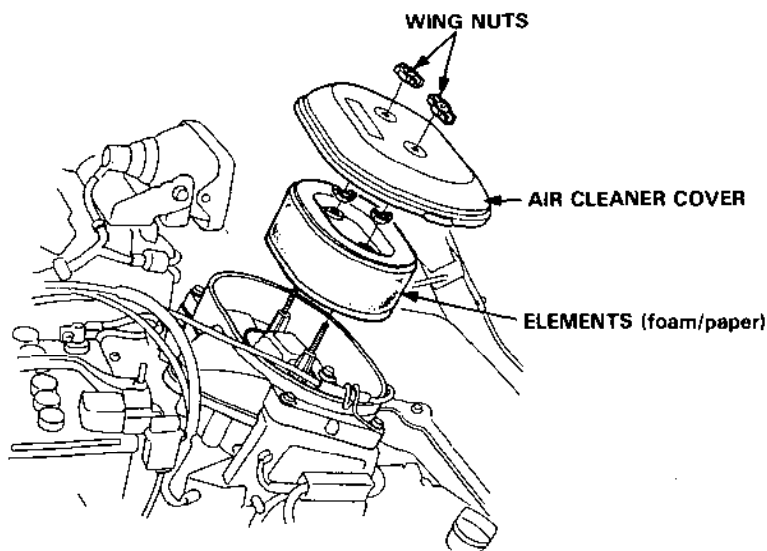


Air cleaner elements

Check that the air cleaner elements are clean and in good condition. A dirty air cleaner will restrict air flow to the carburetor, reducing engine performance. A damaged air cleaner will allow dirt to enter the engine, causing rapid engine wear.

1. Open the hood, and remove the wing nuts to remove the air cleaner cover.
2. Inspect the air cleaner elements. Clean or replace the elements if necessary. If the air cleaner elements need cleaning, follow the procedure described on page 78.
3. Reinstall the air cleaner elements and air cleaner cover.

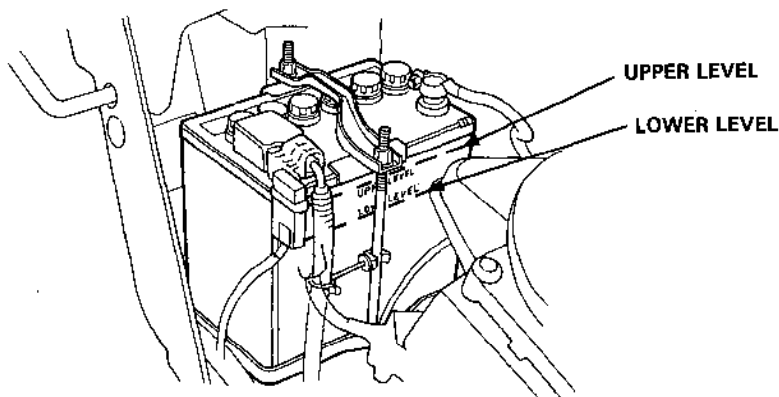
IMPORTANT NOTICE Operating the engine without an air cleaner will cause rapid engine wear. Engine damage caused by a poorly maintained, damaged or missing air filter, is not covered by the distributor's limited warranty.



Battery electrolyte level

Open the hood, and check the battery electrolyte level.

The electrolyte level must be kept between the UPPER and LOWER level marks. If the electrolyte level is near the LOWER mark, remove the battery filler caps and carefully add distilled water to each cell until the liquid reaches the upper level line (see page 81).



⚠ WARNING Batteries produce explosive gases. Flames or sparks can cause an explosion, causing serious injury or blindness. Keep flames and sparks away and provide adequate ventilation when charging.

- **CHEMICAL HAZARD:** Battery electrolyte contains sulfuric acid. Contact with eyes or skin, even through clothing, may cause severe burns. Wear a faceshield and protective clothing.

ANTIDOTE: If electrolyte gets into your eyes, flush thoroughly with warm water for at least 15 minutes and call a physician immediately.

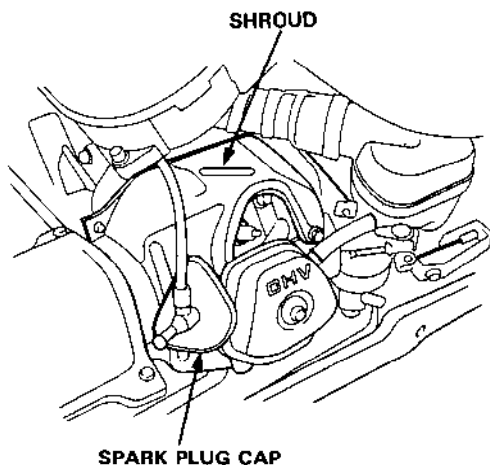
- **POISON:** Electrolyte is poison.

ANTIDOTE

- External: Flush thoroughly with water.
 - Internal: Drink large quantities of water or milk.
Follow with milk of magnesia or vegetable oil, and call a physician immediately.
- **KEEP OUT OF REACH OF CHILDREN.**

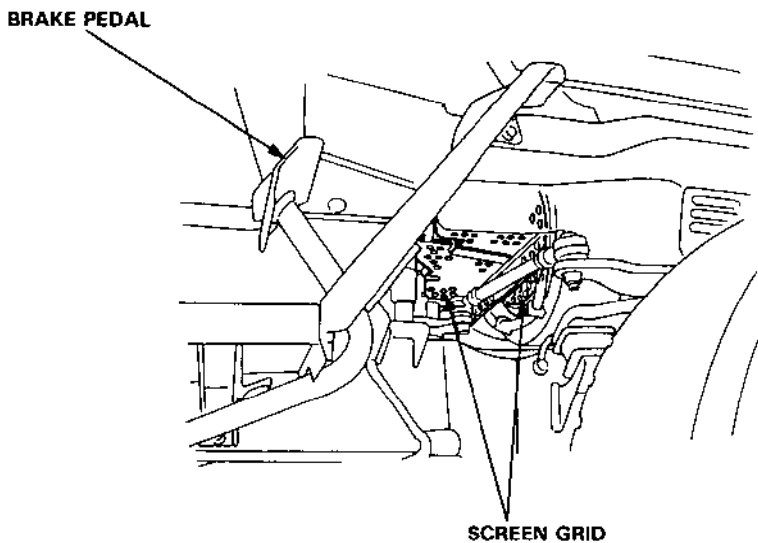
Cooling shroud

Remove the spark plug cap and clean any dirt from the shroud.



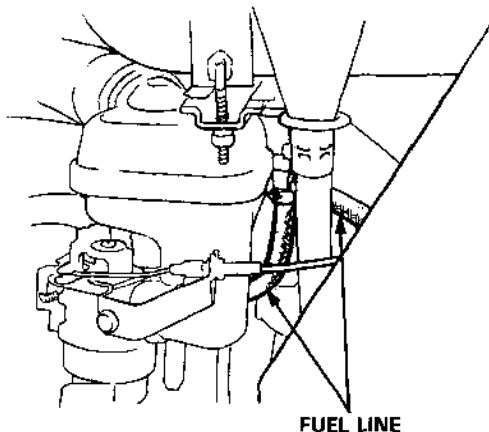
Air intake screen.

Remove any debris from the screen grid.



Fuel leakage

Visually inspect the fuel line for cracks or fuel leakage. If there is any sign of cracks or fuel leakage, contact your authorized Honda tractor dealer to have it repaired.

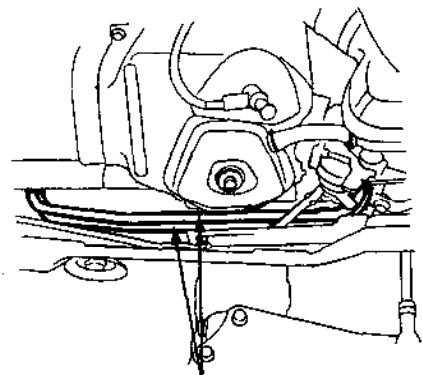


Hydraulic lift system oil leakage

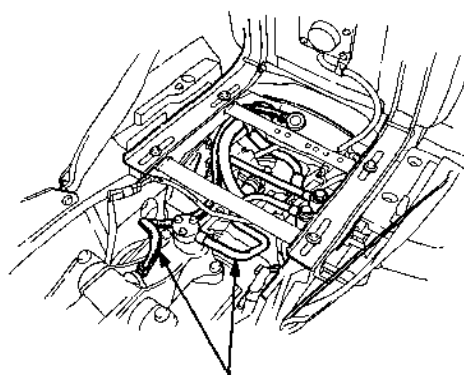
Open the hood, raise the seat, and visually inspect the oil line for cracks or oil leakage with the engine OFF.

If there is any sign of cracks or oil leakage, contact your authorized Honda tractor dealer to have it repaired.

⚠ WARNING Escaping hydraulic fluid under pressure can penetrate the skin causing serious injury. Avoid checking the oil lines while the engine is running as it is very hazardous.



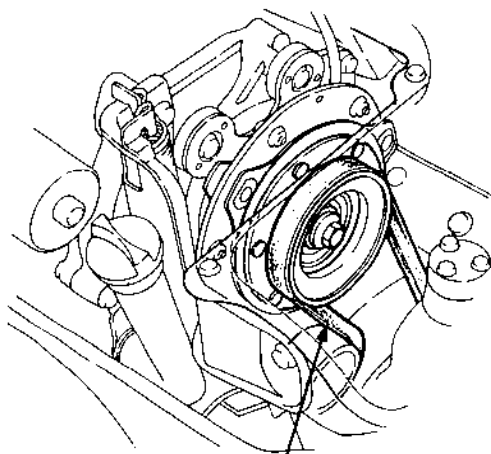
OIL LINE



OIL LINE (Option)

Front P.T.O. belt

Visually inspect the front P.T.O. belt for wear or damage. If worn or damaged, contact your authorized Honda tractor dealer to have it serviced.

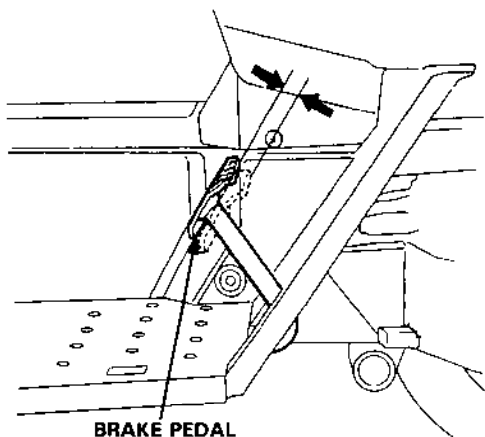


FRONT P.T.O. BELT

Brake pedal free play

Measure the brake pedal free play from fully released to the point you can feel the brake begin to take hold. Free play should be 15–35 mm (0.6–1.4 in).

Consult your authorized Honda tractor dealer if free play is out of specification, or the brake does not operate properly.

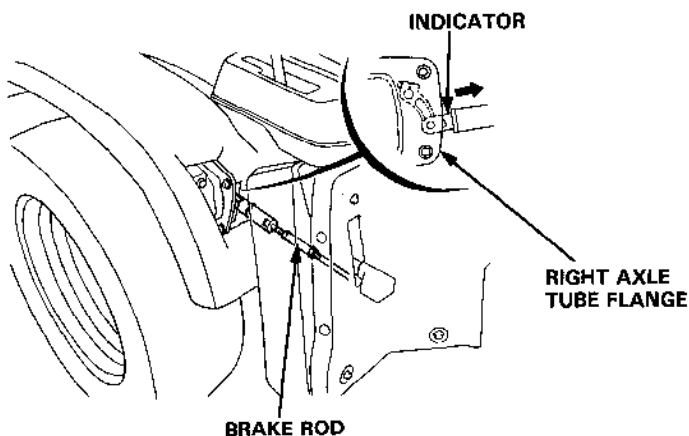


BRAKE PEDAL

Brake wear indicator

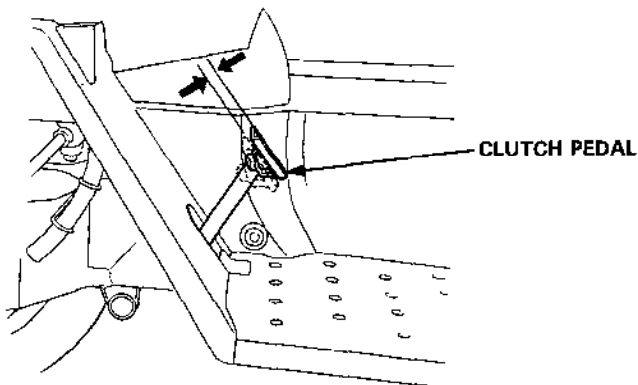
Inspect brake lining condition every time the tractor is used. Firmly set the parking brake, and then check the position of the brake wear indicator. If the wear indicator line up with right axle tube flange, consult your authorized Honda tractor dealer for repair.

IMPORTANT NOTICE Under no circumstances should the tractor be operated if the brake lining is at or past the service limit.



Clutch pedal free play

Measure the clutch pedal free play from fully released to the point you can feel resistance. Free play should be 2–15 mm (0.08–0.6 in). If free play is out of specification, consult your authorized Honda tractor dealer.

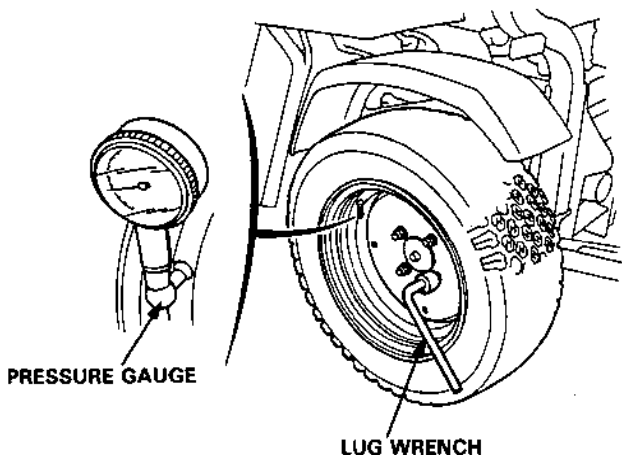


Tires/Wheels

- Check the tire pressure with a pressure gauge.
Tire pressure: Front 1.0 kg/cm² (14.2 psi)
Rear 0.8 kg/cm² (11.4 psi)
- Check that the lug nuts on each wheel are securely tightened.
Torque: 13 kg-m (94 ft-lb)

IMPORTANT NOTICE Every day, check the lug nuts daily for security for the first 20 hours of operation, and retighten if necessary. Thereafter, re-check and retighten them every 50 hours.

- Check side wall and tread surface of each tire for cracks, damage, or excessive wear.



Hydraulic lift system fluid

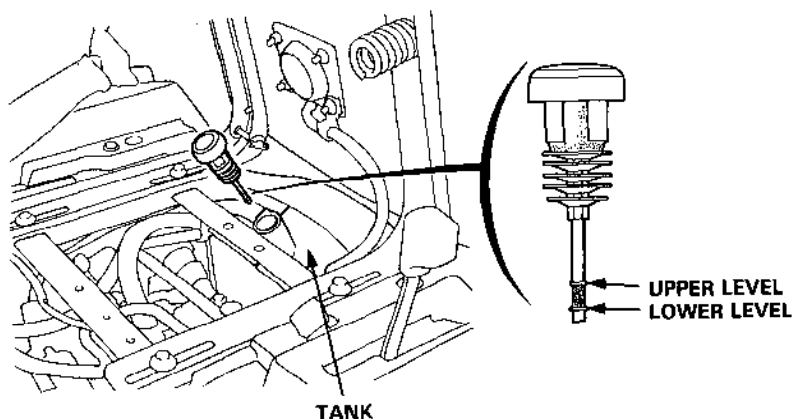
IMPORTANT NOTICE Before performing this inspection, lower the front and rear (option) lift arms fully and confirm they are at their lowest positions. If the tractor is not equipped with any attachment, lower the lift arms by pushing them down by hand with the hydraulic lift lever set in the **FAST DOWN** position.

Remove the filler cap, wipe off the dipstick and reinsert it until the dipstick is fully seated. Remove it again, and if the level is near the lower level mark, add the specified fluid to the upper level.

IMPORTANT NOTICE Do not fill the tank beyond the upper level. If this level is exceeded, it will result in an excessive rise in the fluid temperature and overflow of the fluid, and subsequent damage to the hydraulic system. Do not leave the fluid under the lower level.

Recommended fluid: HONDA power steering fluid

Use of any fluid other than HONDA power steering fluid, can result in hydraulic system damage.



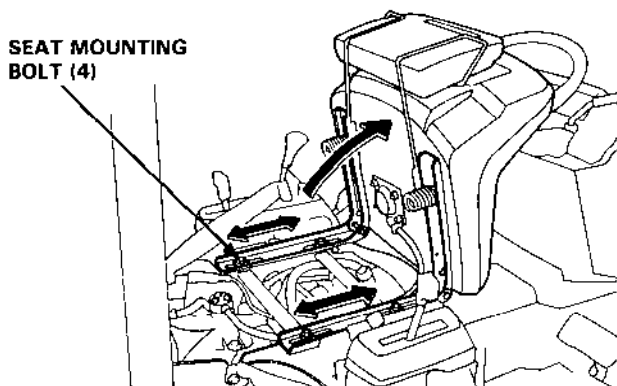
NOTE: If the fluid level drops rapidly or repeatedly, the system requires service by an authorized HONDA tractor dealer.

Seat adjustment

Make sure the seat and seat bolts are properly adjusted and securely mounted.

If necessary:

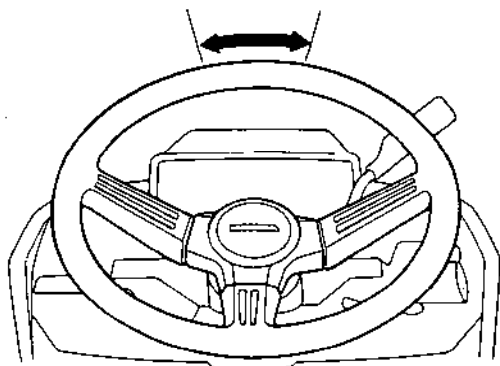
1. Loosen the four seat mounting bolts.
2. Move the seat to a position that allows you to reach all controls easily and comfortably.
3. Tighten the seat mounting bolts securely.



Steering

Check the steering free play with the wheels straight ahead. There should be less than 30 mm (1.2 in) of steering wheel rotation before the front wheels start to turn.

Push the steering wheel up and down, and in and out; There should be no measurable movement.



Fuel level

Turn the engine switch (ignition switch) ON and check the fuel gauge. Refill the tank if the fuel level is low. Remove the filler cap and add gasoline up to the lower edge of the filler neck.

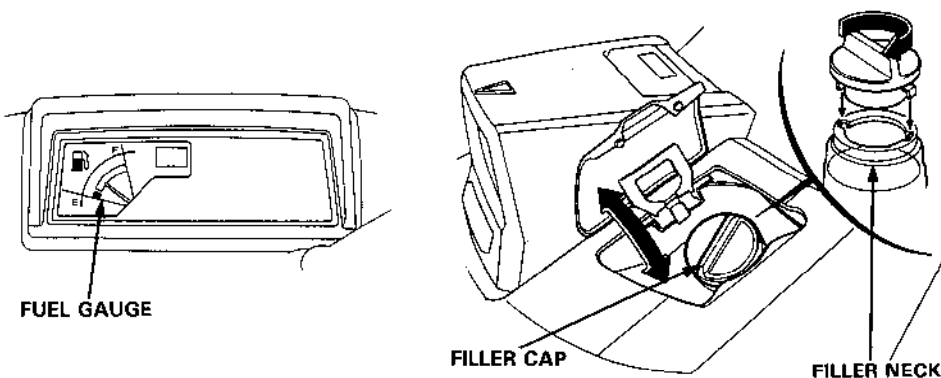
Fuel tank capacity: 8.5 ℓ (2.2 US gal).

⚠ WARNING

Gasoline is extremely flammable, and gasoline vapor can explode. Use extreme care when handling gasoline. Keep gasoline out of reach of children.

- Refuel in a well ventilated area with the engine stopped. Keep flames and sparks away, and do not smoke in the area.
- Gasoline vapors or spilled gasoline may ignite.
- Refuel carefully to avoid spilling gasoline. Avoid overfilling the fuel tank (there should be no gas in the filler neck). After refueling, tighten the gas cap securely. If any gasoline was spilled, make sure the area is dry before starting the engine.
- After use, park the utility tractor on a level surface. Be sure the storage area is well ventilated, do not allow flames or sparks in the storage area.

After refueling, be sure to tighten the fuel tank cap firmly.



Gasoline Recommendation

Pump octane rating: 86 or higher

We recommend the use of unleaded gasoline because it produces fewer engine and spark plug deposits and extends the exhaust system life.

If "spark knock" (metallic rapping noise) or persistent "pinging" occurs at a steady engine speed under normal load, change brands of gasoline. If spark knock or pinging persists, see an authorized Honda tractor dealer.

IMPORTANT NOTICE Running the engine with persistent spark knock or pinging can cause engine damage.

Running the engine with persistent spark knock or pinging is considered misuse, and the Distributor's Limited Warranty does not cover parts damaged by misuse.

Occasionally you may hear light spark knock while operating under heavy loads. This is no cause for concern. It simply means your engine is operating efficiently.

Never use stale or contaminated gasoline or an oil/gasoline mixture. Avoid getting dirt or water in the fuel tank.

GASOLINES CONTAINING ALCOHOL

If you decide to use a gasoline containing alcohol (gasohol), be sure its octane rating is at least as high as that recommended by Honda (see Gasoline Recommendation on page 38). There are two types of "gasohol": one containing ethanol, and the other containing methanol.

⚠ CAUTION Using gasohol that contains more than 10% ethanol, or gasoline containing methanol (methyl or wood alcohol) that does not also contain cosolvents and corrosion inhibitors for methanol, can cause serious fuel system damage and poor engine performance.

Never use gasoline containing more than 5% methanol, even if it has cosolvents and corrosion inhibitors.

Honda cannot endorse the use of gasoline containing methanol since evidence of its suitability is as yet incomplete.

NOTE: Fuel system damage or engine performance problems resulting from the use of gasoline that contains alcohol is not covered under the warranty.

Before buying gasoline from an unfamiliar station, first determine if the gasoline contains alcohol; if it does, find out the type and percentage of alcohol used.

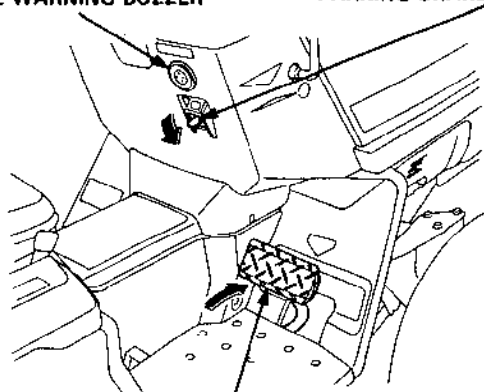
NOTE: If you notice any undesirable operating symptoms while using a gasoline that contains alcohol, or one that you think contains alcohol, switch to a gasoline that you know does not contain alcohol.

Parking brake

Make sure that the parking brake and buzzer system operate properly. Turn the engine switch (ignition switch) ON, move the main transmission lever to any gear position (other than NEUTRAL), push the brake pedal and apply the parking brake lock lever. The buzzer should sound until the parking brake is released or the shift lever is moved to NEUTRAL.

PARKING BRAKE WARNING BUZZER

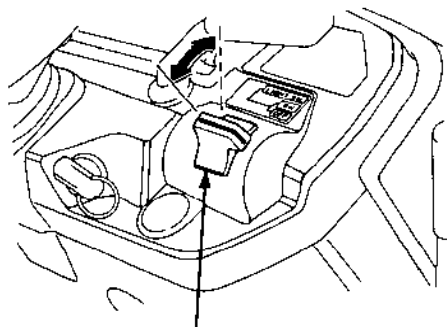
PARKING BRAKE LOCK LEVER



BRAKE PEDAL

Headlight

Turn the engine switch ON and check the headlight by operating the headlight switch.



HEADLIGHT SWITCH

Safety interlock system

▲WARNING Before inspecting, ensure that the area in front of and behind the tractor is clear of people, pets and obstacles.

This tractor is equipped with a series of inhibitor switches which prevent the engine from being started unless the proper operating procedures are followed. Observe the following procedures to check the inhibitor switches.

▲WARNING Do not operate the tractor if there are any abnormalities in the system, or in the operation of the switches. An accident or severe personal injury could result.

Consult your authorized Honda tractor dealer.

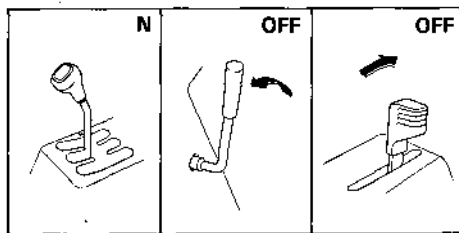
To check the system, sit in the seat, and lock the parking brake.

To prevent accidental engine start up, be sure to remove the spark plug cap from the spark plug when performing the inspection procedures 1 to 4.

— 1. Oil level warning switch

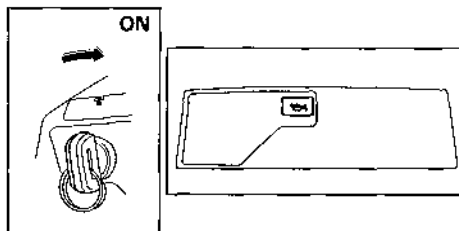
(1) Put the main transmission lever into NEUTRAL, and move the front and rear P.T.O. levers to OFF position.

(2) Turn the engine switch (ignition switch) ON.



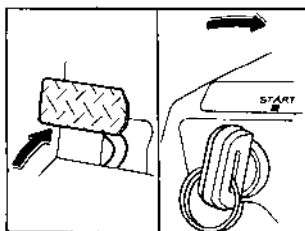
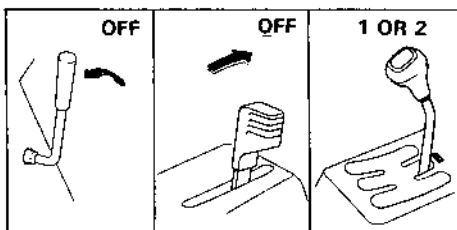
After the engine switch (ignition switch) has been turned ON, check the oil level warning light to see that it goes on, for few seconds and then goes out.

Return the engine switch (ignition switch) key to OFF.



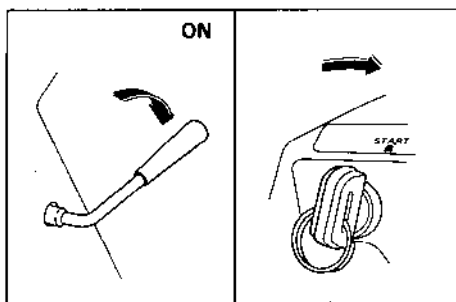
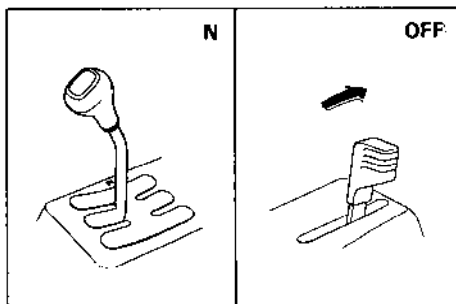
— 2. Neutral switch

- (1) Move the front and rear P.T.O. levers to the OFF position.
- (2) Place the main transmission lever in "1" or "2."
- (3) Depress the brake pedal enough to release the parking brake.
- (4) With the brake pedal and clutch pedal held down, turn the engine switch (ignition switch) key to START. The starter should not operate.
- (5) Put the main transmission lever into NEUTRAL.
- (6) Return the engine switch (ignition switch) key to OFF.



— 3. Front P.T.O. switch

- (1) Move the main transmission lever to NEUTRAL, and the rear P.T.O. lever to OFF.
- (2) Move the front P.T.O. clutch lever to ON.
- (3) Turn the engine switch (ignition switch) key to START. Make sure that the starter does not operate.
- (4) Move the front P.T.O. clutch lever OFF.
- (5) Return the engine switch (ignition switch) key to OFF.



— 4. Rear P.T.O. switch

- (1) Move the main transmission lever to NEUTRAL, and the front P.T.O. clutch lever to OFF.
- (2) Move the rear P.T.O. lever to ON.

NOTE: If difficulty is encountered in shifting the rear P.T.O. lever, operate the starter for 2 or 3 seconds by turning the engine switch (ignition switch) key to **START**.

Do not depress the clutch pedal during this operation.

- (3) Turn the engine switch (ignition switch) key to **START**.

The starter should not operate.

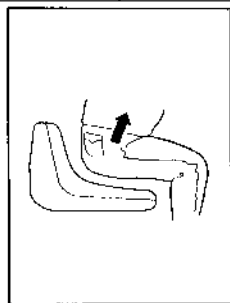
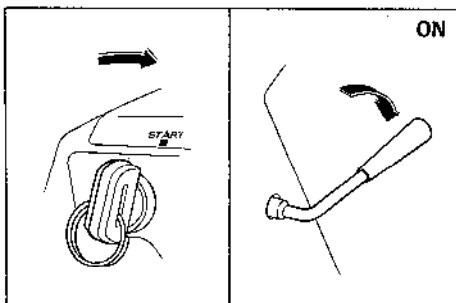
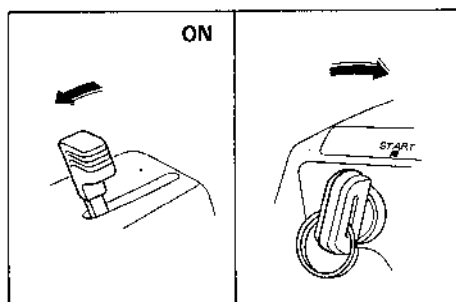
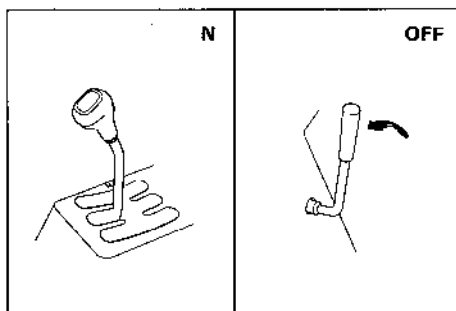
- (4) Move the rear P.T.O. lever **OFF**.

- (5) Return the engine switch (ignition switch) key to **OFF**.

— 5. Seat switch

NOTE: To make this inspection, it is necessary to start the engine. Attach the spark plug cap to the spark plug securely. To start, refer to the procedures described on Page 45.

- (1) Lock the parking brake and put the main transmission lever in **NEUTRAL**.
- (2) Move the front and rear P.T.O. levers **OFF**.
- (3) Start the engine.
- (4) Move the front P.T.O. lever to **ON**.
- (5) Rise up slightly off the seat. The engine should stop as soon as your weight leaves the seat.
- (6) Return the front P.T.O. lever to **OFF** and turn off the engine switch (ignition switch) key.



Hydraulic lift system

NOTE:

- To make this inspection, it is necessary to start the engine; refer to the procedures described on Page 45.
- This inspection should be made with an attachment mounted on the tractor.
- The check procedure is the same for the front or rear attachment lifts. Check either, by selecting the appropriate hydraulic cylinder selector lever position.

(1) Start the engine.

(2) Set the hydraulic cylinder selector lever in FRONT or REAR (option).

(3) Move the lift lever to FAST or SLOW UP position, then release your hand from the lever.

Check that the lift lever returns to NEUTRAL.

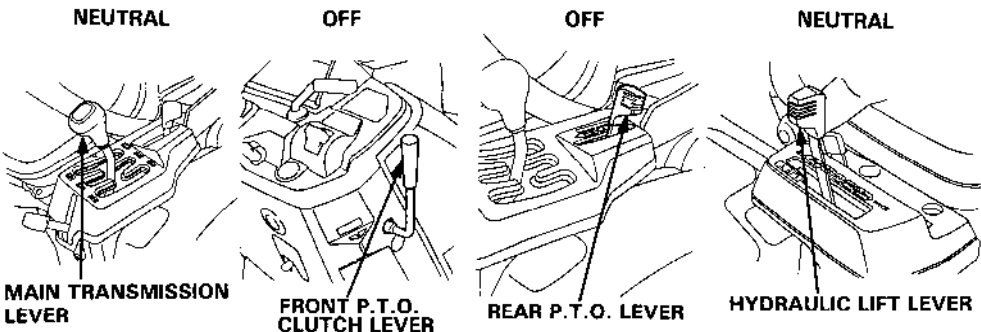
(4) Check that the attachment is lowered when the lift lever is moved to the DOWN or SLOW DOWN position.

(5) Check the descent speed and adjust descent speed if necessary, see page 25.

1. Starting the engine

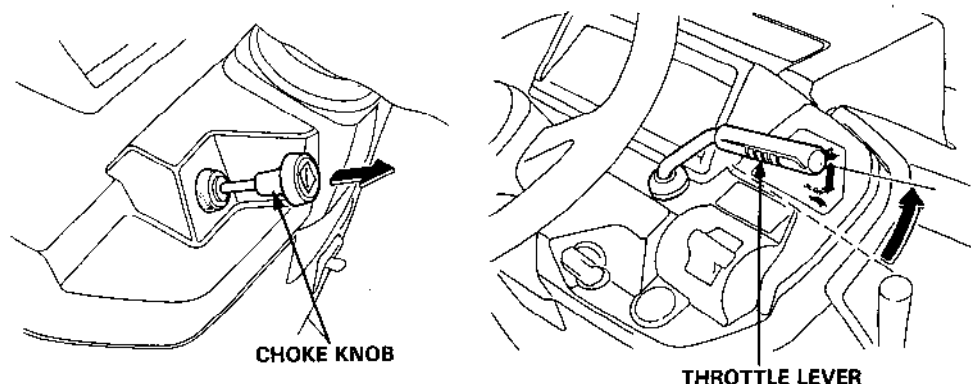
▲ WARNING Exhaust contains poisonous carbon monoxide gas that may cause loss of consciousness and lead to death. Never run the engine in an enclosed area. Be sure to provide adequate ventilation.

1. Sit on the seat and check that the parking brake lock lever is set.
2. Make sure the main transmission lever is in **NEUTRAL**, both the front and rear (option) P.T.O. levers are **OFF** and the lift lever is in the center (**Neutral**) position.

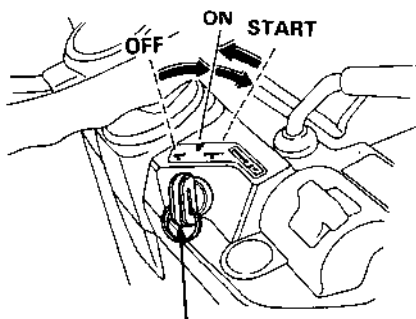


3. Pull the choke knob all the way out and move the throttle lever to the middle (1/2) position.

NOTE: When the engine is warm or the air temperature is high, do not use the choke.



- Turn the engine switch (ignition switch) key to "START" and release the key when the engine starts.



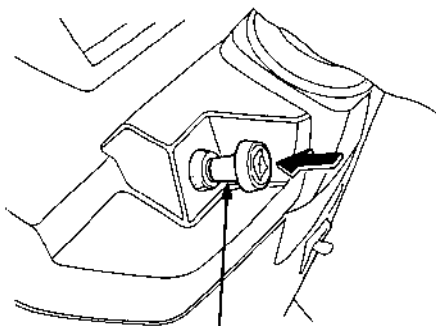
ENGINE SWITCH (IGNITION SWITCH) KEY

IMPORTANT NOTICE

Running the starter motor for more than 5 seconds can damage the motor.

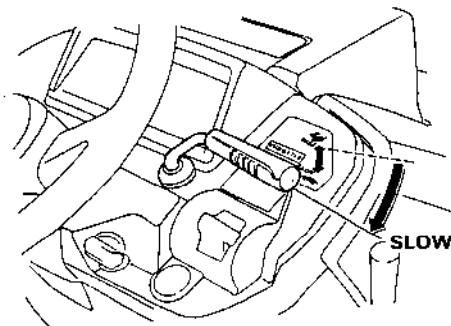
If the engine fails to start, release the engine switch (ignition switch) key, and wait at least 10 seconds before operating the starter motor again.

- As the engine warms up, gradually push the choke knob to the OFF position.



CHOKE KNOB

- As the engine stabilizes, gradually move the throttle lever to the SLOW position.



2. Starting/driving

▲WARNING Before operating the Tractor or its attachments, read and understand the tractor safety instructions (pages 6–9).

– 1. Wearing the seat belt.

▲WARNING

- Wear the seat belt whenever operating the tractor with the Rollover Protective Structure attached.
- Use of either device (seat belt or ROPS) without the other will increase the chance of injury in a rollover.

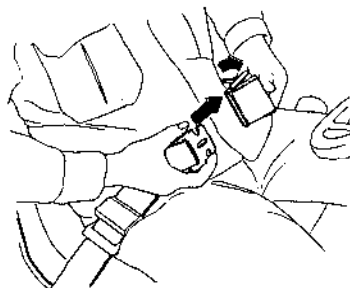
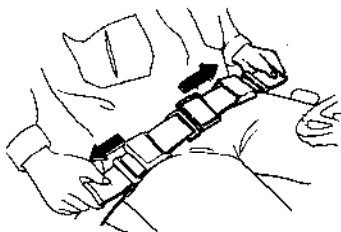
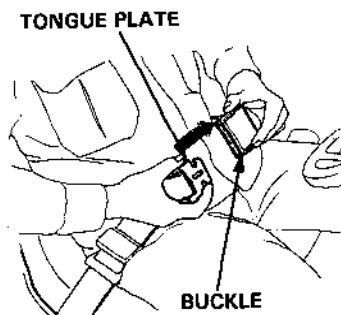
Make sure that the seat belt is not twisted or kinked.

Push the tongue plate into the buckle until it clicks.

Sit erect and well back in the seat. Then adjust the belt to a snug fit by pulling out on the ends of the belt so the buckle is at the center of your body.

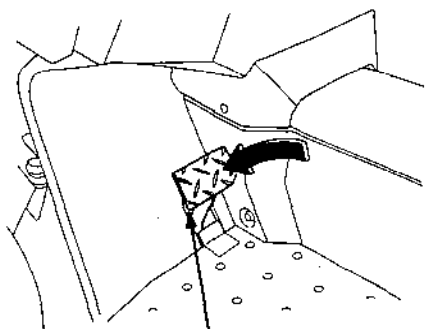
To release the seat belt, pull up on the buckle latch and pull out the tongue plate.

▲WARNING Be sure that the belt is not twisted before fastening. The seat belt should be adjusted as snug as possible to provide proper protection.

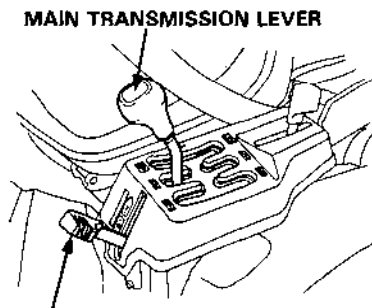


-
2. Depress the clutch pedal and place the main and auxiliary transmission levers in the desired gear range for operation.

NOTE: When the main transmission lever is engaged, a warning buzzer will sound to notify the driver if the parking brake is applied.



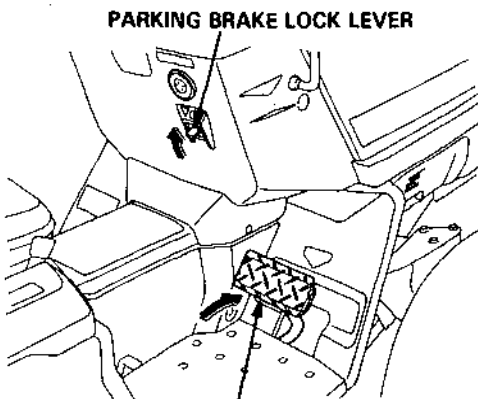
CLUTCH PEDAL



MAIN TRANSMISSION LEVER

AUXILIARY TRANSMISSION LEVER

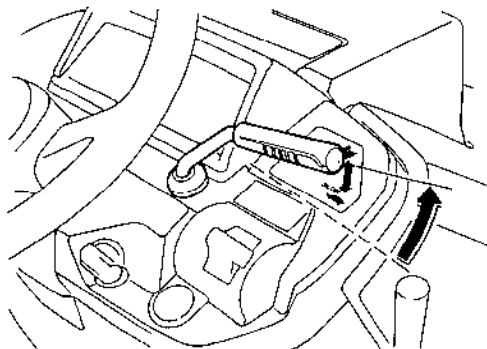
3. Depress the brake pedal and release the parking brake lock lever.



PARKING BRAKE LOCK LEVER

BRAKE PEDAL

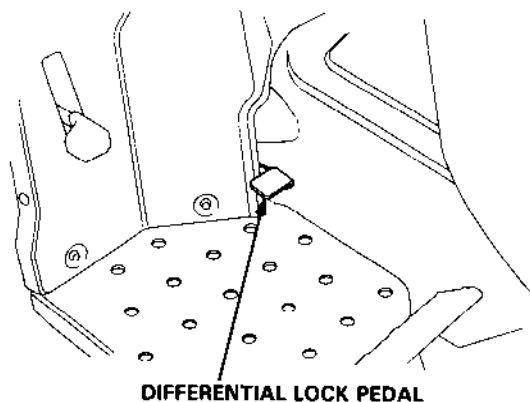
4. Raise the throttle lever slightly and slowly release the clutch pedal.



⚠ WARNING Always release the clutch pedal slowly when starting the tractor in motion. Sudden starts can damage the equipment or cause loss of vehicle control that may result in severe personal injury. Do not start out suddenly or with the steering wheel turned to one side.

IMPORTANT NOTICE Do not rest your foot on either the clutch pedal or differential lock pedal while the tractor is in motion. This can cause premature wear or damage of the clutch and differential lock.

3. How to use the differential lock (A4 Type only)



⚠ WARNING When used properly, the differential lock is extremely convenient. However, unskilled operation could cause the vehicle to overturn; it could also damage the drive train. Take care when using the differential lock.

The differential lock is most useful in situations where a slippery or loose surface causes one of the rear wheels to lose traction.

Operation

1. Shift the main transmission lever into 4th or lower gear range.
2. With the steering wheel held straight-ahead, depress and hold the differential lock pedal. As long as you continue to depress the pedal, the differential lock will be applied.

-
3. To release the differential lock, remove your foot from the lock pedal, bring the tractor to a full stop, shift the main transmission from FORWARD to REVERSE or vice versa, and drive a short distance.

⚠ WARNING The differential lock must be released before operating the tractor on hard surfaces or slopes, or while turning. Otherwise the tractor may overturn, causing severe personnel injury.

⚠ CAUTION

To avoid damage to transmission mechanism.

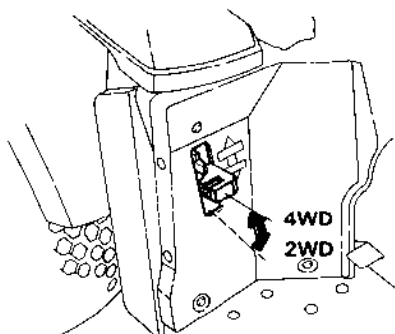
- Do not apply the differential lock while the wheels are turning.
- Do not rest your foot on the differential lock pedal unless you want to engage the differential lock.
- Do not apply the brake and the differential lock at the same time.
- Check that the differential lock has been released after you have finished using it.
- Do not apply the differential lock while driving at high speed.
- Do not apply the differential lock on a hard packed surface.

4. Two and Four Wheel Drive (A4 Type only)

Two and four wheel drive can be selected by operating the two- and four-wheel drive select lever.

Prior to shifting, set the steering wheel in the straight-ahead position, bring the tractor to a complete stop and depress the clutch pedal fully.

NOTE: If difficulty is encountered in shifting the lever, re-engage the gears by driving the tractor a short distance in FORWARD with the clutch engaged.



We recommend that you select the two wheel drive and the four wheel drive according to the terrain and conditions.

2-WHEEL DRIVE	Mowing and transport (when extra traction is not required)
4-WHEEL DRIVE	Towing, Operation on slope or soft ground, Operation with attachment installed (Especially when powerful driving force and braking force are required.)

IMPORTANT NOTICE

- To prevent damage to the transmission mechanism, bring the tractor to a full stop before operating the shift lever.
- Driving in 4-WHEEL DRIVE range or application of the differential lock on paved road or surface could cause premature wear on the tires; it could also impair fuel economy.
- When driving in four wheel drive, you have 4-wheel braking. When shifted into two wheel drive you have 2-wheel braking (rear only).

5. Turning

This tractor has Four Wheel Steering, read the following information carefully.

▲ WARNING Turning the tractor at excessive speed especially on uneven terrain can cause the tractor to tip over and you can be injured. Slow down before turning.

To prevent accidental tip over:

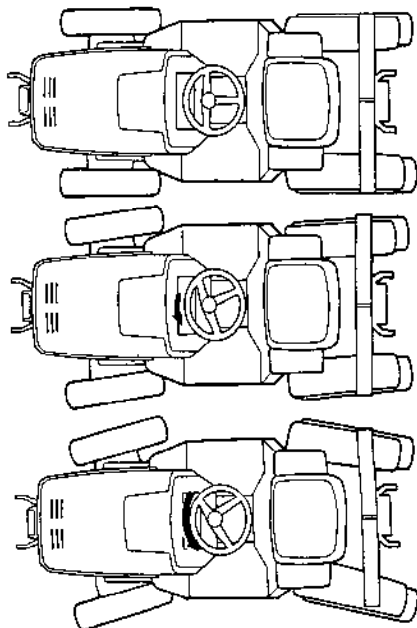
- Never make abrupt starts while the wheels are turned.
- Slow down before making sharp and/or hard turns.
- Avoid sharp turns in rutty or uneven terrain.
- Engaging the differential lock while making sharp turns can cause you to lose steering control.
- Be sure to raise ground engaging attachments (rotary tillers, disk harrows, moldboard plows, etc.), before executing sharp turns. If the attachment is not raised, you can damage the tractor and/or the attachment.

IMPORTANT NOTICE

- Rear attachments swing out in a larger arc than the tractor, and can strike nearby objects.
- Use care when turning the tractor near a wall or other obstructions when a rear mounted attachment is being used. 4-wheel steering allows the tractor to turn in a very small radius.

Explanation of 4-Wheel Steering

- Steering wheel in straight ahead position:
- Steering wheel slightly turned: Both the front and rear wheels turn in the same direction.
- Steering wheel fully turned: Rear wheels turn in the opposite direction of the front wheels, to produce the maximum steering angle.



6. ATTACHMENT LIMITATIONS

Use of Honda attachments is recommended. If an attachment exceeds the limits shown below or it is not suited to H5013, or if the counterweights used do not conform to the sizes and weights specified in "Counterweight Table", they may not only endanger operators or equipment but also prevent you from taking the fullest advantage of your tractor.

Never use attachments which exceed sizes and weights specified.

Never use counterweights other than those specified in Counterweight Table.

Any malfunction or damage to the tractor is unwarrantable if it is the consequence of use of attachments not specified or recommended by Honda.

• Attachment Limitations

Max. allowable load at end

of lower link

Attachment weight

Trailer load

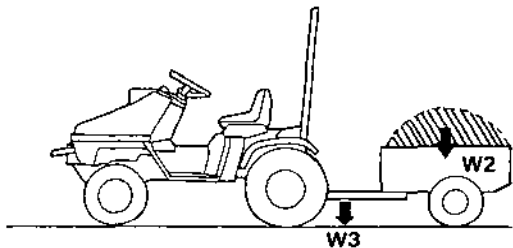
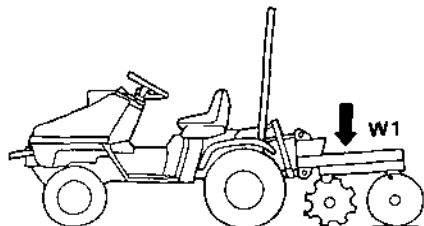
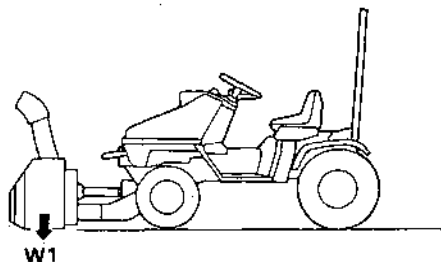
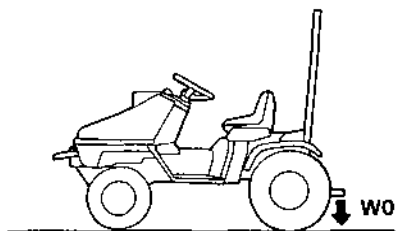
Tongue weight

Max. lifting force at lift point: W_0

Max. attachment weight which
can be lifted hydraulically: W_1

Total weight of trailer and max.
allowable load on trailer: W_2

Total weight or downward force
on pivot point: W_3



Max. load at lower link end (W0)		250 kg (551 lbs)	Installation should be based on "COUNTERWEIGHT TABLE." (see page 58)
Max. weight of attachment (W1)		140 kg (309 lbs)	
Trailer	Max. load (W2)	363 kg (800 lbs)	Weight of trailer included
	Tongue weight (W3)	20 ± 9 kg (45 ± 20 lbs)	As down force

Size and Weight Limits by Attachments

Attachment		Item	Weight and Size Limits
Rotary Mower	Mid 3-blade	Max. cutting width Max. weight	1,170 mm (46 in.) 60 kg (132 lbs)
Snow Blower		Max. intake width Max. weight	1,070 mm (42 in.) 100 kg (220 lbs)
Snow Dozer		Max. blade width Max. weight	1,170 mm (46 in.) 50 kg (110 lbs)
Rotary Tiller		Max. cultivating width Max. weight	1,070 mm (42 in.) 140 kg (309 lbs)
Plow		Max. size	300 mm (12 in.) x 1
Disc Harrow		Max. cultivating width Max. weight	1,320 mm (52 in.) 100 kg (220 lbs)
Cultivator		Max. size	1,220 mm (48 in.) (single row)
Trailer		Max. load	363 kg (800 lbs) (weight of trailer included)

NOTE: The above limits are applicable if only one attachment is used on the tractor.

- **Towing**

▲ WARNING

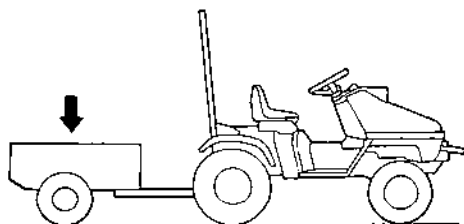
- **Never attempt to tow anything without a trailer hitch. Failure to use a proper hitch could cause the tractor to overturn resulting in severe personal injury or equipment damage.**
- **Never allow anyone to ride in the trailer.**
- **Traveling and turning at high speeds while towing a trailer or other attachment is dangerous. Use 1st gear when towing a trailer or attachment over rough ground.**
- **Avoid sudden starts and stops while towing. The momentum of the trailer or attachment could cause loss of control resulting in an accident and severe personal injury or equipment damage.**
- **The weight of a trailer increases stopping distances; use extra care, especially when operating on a slope.**

Use only those attachments which are designed for the use with this vehicle (Category 0). If you have any questions or doubts about the suitability of any other attachments, consult your authorized Honda tractor dealer.

IMPORTANT NOTICE

The removal of any rear attachment is necessary when using the draw plate for towing. If the rear attachment is not removed, damage to the tractor and/or the attachments can occur.

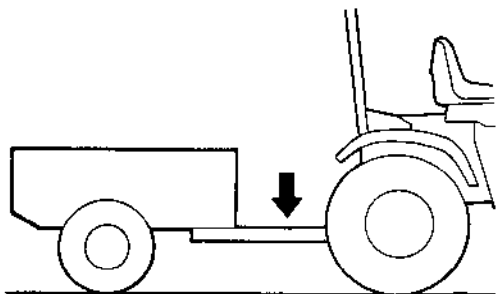
1. **Maximum towing weight:**
363 kg (800 lbs) including the weight of the trailer.



▲ WARNING

Exceeding the maximum towing weight could lead to loss of control and cause an accident resulting in severe personal injury or equipment damage.

-
2. Maximum tongue weight:
20 kg \pm 9 kg (45 lbs \pm 20 lbs)



⚠ WARNING If the trailer's load is unbalanced so that the tongue weight is incorrect, the tractor may overturn resulting in severe personal injury or equipment damage.

NOTE: Tongue weight is the downward force that the trailer exerts on the trailer hitch.

• Counterweight

When an attachment is fitted to the FRONT or REAR, the weight balance between front and rear wheels is lost, which may lead to instability while the vehicle is running (front wheel lift, etc.). To avoid this, it is necessary to fit a counterweight to regain front-rear wheel balance.

Make suitable counterweight settings according to the list below.

⚠ WARNING Under no circumstances should the total weight of the attachment, counterweights and wheel weights exceed 350 kg (780 lbs). Failure to follow this precaution may endanger yourself, and may cause damage to your tractor or shorten its service life.

The total number of the counterweights needed for each Honda attachment are shown in the table below.

Attachment	Manufacturer, Part number	Number of counterweights	
		4WD	2WD
Mid-Mount Rotary Mower	HONDA	None	None
Snow Blower	BER-VAC 42"	Rear: 8	Rear: 8
Snow Dozer	BER-VAC 48"	Rear: 5	Rear: 5
Rotary Tiller	BUSH-HCG 40"	Front: 4	Front: 4
Plow	BRINLY PP-1200	None	Rear wheel weight: 2 (one for each rear wheel)
Disc Harrow	BRINLY DD-1000	None	Rear wheel weight: 2 (one for each rear wheel) Front weight: 1
Cultivator	BRINLY 40"	None	Rear wheel weight: 2 (one for each rear wheel)
Trailer	—	None	Rear wheel weight: 2 (one for each rear wheel)

NOTE: This table is based on each counterweight weighing approximately 11 kg (25 lbs).

Use the table below and determine the number of the counterweights for the attachments other than listed in the previous page.

1. Rear Attachment and Counterweight Table

The number in the box indicates the number of counterweights required.

NOTE: This table is based on each counterweight weighing approximately 11 kg (25 lbs).

W \ L	600 mm (24 in)	800 mm (32 in)	1,000 mm (39 in)	1,200 mm (47 in)
40 kg (88 lbs)	0	0	0	1
60 kg (133 lbs)	0	0	1	2
80 kg (178 lbs)	0	1	2	3
100 kg (222 lbs)	1	2	3	4
120 kg (267 lbs)	2	3	4	5
140 kg (311 lbs)	3	4	5	*

L: Distance between center of attachment side wheel and center of gravity of attachment.

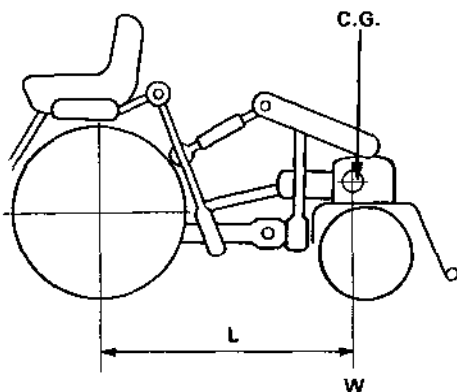
W: Weight of attachment

C.G.: Center of gravity

Any attachments which exceed the sizes and weights shown in the table to the left should not be used.

0: Counterweight unnecessary

*: Attachment should not be used



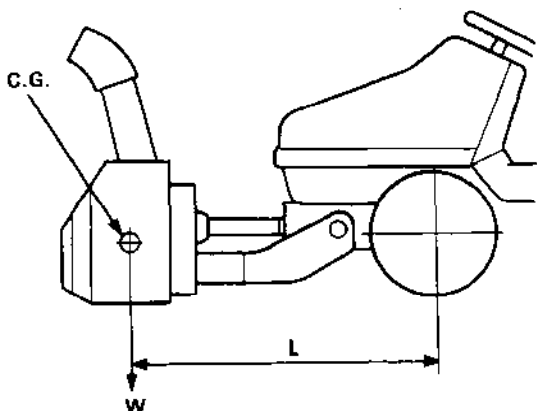
2. Front Attachment and Counterweight Table

The number in the box indicates the number of counterweights required.

NOTE: This table is based on each counterweight weighing approximately 11 kg (25 lbs).

W \ L	600 mm (24 in)	800 mm (32 in)	1,000 mm (39 in)	1,200 mm (47 in)	1,400 mm (55 in)
60 kg (133 lbs)	1	2	3	5	5
80 kg (178 lbs)	3	5	6	7	
100 kg (222 lbs)	5	7	8		
120 kg (267 lbs)	7	8			
140 kg (311 lbs)	8				

* Attachment should not be used.



7. Driving on a slope

Before starting up or down a long incline, select one of the lower gear ranges, so that tractor speed is reduced, but engine speed is high for maximum control.

▲ WARNING

- Driving across the face of a slope can cause the tractor to tip over and you can be injured. Always drive up or down a slope.
- Making turns on a slope can cause the tractor to tip over and you can be injured. Drive straight up or straight down slopes.
- Changing gears while driving on a slope can cause loss of control. Shift to a lower gear before approaching a slope.
- Engagement of the differential lock while driving on a slope can cause loss of control.
- Avoid parking on a slope. If necessary, apply the parking brake and place blocks on the downhill side of each wheel.

Refer to the table below for driving on a slope.

Typical Attachment	Without ATT	Mid ATT	Rr ATT	Fr ATT	Towing
Condition	Tractor	Mid-mount Rotary Mower	Rear Tiller	Front Snow Thrower	Trailer
Counter-weight and Wheel Weight	* See topic under COUNTERWEIGHT				
Towing Load	—	—	—	—	450 lb (200 kg) (Trailer included)
Max. Speed	6th (5.1 km/h, 3.2 MPH)				
Method of Driving (UP and Down)	Moving only	Moving and mowing	Moving only. Do not work	Moving only. Do not work	Do not stop on a slope

UPHILL STARTING PROCEDURE

If possible avoid stopping the tractor while driving uphill. If it is necessary to stop on a hill, follow the special procedure below when restarting:

▲ WARNING

- If this procedure is not followed when restarting on an uphill slope the tractor may roll backwards during clutch engagement, and this could cause it to tip over resulting in severe personal injury.
- Abruptly applying the brake pedal while the tractor is rolling backwards down a slope may cause the tractor to tip over.

- 1. Depress the brake pedal and hold it down.
- 2. Move the throttle lever to "FAST" position.
- 3. Depress the clutch pedal and then move the transmission lever to 1st gear position.
- 4. Release the clutch pedal first, then release the brake pedal.

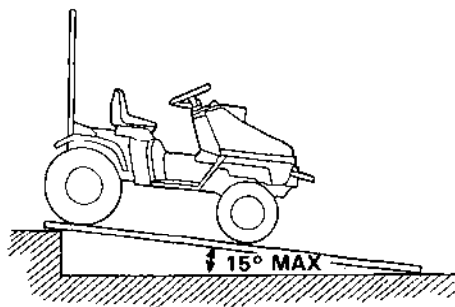
▲ WARNING

If the brake pedal is released before the clutch pedal, the tractor may go back down. Never make hard braking. It may cause the tractor to tip over.

7. Special Obstacles:

- 1. To safely cross drainage ditches or embankments, use a ramp to reduce the effective angle of the obstacle to less than 15°

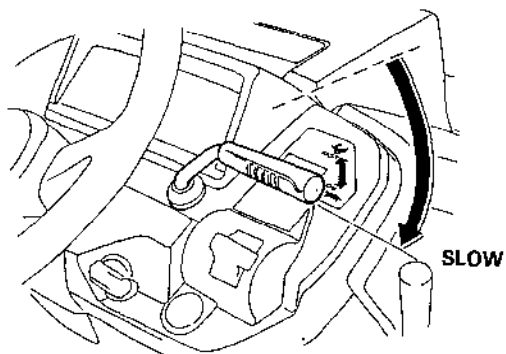
NOTE: If you feel that you cannot accurately judge angle of the ramps, we suggest that you obtain an inclinometer. This type of gauge is available at most hardware stores.



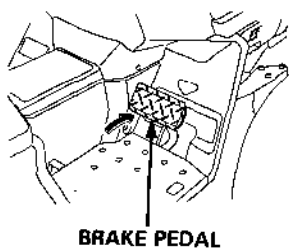
- 2. Avoid swampy or muddy areas deep enough to reach the center line of the wheels. The tractor can become stuck, especially if it is carrying attachments.

8. Stopping the engine

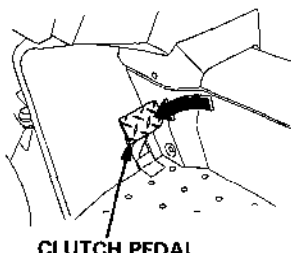
- In an emergency:
Turn the engine switch (ignition switch) OFF.
Depress the clutch and brake pedal.
- In normal use:
 - 1. Move the throttle lever to "SLOW."



- 2. Depress the clutch and brake pedals simultaneously.
Move the main transmission lever to "NEUTRAL".

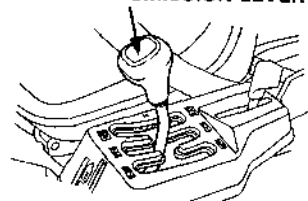


BRAKE PEDAL

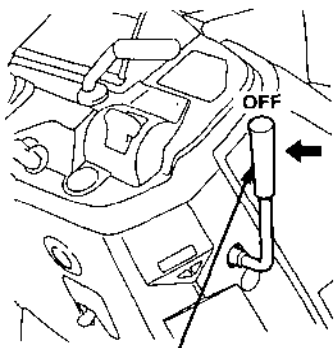


CLUTCH PEDAL

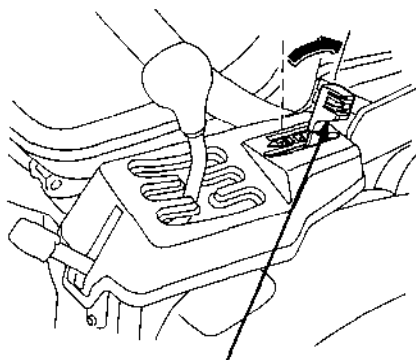
MAIN TRANSMISSION LEVER



- 3. Shift the front and rear P.T.O. levers to the "OFF" position.



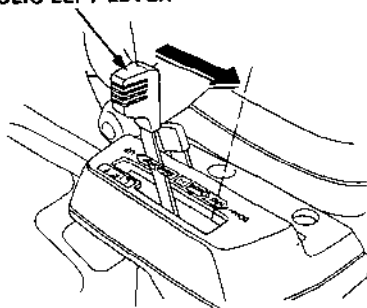
FRONT P.T.O. CLUTCH LEVER



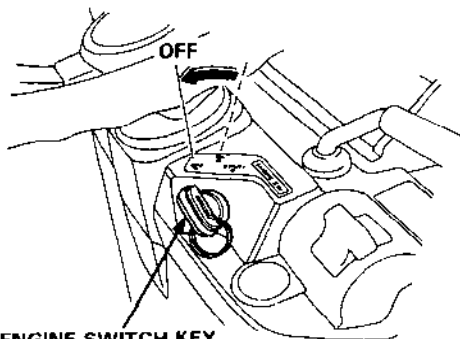
REAR P.T.O. LEVER

- 4. Lower any attachment to the ground with the hydraulic lift lever.

HYDRAULIC LEFT LEVER

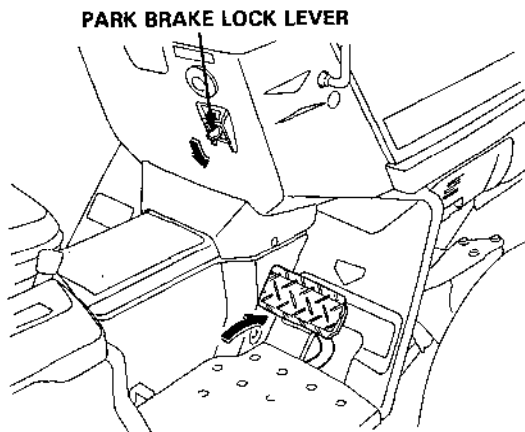


- 5. Turn the engine switch (ignition switch) to "OFF" and remove the key.



ENGINE SWITCH KEY

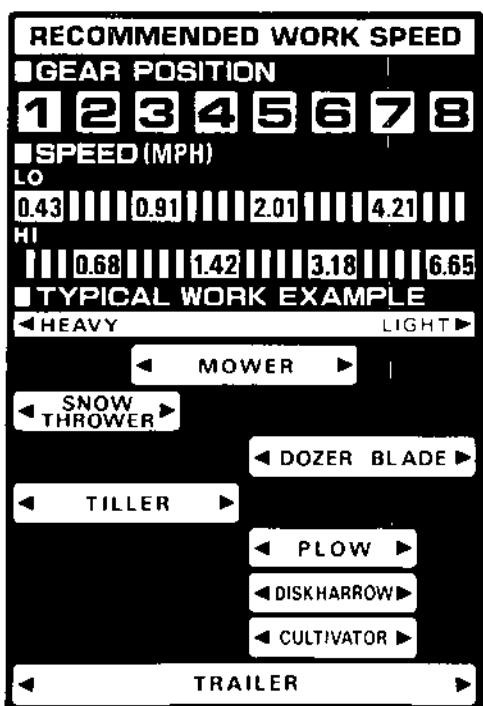
-
- 6. Push down the park brake lock lever while depressing the brake pedal.



⚠ WARNING To avoid injury to yourself and others, before leaving the tractor unattended, **ALWAYS**: park on level ground, disengage the power take-off (P.T.O.), lower the attachment, set the parking brake, stop the engine and remove the key.

9. Recommended working speed

Select a safe and correct operating speed as per the instructions shown in the chart below.



10. High Altitude Operation

At high altitude, the standard carburetor air-fuel mixture will be too rich. Performance will decrease, and fuel consumption will increase. A very rich fuel mixture may also foul the spark plugs and cause hard starting.

High altitude performance can be improved by installing a smaller diameter main fuel jet in the carburetor and readjusting the pilot screw. If you always operate the engine at altitudes higher than 6,000 feet above sea level, have an authorized Honda tractor dealer perform this carburetor modification.

Even with carburetor modification, engine horsepower will decrease about 3.5% for each 1,000 feet increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.

IMPORTANT NOTICE Once a carburetor is jetted for high altitude use, operation at lower altitudes without rejetting may result in reduced performance, overheating, and serious engine damage.

It is especially important to rejet a carburetor when going from a higher altitude to a lower one. At lower altitudes, the air/fuel mixture may become excessively lean.

7. TRANSPORTING

Transporting

▲ WARNING The engine and exhaust system become hot during operation and remain hot for a while after stopping. Contact with hot engine components or the exhaust system can cause burns and can ignite some materials.

Avoid touching the engine or exhaust system for at least 15 minutes after the engine has stopped. Allow the engine to cool before transporting the tractor.

IMPORTANT NOTICE Towing the tractor behind another vehicle or using it to push another vehicle can damage the tractor.

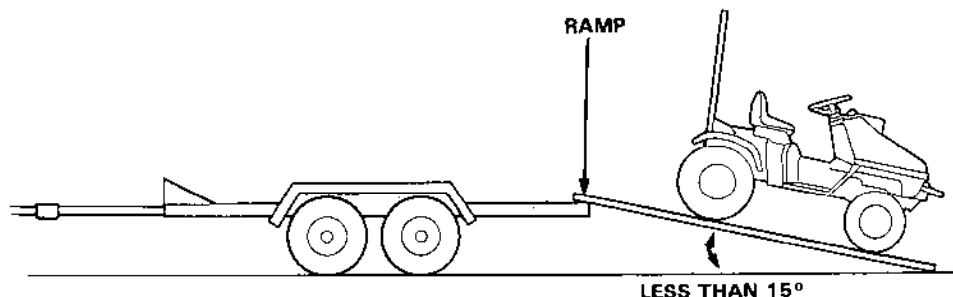
Transport the tractor on a flat, level trailer or in a pickup truck. To avoid gasoline spillage, keep the tractor level while transporting.

▲ WARNING Gasoline is extremely flammable, and gasoline vapor can explode, causing injury or death.

Transport the tractor on a flat, level heavy duty trailer.

1. Use a loading ramp that is strong enough to support the combined weight of the tractor, its attachments and the operator. The loading ramp must be long enough so that its slope is 15° or less.
2. Use reverse gear 1st or 2nd to back the tractor up the ramp.

NOTE: If you feel that you cannot accurately judge angle of the ramps, we suggest that you obtain an inclinometer. This type of gauge is available at most hardware stores.



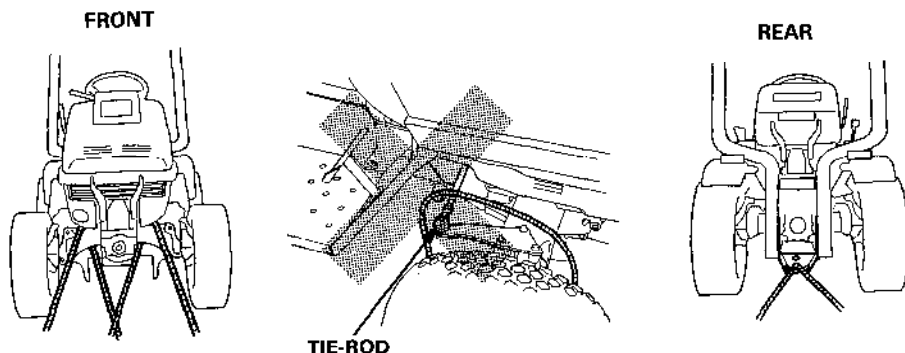
NOTE: If the engine stalls during loading, immediately depress the brake pedal and clutch pedal, then let the tractor roll down the ramp by slowly releasing the brake pedal.

3. After loading, apply the parking brake and remove the engine switch (ignition switch) key.
4. Tie the tractor down securely.

Tie-down hooks should be on or near the floor. Use the tie-down points shown below.

IMPORTANT NOTICE

- Use heavy-duty straps, chains, or cables to fasten tractor to the trailer. Both front and rear straps must be directed down and outward from tractor.
- To avoid damaging the tie rods, be careful not to put the ropes around or near them when securing the front end.



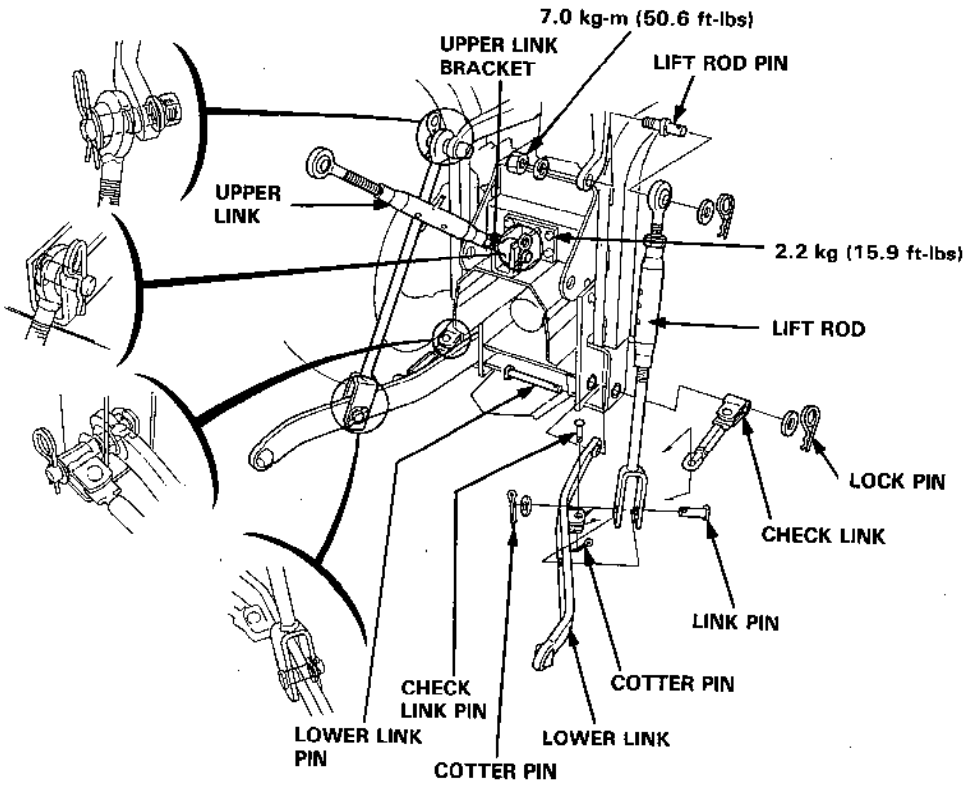
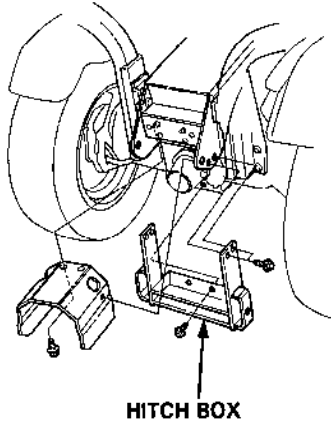
8. INSTALLING AN ATTACHMENT

Before installing or using any attachment, carefully read all instructions and precautions.

▲ WARNING To prevent accidental start-up, remove the engine switch (ignition switch) key, and disconnect the spark plug cap before installing or adjusting attachments.

1. Rear 3-point hitch link installation (option)

- 1. Install the hitch box on the tractor with the six bolts and nut nuts.
- 2. Attach the check links to the right and left lower links with the check links pins and secure with the cotter pins.
- 3. Install the right and left lower links to the hitch box section with lower link pins.
- 4. Insert the check links to the outside of the lower link pin and secure with a lock pin.
- 5. Attach the lift rod pin to the lift arm.
- 6. Install the right side of the lift rod (with the turnbuckle attached) to the right sides of the lower link and lift arm.
Fit the left side of the lift rod to the left sides of the lower link and lift arm and secure all attachments with pins.
- 7. Install the upper link on the cylinder mounting plate with the four bolts.
- 8. Install and secure the upper link with the link and lock pins.
- 9. Check that all parts are installed securely. Tighten the nuts to the specified torques.

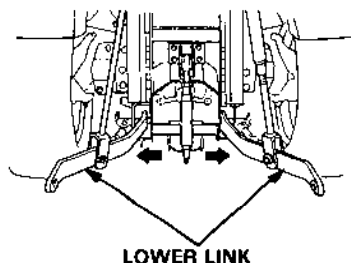


2. Rear 3-point hitch attachment installation

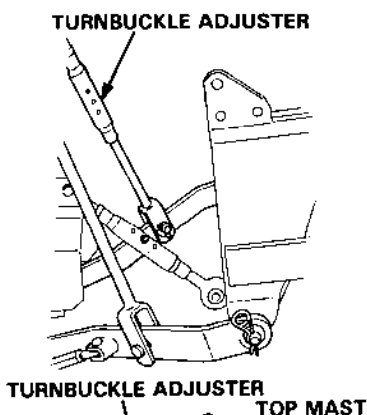
Park the tractor on firm, level ground, set the parking brake, and move the shift lever to "N (Neutral)". Set both front and rear P.T.O. levers to the "OFF" when installing, adjusting or removing an attachment.

⚠ WARNING Installing, adjusting or removal of an attachment with the engine running is dangerous and you can be injured. Remove the key from the ignition, and disconnect the spark plug cap to prevent accidental start-up.

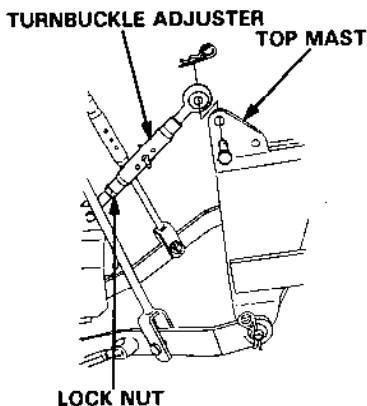
- a. Place the hydraulic switch lever to "REAR", place the lift lever in the "DOWN" position and fully lower the lower link.
- b. Slacken the check links and open the lower links as necessary.



- c. Install the lower link on the left side first, then the right side using the turn buckle adjuster to adjust for length.

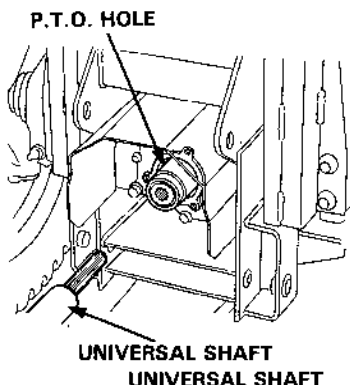


- d. Install the UPPER link to the attachment top mast.
- e. Adjust length of the UPPER link with the handle and secure with the lock nut.

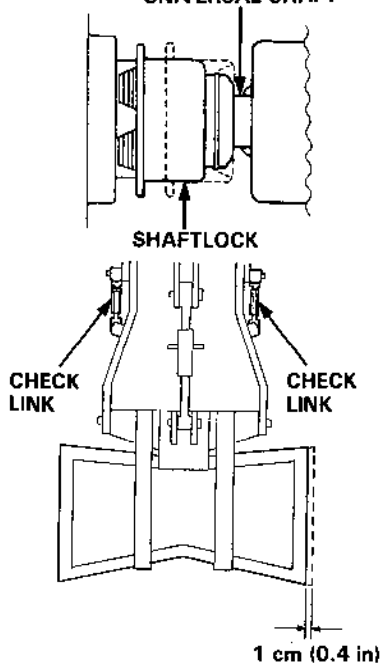
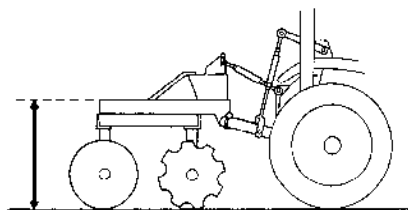


f. Install the universal shaft.

- With the lock on the tractor side fully depressed, insert the universal shaft fully into the P.T.O. hole.
- Release the lock, pull out the joint slowly until the lock returns to the position shown in the diagram.
- Move the universal shaft back and forth and check that the lock is secure.



- g. Use the turnbuckle adjuster on the right side of the lift rod to get the attachment horizontal. After adjusting, secure with a lock nut.



IMPORTANT NOTICE

- After installing the attachment, check that the lock pins are securely in place.
- If there is noise from the universal shaft while driving, adjust the length of the top link slightly. If there is excessive noise from the universal shaft when in use, damage can be caused to P.T.O. section.
- If the check link is adjusted too tightly, it may break.
- Use only attachment designed for use with this tractor.

9. MAINTENANCE

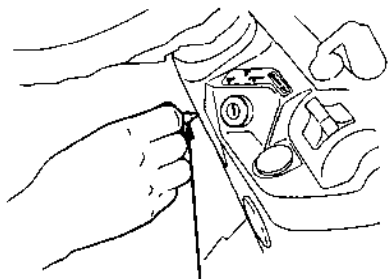
Periodic maintenance and adjustment are necessary to keep the tractor in good operating condition. Service and inspect according to the MAINTENANCE SCHEDULE.

▲ WARNING

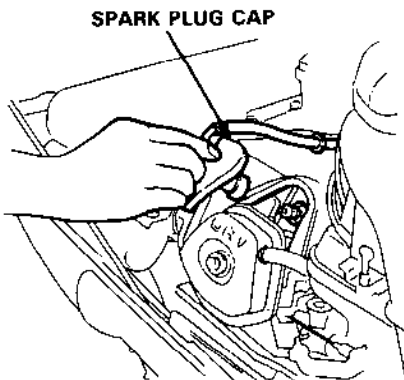
- To avoid carbon monoxide poisoning, shut off the engine before performing any maintenance. If you run the engine in an area that is confined, or even partially enclosed, the air you breathe will contain a dangerous amount of exhaust gas. If the engine must be run for any reason, be sure the area is well-ventilated.
- To avoid serious burns, allow the engine to cool before performing maintenance.
- Shut the engine off and set the parking brake before performing any maintenance.
- To prevent accidental start-up, remove the engine switch (ignition switch) key and disconnect the spark plug cap.
- The tractor should be serviced by an authorized HONDA tractor dealer unless the owner has proper tools and service data and is mechanically qualified.

IMPORTANT NOTICE

Use only genuine Honda parts or their equivalent for maintenance or repair. Replacement parts which are not of equivalent quality may damage your tractor.



ENGINE SWITCH (IGNITION SWITCH) KEY



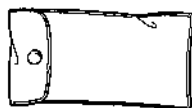
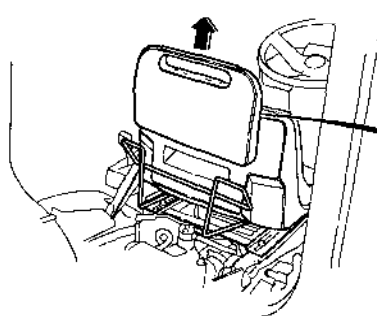
SPARK PLUG CAP

1. Tool kit

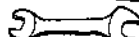
The tools supplied are necessary for performing some periodic maintenance, simple adjustments and repairs.

The tool kit is stored in the tool box behind the seat.

The tool kit as well as the Owner's Manual should always remain with the tractor.



TOOL BAG



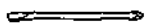
**14 x 17 mm
OPEN END WRENCH**



**10 x 12 mm
OPEN END WRENCH**



SCREWDRIVER GRIP



No. 2 SCREWDRIVER



SPARK PLUG WRENCH



LUG WRENCH

2. Maintenance Schedule

REGULAR SERVICE PERIOD		EACH USE	FIRST 20 HRS	EVERY 50 HRS	EVERY 100 HRS	EVERY YEAR OR 300 HRS	REFER TO PAGE
ITEM	Perform at every indicated month or operating hour interval, whichever comes first.						
Engine oil	Check level Change	○	○		○		27 77
Hydraulic lift system	Check	○					35
Oil level and oil leakage	Check	○					31
Battery electrolyte	Check level	○					29
Air cleaner	Check Clean	○		○(1)			28 78
Cooling air intake	Clean	○					30
Engine fins and shroud	Check-clean	○					30
Interlock system operation Seat switch, front P.T.O. clutch rear P.T.O. clutch, option main transmission lever	Check	○					41 - 43
Parking brake operation	Check	○					40
Tires: nut tightness Air pressure, cracks, damage, etc.	Check-Retighten Check	○ (3)	○	○			34
Steering wheel free play or looseness	Check	○					36
Headlight	Check	○					40
Front P.T.O. belt	Check	○					32
Clutch pedal free play	Check Adjust	○				○ (2)	33
Brake pedal free play	Check Adjust	○				○ (2)	32
Brake wear indicator	Check	○					33
Brake effectiveness	Check	○					-
Differential lock pedal free play	Check-Adjust					○ (2)	-
Fuel tank	Check leak	○					31
Fuel tank and filter	Clean					○ (2)	
All fasteners (for tightness)	Check-Retighten			○			86
Lubrication points	Oil-Grease			○			86
Transmission oil	Check level				○		85
Spark plug	Check-Clean				○		79
Spark arrester (optional part)	Clean				○		88
Fuel sediment cup	Clean					○	84
Wiring: terminals, clamps insulation etc.	Check					○(2)	-
Engine rpm	Check-Adjust					○ (2)	-
Valve clearance	Check-Adjust					○ (2)	-
Tie-rods (for bending), ball-joints (for looseness) Toe-in	Check-Adjust					○ (2)	-
Fuel line	Check (Replace if necessary)						Every 2 years (2)

NOTE: (1) Service the air cleaner more frequently when used in dusty areas.

(2) These items should be serviced by an authorized Honda tractor dealer, unless the owner has proper tools and is mechanically proficient. See the Honda Shop Manual.

(3) Check the nuts daily for the first 20 hours of operation, and retighten if necessary.

3. Engine oil change

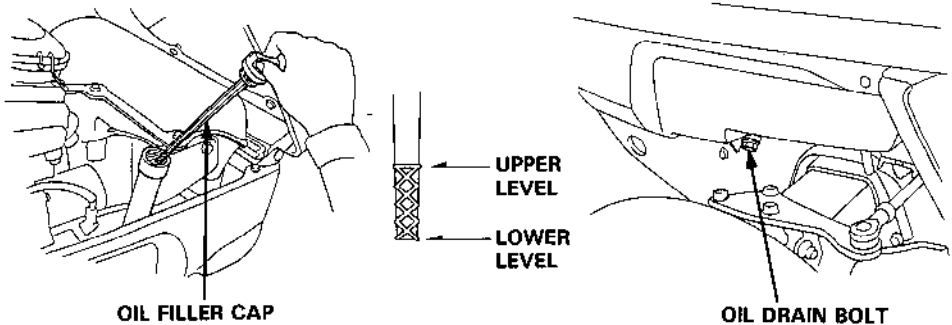
Drain the oil while the engine is warm to assure rapid and complete draining.

CAUTION Used motor oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods.

Although this is unlikely, unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

1. Open the engine hood.
2. Remove the oil filler cap and drain plug, and drain the oil into a suitable container.
3. Retighten the drain plug securely.
4. Refill to the upper level mark on the dipstick with the recommended oil (see page 27). Tighten the oil filler cap securely.

OIL CAPACITY: 1.10 l (1.16 US qt)



NOTE: Please dispose of used motor oil in a manner that doesn't harm the environment. We suggest you take it in a sealed container to your local service station for reclamation. Do not throw it in the trash or pour it on the ground or down a drain.

4. Air cleaner service

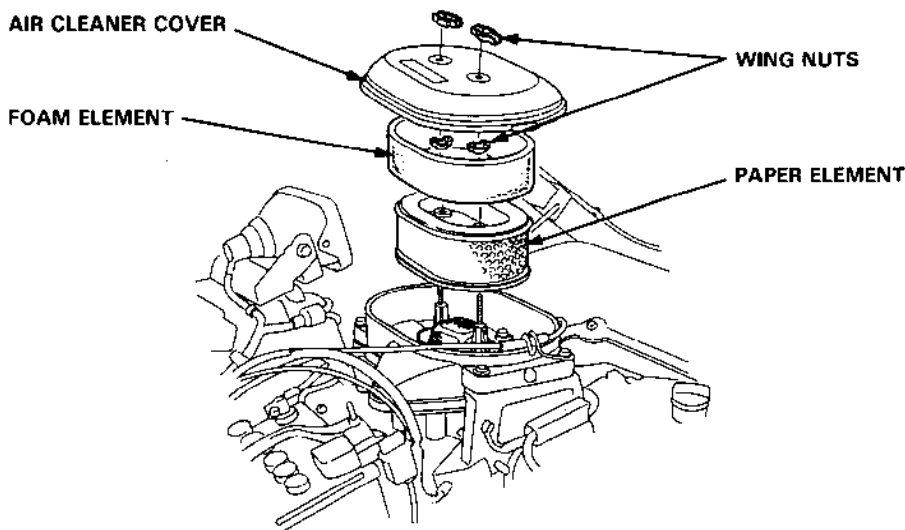
A dirty air cleaner will restrict air flow to the carburetor. If you operate the tractor in very dusty areas, clean the air cleaner more often than specified in the MAINTENANCE SCHEDULE.

Operating the engine without the air cleaner will cause rapid engine wear.

1. Open the engine hood.
2. Remove the wing nuts and the air cleaner cover. Remove the elements and separate them. Carefully check both elements for holes or tears and replace if damaged.
3. Foam element: Clean in warm, soapy water, rinse, and dry thoroughly. Or, clean in nonflammable solvent and dry.
Dip the element in clean engine oil, then squeeze out all excess oil. The engine will smoke when started if too much oil is left in the foam.

▲ WARNING Using gasoline or flammable solvent to clean the filter element can cause a fire or explosion. Use only soapy water or nonflammable solvent.

4. Paper element: Tap the element several times on a hard surface to remove loose dirt, or blow low pressure (30 psi or less) compressed air through the filter from the inside. Do not try to brush off dirt. Brushing will force dirt into the fibers.



5. Spark plug service.

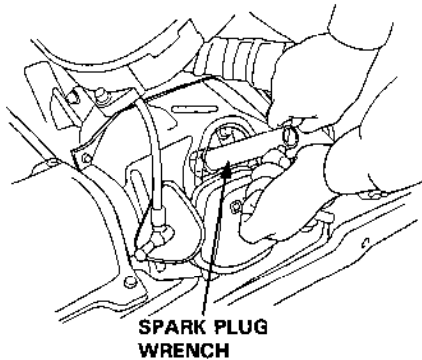
**Recommended spark plug: BPR6ES-11 (NGK)
W20EPR-U11 (ND)**

▲WARNING Touching a hot engine or exhaust system can cause serious burns. Let the engine cool before performing maintenance.

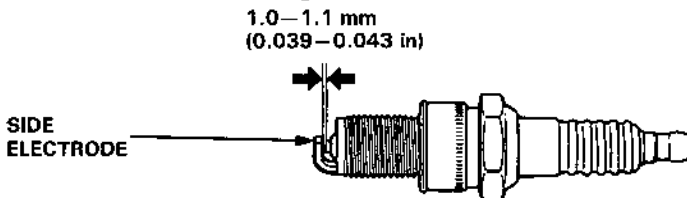
IMPORTANT NOTICE Spark plugs of the wrong heat range can cause engine damage.

For good performance, the spark plug must be properly gapped and free of deposits.

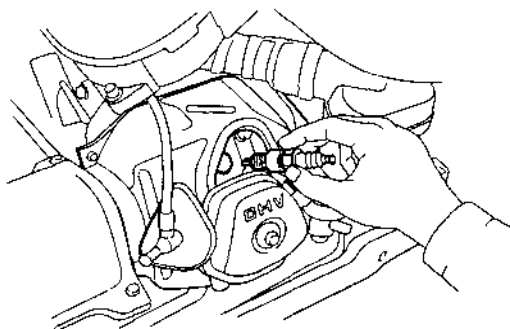
1. Open the engine hood and remove the spark plug cap.
2. Clean any dirt from around the spark plug base.
3. Use a spark plug wrench to remove the spark plug.



4. Visually inspect the spark plug. Discard it if there is apparent wear or if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.
5. Measure the plug gap with a feeler gauge.
The gap should be 1.0–1.1 mm (0.039–0.043 in). Correct as necessary by carefully bending the side electrode.



-
6. Install the spark plug carefully, by hand, to avoid cross-threading.



7. After the spark plug is seated, tighten with a spark plug wrench to compress the washer.

IMPORTANT NOTICE Loose spark plug can get hot enough to damage the engine. Overtightening may damage the threads.

NOTE: If installing a new spark plug, tighten 1/2 turn after the spark plug seats to compress the washer. If reinstalling a used spark plug, tighten 1/8–1/4 turn after the spark plug seats to compress the washer.

6. Battery service

■ Refilling battery fluid

If the tractor is operated with insufficient battery electrolyte, sulfation and battery plate damage will occur.

If rapid loss of electrolyte is experienced, or if your battery seems to be weak, causing slow starting or other electrical problems, see your authorized Honda tractor dealer.

Open the engine hood and check the electrolyte level in each battery cell. Fill the battery with distilled water to the upper level line. Never overfill the battery.

⚠ WARNING Batteries produce explosive gases: If ignited, an explosion can cause serious injury or blindness. Provide adequate ventilation when charging.

- **CHEMICAL HAZARD:** Battery electrolyte contains sulfuric acid. Contact with eyes or skin, even through clothing, may cause severe burns. Wear a faceshield and protective clothing.

- Keep flames and sparks away, and do not smoke in the area.

ANTIDOTE: If electrolyte gets into your eyes, flush thoroughly with warm water for at least 15 minutes and call a physician immediately.

- **POISON:** Electrolyte is poison.

ANTIDOTE

— External: Flush thoroughly with water.

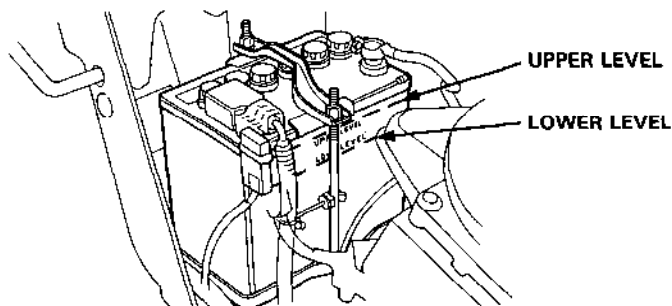
— Internal: Drink large quantities of water or milk.

Follow with milk of magnesia or vegetable oil, and call a physician immediately.

- **KEEP OUT OF REACH OF CHILDREN.**

NOTE: Use distilled water in the battery.

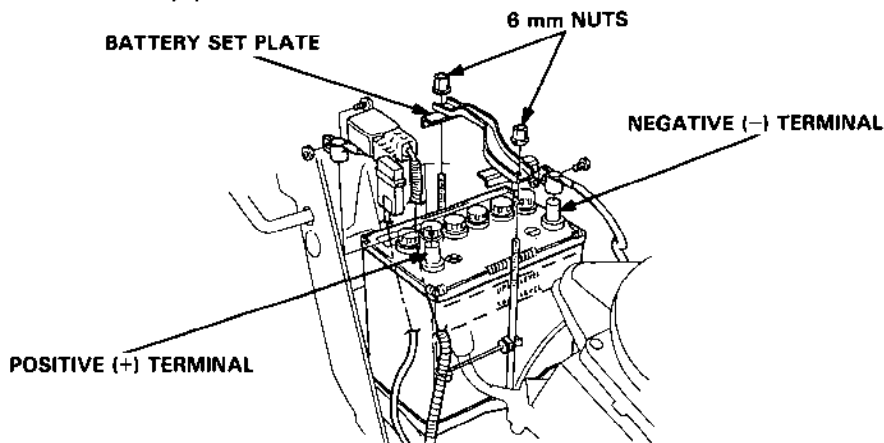
- Tap water will shorten the service life of the battery.
- Overfilling may cause electrolyte overflow and corrosion. Wash off any spilled electrolyte immediately.



■ Battery cleaning

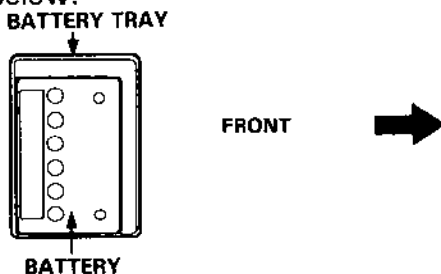
If the battery terminals are contaminated or corroded, remove the battery and clean the terminals.

1. Remove battery set plate.
2. Disconnect the battery cable at the battery negative (-) terminal, then at the battery positive (+) terminal.



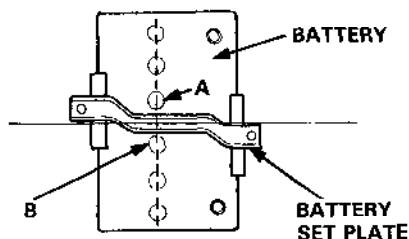
3. Remove the battery and clean the battery terminals and battery cable terminals with a wire brush or sand paper. Clean the battery with a solution of baking soda and warm water, taking care not to get the solution or water in the battery cells. Dry the battery thoroughly.
4. Connect the battery positive (+) cable to the battery positive (+) terminal, then the battery negative (-) cable to the battery negative (-) terminal. Tighten the bolts and nuts securely.

NOTE: Install the battery to the rear right part of the battery tray, as shown in the figure below.



-
5. Coat the battery terminals with grease.
 6. Reinstall the battery set plate.

NOTE: Evenly tighten the 6 mm set plate nuts a little at a time. Install the set plate so that the filler caps (A and B) to either side of it can still be removed.

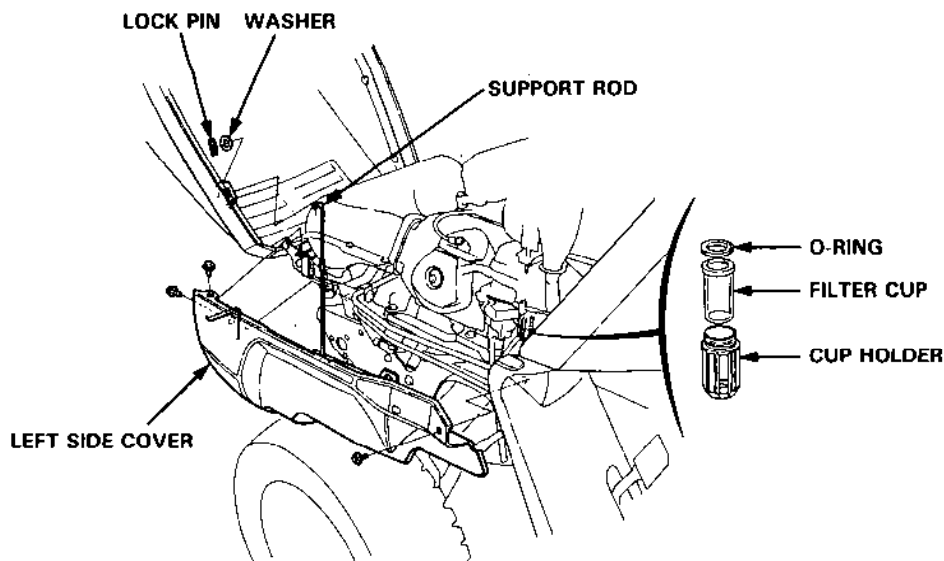


CAUTION When disconnecting the battery cable, be sure to disconnect at the battery negative (-) terminals first. To connect, connect at the positive (+) terminal first, then at the negative (-) terminal. Never dis/connect the battery cables in the reverse order, as this can cause a short circuit when a tool contacts the terminals.

7. Fuel sediment cup cleaning

⚠ WARNING

- **Gasoline is extremely flammable and explosive under certain conditions. Do not smoke or allow flames or sparks in the area.**
1. Open the engine hood and remove the lock pin and washer from support rod. Remove the three 6 mm bolts and remove the left side cover.
 2. Remove the cup holder with a wrench and remove the fuel filter cup.
 3. Clean the filter cup to remove sediment.
 4. Reinstall the O-ring, filter cup and cup holder securely.
 5. Reinstall the left side cover.
 6. Check for fuel leaks after installation.

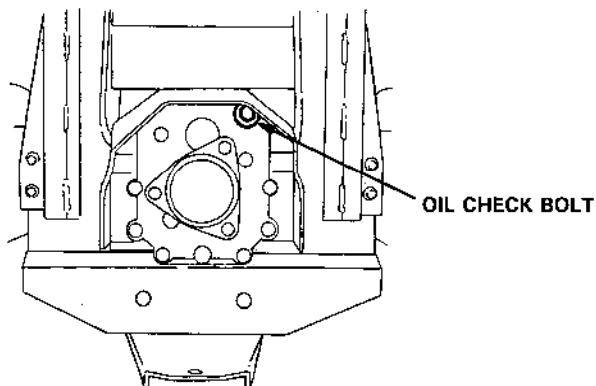


8. Transmission oil inspection.

IMPORTANT NOTICE Contaminated or insufficient oil will reduce the service life of the tractor's transmission. Follow the instructions for maintenance interval and oil capacity.

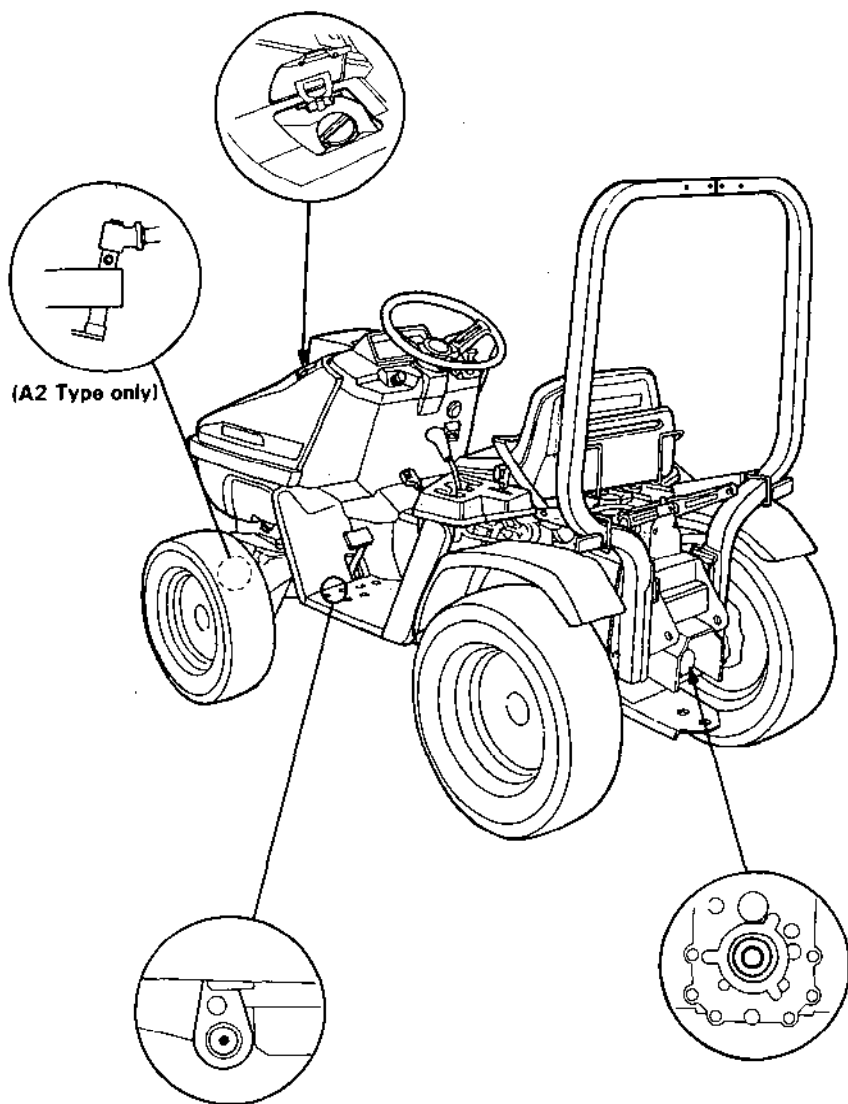
1. Park the tractor on level ground.
2. Remove the oil check bolt from the transmission rear cover.
3. The oil level should be at the lower edge of the check bolt hole; if it is not, add oil through the check bolt hole until the level reaches the lower edge.
4. After checking, tighten the oil check bolt securely.
Recommended oil: 10W-30

NOTE: If the outside temperature is below -15°C , use SAE 5W-30 engine oil. Consult your authorized Honda tractor dealer if replacement of the transmission oil is necessary.



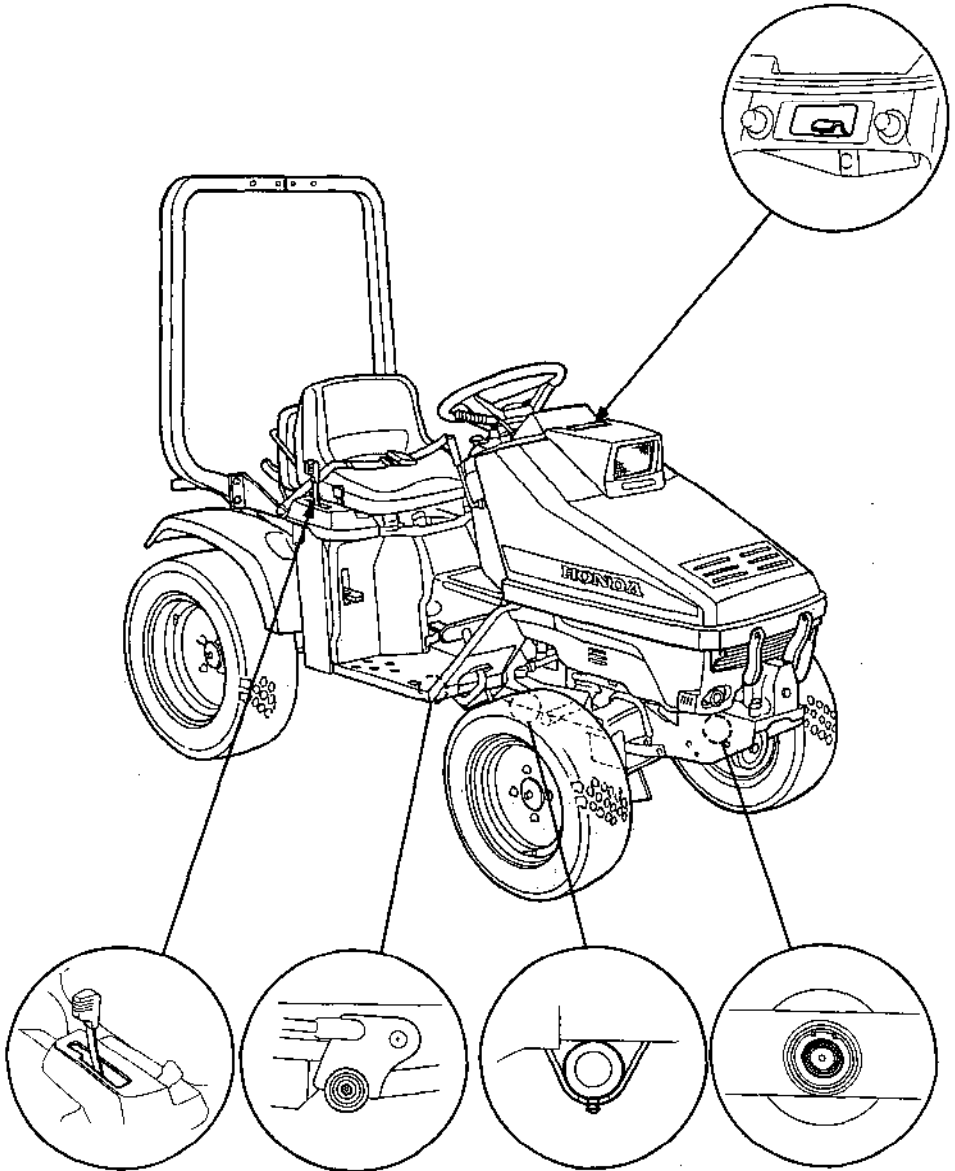
9. All fasteners tightness/Lubrication points

- Check all nuts, bolts and fasteners and tighten securely if necessary.
- Check and apply grease where noted.
Recommended Grease: SAE Multipurpose Grease



Lubrication points (cont'd)

Check and apply grease where noted.
Recommended grease: SAE Multipurpose Grease.



10. Spark arrester maintenance (optional part)

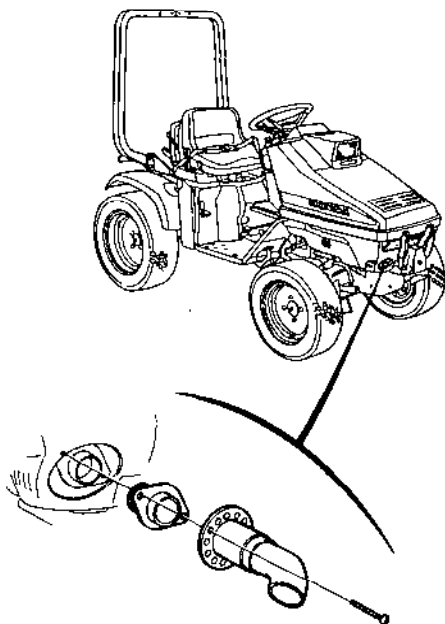
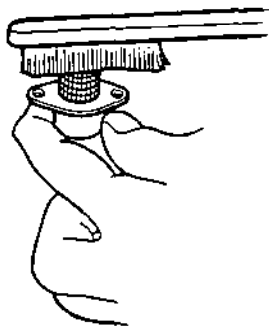
You can purchase an optional, U.S.D.A. qualified spark arrester from your authorized Honda tractor dealer. Spark arresters are required in some areas; check local laws and regulations before operating your tractor.

▲ WARNING The muffler becomes very hot during operation and remains hot for a while after the engine stops. Be careful not to touch the muffler while it is hot. Allow it to cool before proceeding.

The spark arrester must be serviced every 100 hours to maintain its efficiency.

1. Remove the two 5 mm screws from the exhaust pipe tip. Remove the exhaust pipe tip and spark arrester (be careful not to damage the spark arrester screen).
2. Use a wire brush to remove carbon deposits from the spark arrester screen.
3. Reinstall all parts in the reverse order of removal.

NOTE: Inspect the spark arrester screen for holes or tears. Replace it if it is damaged.



11. Wheel removal

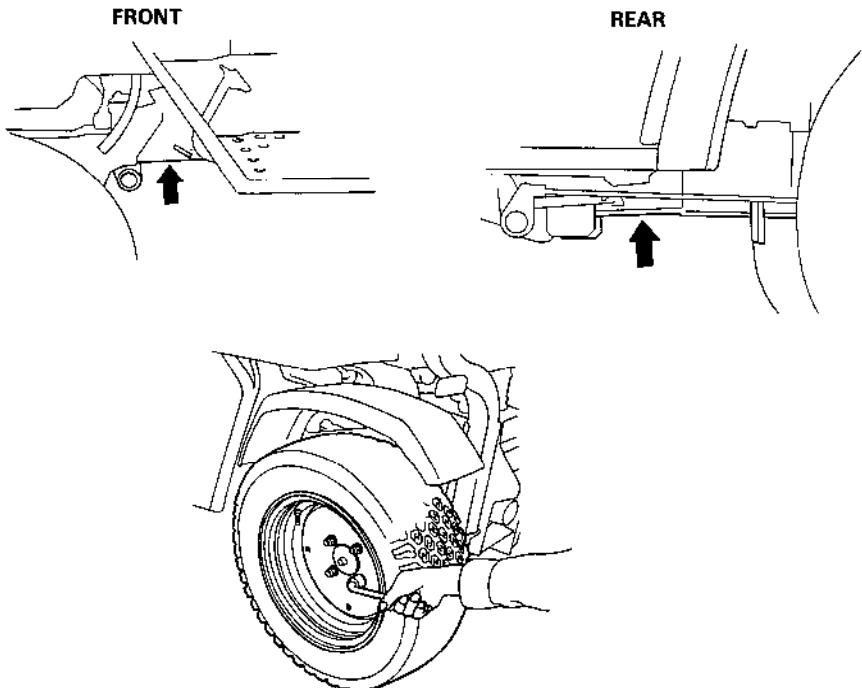
Do not attempt to remove a wheel unless the tractor is on firm level ground.

Do not attempt to remove or replace a tire unless you have the equipment and knowledge to do so properly.

1. Apply the parking brake and put the transmission in gear.
2. Block the wheels securely and loosen the lug nuts counterclockwise one turn.
3. Place a jack under the jack point nearest the wheel you are removing and raise the wheel off the ground.
4. Remove the nuts and wheel.
5. Install the wheel and hand-tighten reinstall the nuts.
6. Lower the tractor, remove the jack, and then tighten the nuts a little at a time in an "X" pattern.

Specified torque: 13 kg-m (94 ft-lb)

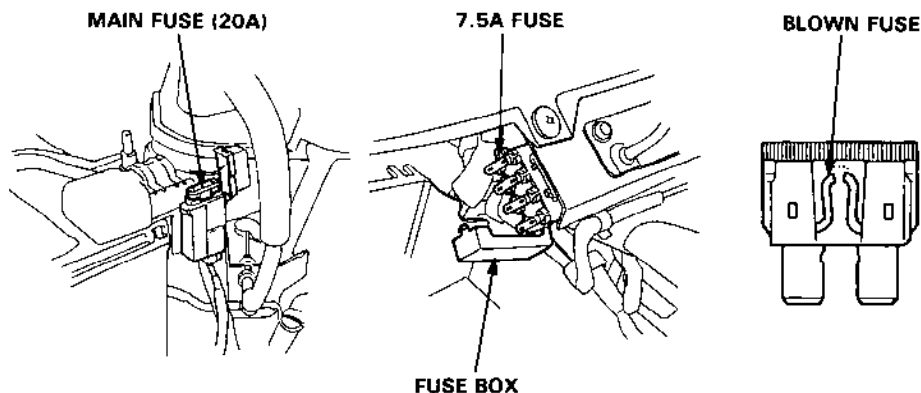
[JACK POINTS]



12. Fuse replacement

The main fuse, located near the battery on the positive is 20A. The fuse box is located on the right side of the head light case. The specified fuses are 7.5A. When frequent fuse failure occurs, it usually indicates a short circuit or an overload in the electrical system. See your authorized Honda tractor dealer for repair.

To replace fuses pull the old fuse out of the clips with your finger. Push a new fuse into the clips.



CAUTION Never use fuse with a different rating from that specified. Serious damage to the electrical system or a fire may result.

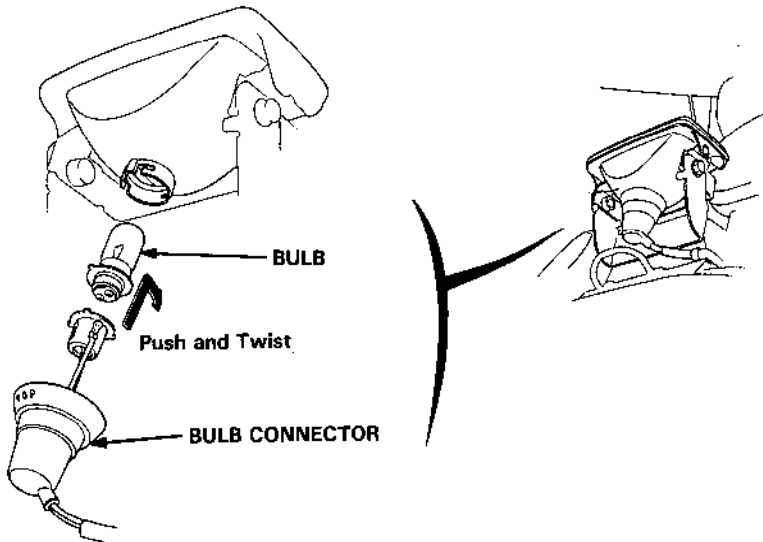
Turn the engine switch (ignition switch) OFF and remove the key before checking or replacing fuses to prevent accidental short-circuiting.

13. Headlight bulb replacement

Open the engine hood and lift up the edge of the bulb connector rubber cover and pull it back.

Push in and turn the bulb connector counterclockwise, then remove the connector and bulb.

Install the bulb, and then align the tab on the bulb connector with the cutout in the headlight case. Turn the bulb connector clockwise while pushing it in, and then fit the rubber cover down over the connector.



10. LONG TERM STORAGE

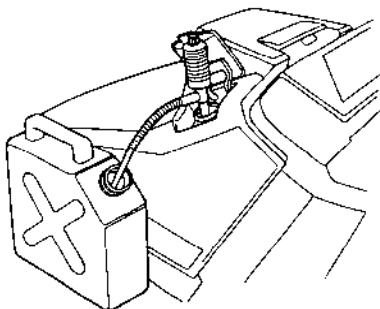
Preparation for storage

The engine becomes very hot during operation and remains hot for a while after stopping. Allow the engine to cool before storing.

▲ WARNING Contact with a hot engine or exhaust system can cause serious burns or fires. Let the engine cool before storing.

The following steps should be taken to protect the lawn tractor whenever it will be stored for longer than 30 days.

1. Pump all gasoline from the fuel tank into an approved gasoline container.

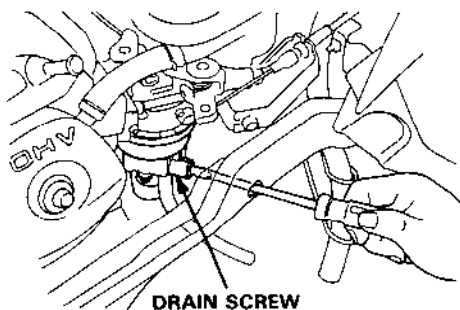


Drain fuel from the fuel sediment cup as described in page 84 and loosen the carburetor drain screw, and drain the fuel into an approved gasoline container. After draining, tighten the drain screw securely.

▲ WARNING Gasoline is extremely flammable, and gasoline vapor can explode, causing serious injury or death. Use extreme care when handling gasoline.

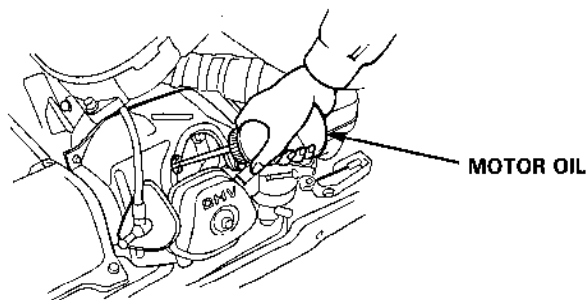
Keep flames and sparks away, and do not smoke in the area.

NOTE: If gasoline is not drained before storage, fuel system damage may result.

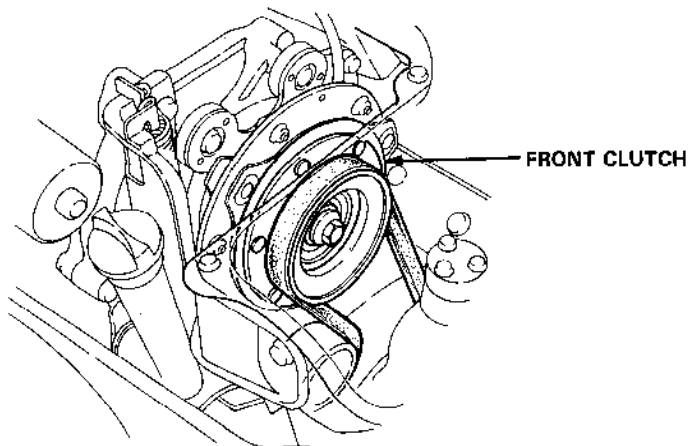


2. Change the engine oil (see p. 77).

NOTE: If the tractor will be stored for longer than 3 months, open the engine hood, remove the spark plug and pour three tablespoons (approximately 1 oz.) of clean motor oil into the cylinder.



Place the front P.T.O. (Power Take-off) lever in the ON position. Turn the front clutch several rotations by hand, then return the P.T.O. lever to the OFF position. Reinstall the spark plugs.



CAUTION Be sure to wear heavy-duty gloves when turning the front clutch. If the lawn tractor has been running, the engine will be very hot. Allow it to cool before proceeding.

3. Remove the battery and store in a cool, dry place. Recharge it once a month.

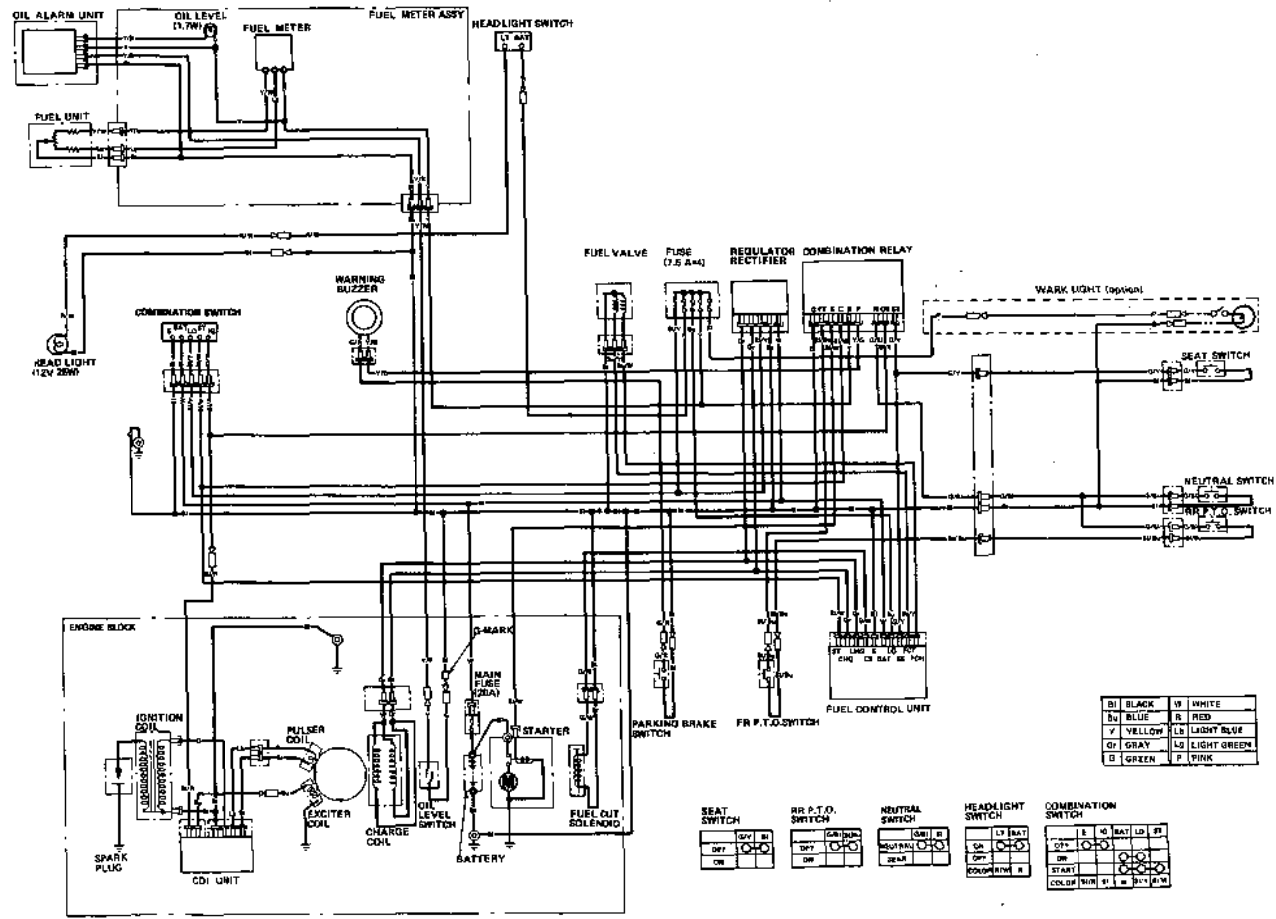
-
4. Store the tractor on a level surface in a dry, dust-free area with the parking brake lever set.
 5. Cover the tractor to keep out dust.
 6. Check tire air pressure regularly during storage and inflate if necessary.

Removal from storage

1. Check the battery electrolyte level (see p. 29). Fully recharge the battery, and install it in the tractor.
2. Remove the spark plug and check that it is clean and properly gapped (see p. 79). Turn the engine a few revolutions with the starter motor before reinstalling the spark plug.
3. Thread the spark plug in as far as possible by hand, then tighten it 1/8 to 1/4 turn further with the plug wrench.
4. Check the engine oil level (see p. 27).
5. Fill the fuel tank, and start the engine by following the starting instructions (see p. 45).

NOTE: If the cylinder was coated with oil, the engine will initially smoke at start up; this is normal.

11. WIRING DIAGRAM



12. TROUBLESHOOTING

STARTER

- Starter does not work;
 1. Main transmission shift lever set in _____ → Shift lever in "N" other than NEUTRAL.
 2. Front or rear PTO clutch lever set in _____ → Set lever in "OFF" ON.
 3. Loose or corroded battery terminal _____ → Retighten or clean (see p. 82)
 4. Blown fuse _____ → Replace (see p. 90)
 5. Battery run down _____ → See your authorized Honda dealer

ENGINE

- Engine cranks but won't start;
 1. No fuel in tank _____ → Refill tank (see p. 37)
 2. Choke not pulled out when engine is cold _____ → Pull out choke
 3. Disconnected spark plug cap _____ → Reinstall cap
 4. Faulty plug _____ → Clean or replace (see p. 79)
 5. Blown fuse _____ → Replace (see p. 90)
 6. Faulty fuel cut solenoid valve _____ → See your authorized Honda dealer

- Engine lacks power;
- Unstable engine rpm;
- Stalling after starting;
- Overheating;
 1. Improper grade of fuel _____ → Drain residual fuel and refill (see p. 38)
 2. Front PTO clutch out of adjustment (not disengaged completely) _____ → See your authorized Honda dealer
 3. Throttle cable not adjusted properly _____ → See your authorized Honda dealer
 4. Governor not adjusted properly _____ → See your authorized Honda dealer
 5. Carburetor faulty _____ → See your authorized Honda dealer
 6. Ignition system faulty _____ → See your authorized Honda dealer
 7. Fuel filter clogged _____ → See your authorized Honda dealer
 8. Air cleaner clogged _____ → Clean (see p. 78)
 9. Faulty spark plug _____ → Clean or replace (see p. 79)
 10. Improper governor operation _____ → See your authorized Honda dealer

- 11. Incorrect valve clearance —————> See your authorized Honda dealer
 - 12. Improper grade of fuel —————> Drain residual fuel and refill (see p. 38)
 - 13. Improper attachment —————> Replace with recommended attachment
 - 14. Extreme weather/barometric conditions (altitude, temperature) —————> See your authorized Honda dealer
 - 15. Parking brake not released fully —————> Release fully
 - 16. Brake dragging —————> See your authorized Honda dealer
 - 17. Excessive load —————> Reduce load or speed
 - 18. Clogged air intake or shroud —————> Clean (see p. 30)
- Excessive oil consumption
 - 1. Improper oil viscosity —————> Use correct viscosity of oil (see p. 27)
 - 2. Oil leak —————> Check drain plug for tightness
 - 3. Worn piston ring/cylinder —————> See your authorized Honda dealer

ELECTRICAL SYSTEM

- Battery runs down frequently
 - 1. Loose or corroded battery terminal —————> Clean or retighten (see p. 81)
 - 2. Low electrolyte level —————> Add distilled water (see p. 81)
 - 3. Damaged battery cell —————> Replace battery
 - 4. Faulty battery charging coil —————> See your authorized Honda dealer
- Oil pressure warning lamp remains "ON" after engine is started
 - 1. Lack of oil in engine oil pan —————> Replenish oil
 - 2. Faulty oil alert —————> See your authorized Honda dealer
- Oil pressure warning lamp not turned "ON" immediately after engine starts
 - 1. Blown lamp bulb —————> See your authorized Honda dealer
 - 2. Blown fuse —————> Replace (see p. 90)
 - 3. Faulty oil alert —————> See your authorized Honda dealer

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- Headlight not turned ON
 1. Blown light bulb → Replace (see p. 91)
 2. Ignition key not turned to ON → Turn ignition key to ON
 3. Blown fuse → Replace (see p. 90)
 - Parking brake warning buzzer not operated
 1. Blown fuse → Replace (see p. 90)
 2. Faulty buzzer → See your authorized Honda dealer
 - Fuel gauge not operated
 1. Blown fuse → Replace (see p. 90)
 2. Faulty gauge → See your authorized Honda dealer

BRAKES

- Poor brake performance
 1. Clutch pedal not depressed → Apply brake while depressing clutch pedal
 2. Excessive brake pedal play → See your authorized Honda dealer
 3. Brake linings worn → See your authorized Honda dealer
 4. Excessive inertia/weight of attachment → Use correct attachment in correct manner
- Brake applied only on one side
 1. Incorrect brake adjustment → See your authorized Honda dealer
 2. Brake pedal shaft sticking → Apply grease
 3. Uneven tire pressure → Inflate tires to correct pressure (see p. 34)

CLUTCH

- Clutch not disengaged, Clutch not engaged
 1. Improper clutch adjustment → See your authorized Honda dealer
 2. Clutch discs worn → See your authorized Honda dealer

STEERING

- Hard steering
 1. Insufficient tire pressure → Inflate tires to correct tire pressure (see p. 34)
 2. Differential lock applied → Release lock
 3. Excessive weight of attachment → Follow attachment weight recommendation (see p. 54)
 4. Uneven weight distribution → Adjust with counterweights (see p. 58)
 5. Load towed too heavy → Follow weight limit recommendations (see p. 56)
- Steers to one side or does not track straight
 1. Incorrect brake adjustment → See your authorized Honda dealer
 2. Incorrect front-end alignment → See your authorized Honda dealer
 3. Uneven tire pressures → Inflate tires to correct pressure (see p. 34)
 4. Loose fasteners in steering linkage → See your authorized Honda dealer
 5. Loose wheel nuts → Retighten to specified torque (see p. 34)

DIFFERENTIAL LOCK

- Differential lock not applied
 1. Improper pedal play → See your authorized Honda dealer
 2. Power not transmitted to wheels → Shift into LOW speed, engage clutch, and then depress pedal
- Differential lock not released
 1. Load from wheels applied to differential lock → Drive in opposite direction a little to release load from differential lock

FRONT P.T.O.

- PTO does not rotate (or rotates too slowly)
 1. Primary belt broken → See your authorized Honda dealer
 2. Insufficient primary belt tension → See your authorized Honda dealer
 3. Incorrect clutch lever free play → See your authorized Honda dealer
 4. Clutch lining worn → See your authorized Honda dealer
 5. Clutch cable cut off → See your authorized Honda dealer

REAR P.T.O.

- PTO does not rotate
 1. PTO lever not set in ON → Set lever in ON
- PTO cannot be installed
 1. Foreign matter on shaft splines → Clean and apply grease (see p. 86)
 2. Shaft not inserted into PTO sufficiently → Insert fully (see p. 73)
- PTO lever will not shift into ON (gear noise heard)
 1. Clutch pedal not depressed → Depress clutch pedal before shifting
 2. Attachment still coasting due to inertia → Bring attachment to complete stop before shifting

HYDRAULIC LIFT

- Lift arm does not raise (or raises slowly)
 1. Change lever not shifted into FRONT or REAR fully → Set in FRONT or REAR securely
 2. Insufficient fluid in system → Replenish (see p. 35)
 3. Loss of fluid → See your authorized Honda dealer
 4. Descending speed adjusting knob closed → Adjust speed (see p. 25)
 5. Load on lift arm exceeding limits → Follow load limit recommendations (see p. 55)
 6. Faulty hydraulic valve or pump → See your authorized Honda dealer
- Lift arm lowered by its own weight
 1. Lack of fluid in system → Replenish (see p. 35)
 2. Lift lever not set in NEUTRAL → Set lever in NEUTRAL
 3. Loss of fluid → See your authorized Honda dealer
 4. Faulty hydraulic control valve → See your authorized Honda dealer

13. SPECIFICATIONS

MODEL Power product description code	H5013 Honda FAHA
DEMENSION Overall length Overall width Overall height Ground clearance Wheelbase Wheel tread (Front) (Rear) Dry weight	2,190 mm (86.2 in) 1,060 mm (41.7 in) 1,785 mm (70.3 in) with R.O.P.S 150 mm (5.9 in) 1,305 mm (51.4 in) 855 mm (33.7 in) 850 mm (33.5 in) A4 type: 465 kg (1,025 lbs) A2 type: 430 kg (948 lbs)
ENGINE Model Type Displacement Bore and stroke Maximum horsepower Oil capacity	GX390 4-stroke, overhead valve, 1 cylinder 389 cm ³ (23.7 cu in) 88 x 64 mm (3.5 x 2.5 in) 13 ps/3,600 r.p.m. 1.1 ℓ (1.2 U.S. qt)
FRAME Brakes Front tire size, pressure Rear tire size, pressure Steering Fuel tank capacity	Mechanical leading-trailing shoe type brake (rear wheels) 20 x 7.00-12 (2 PR), 1.0 kg/cm ² (14.2 psi) 24 x 8.00-14 (2 PR), 0.8 kg/cm ² (11.4 psi) Pinion-and-sector four-wheel steering 8.5 ℓ (2.2 U.S. gal)
DRIVE TRAIN Transmission type Travel speeds (at full 3800 r.p.m.) Forward	Selective sliding 8 speeds forward and 4 speeds reverse transmission 1 (L-1) 0.7 km/h (0.4 mile) 2 (H-1) 1.1 km/h (0.7 mile) 3 (L-2) 1.5 km/h (0.9 mile) 4 (H-2) 2.3 km/h (1.4 mile) 5 (L-3) 3.2 km/h (2.0 mile) 6 (H-3) 5.1 km/h (3.2 mile) 7 (L-4) 6.8 km/h (4.2 mile) 8 (H-4) 10.7 km/h (6.6 mile)

* A4 type: Two and Four-Wheel Drive
 A2 type: Two-Wheel Drive only

MODEL Power product discription code	H5013 Honda FAHA
Reverse 1 (L-R1) 2 (H-R1) 3 (L-R2) 4 (H-R2) Transmission oil capacity Front differential oil capacity Final riduction oil capacity	0.8 km/h (0.5 mile) 1.3 km/h (0.8 mile) 1.7 km/h (1.1 mile) 2.7 km/h (1.7 mile) 3.8 ℓ (4.0 U.S. qt) 0.45 ℓ (0.48 U.S. qt) 0.2 ℓ (0.21 U.S. qt)
HYDRAULIC SYSTEM Working pressure Pump type Oil Capacity	90 kg/cm ² (1,280 psi) Gear pump 1.8 ℓ (1.9 U.S. qt) 1.95 ℓ (2.1 U.S. qt) with rear hydraulic lift
P.T.O. Type Rear Front Saft Rear Front Speed Rear Front	Dependent of main clutch Live independent ASAE "O" Category INV. spline 1 inch 15 teeth (female) INV. spline 1 inch 15 teeth (male) 2,000 rpm at engine speed of 3,600 r.p.m. 2,650 rpm at engine speed of 3,600 r.p.m.
ELECTRICAL Battery Spark plug Headlight Oil warning indicator	12V-30AH 12V-35AH (optional part) BPR6ES-11 (NGK), W20EPR-U11 (ND) 12V-25W 12V-1.7W

14. WARRANTY SERVICE

Owner Satisfaction

Your satisfaction and goodwill are important to your dealer and to us. All Honda warranty details are explained in the Distributor's Limited Warranty. Normally, any problems concerning the product will be handled by your dealer's service department. If you have a warranty problem that has not been handled to your satisfaction, we suggest you take the following action:

- Discuss your problem with a member of dealership management. Often complaints can be quickly resolved at that level. If the problem has already been reviewed with the Service Manager, contact the owner of the dealership or the General Manager.
- If your problem still has not been resolved to your satisfaction, contact:

American Honda Motor Co., Inc.
P.O. Box 50
Gardena, California 90247-0805
Telephone: (213) 604-2400

We will need the following information in order to assist you:

- Your name, address, and telephone number
- Product model and serial number
- Date of Purchase
- Dealer name and address
- Nature of problem

After reviewing all the facts involved, you will be advised of what action can be taken. Please bear in mind that your problem will likely be resolved at the dealership, using the dealer's facilities, equipment, and personnel, so it is very important that your initial contact be with the dealer.

Your purchase of a Honda product is greatly appreciated by both your dealer and American Honda Motor Co., Inc. We want to assist you in every way possible to assure your complete satisfaction with your purchase.

Current customer service contact information:

United States, Puerto Rico, and U.S. Virgin Islands:

Honda Power Equipment dealership personnel are trained professionals. They should be able to answer any question you may have. If you encounter a problem that your dealer does not solve to your satisfaction, please discuss it with the dealership's management. The Service Manager or General Manager can help. Almost all problems are solved in this way.

If you are dissatisfied with the decision made by the dealership's management, contact the Honda Power Equipment Customer Relations Office. You can write:

American Honda Motor Co., Inc.
Power Equipment Division
Customer Relations Office
4900 Marconi Drive
Alpharetta, GA 30005-8847

Or telephone: (770) 497-6400 M-F, 8:30 am - 7:00 pm EST

When you write or call, please provide the following information:

- Model and serial numbers
- Name of the dealer who sold the Honda power equipment to you
- Name and address of the dealer who services your equipment
- Date of purchase
- Your name, address, and telephone number
- A detailed description of the problem

MEMO

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PRINTED IN JAPAN