

HONDA

ATC 90

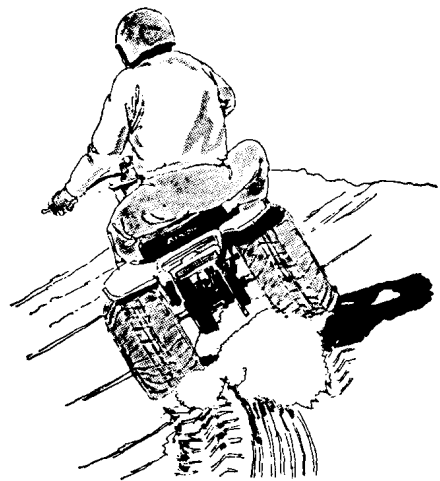
Owner's Manual



HONDA MOTOR CO., LTD. 1974

WARNING

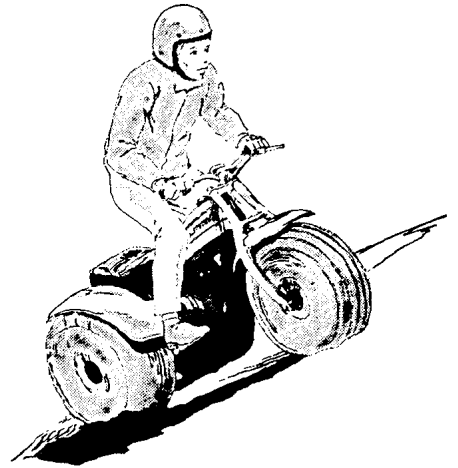
This vehicle was manufactured for off-the-road use only. Do not operate on public streets, roads, or highways.



PREFACE

This booklet is your guide to the basic operation and proper maintenance of your new Honda ATC-90. Please take the time to read it carefully. Details necessary for riding the Honda ATC are given on later pages to acquaint the new owner with special riding techniques to be learned. Your authorized Honda dealer will be glad to provide assistance or further information and is fully equipped to handle your future service needs.

Thank you for selecting a Honda. We wish you continued riding pleasure in the miles ahead.



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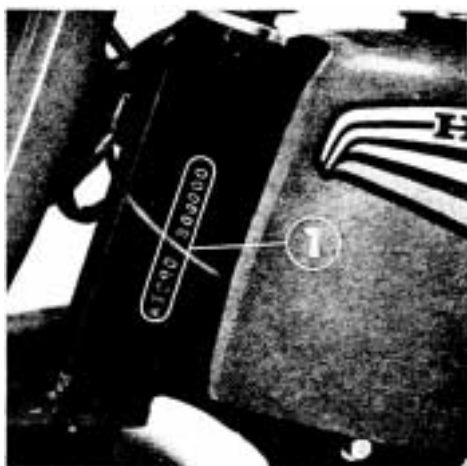
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SERIAL NUMBER LOCATION

The frame serial number ① is stamped on the left of the steering head pipe. The engine serial number ② is located on the crankcase directly above the step bar attaching point.



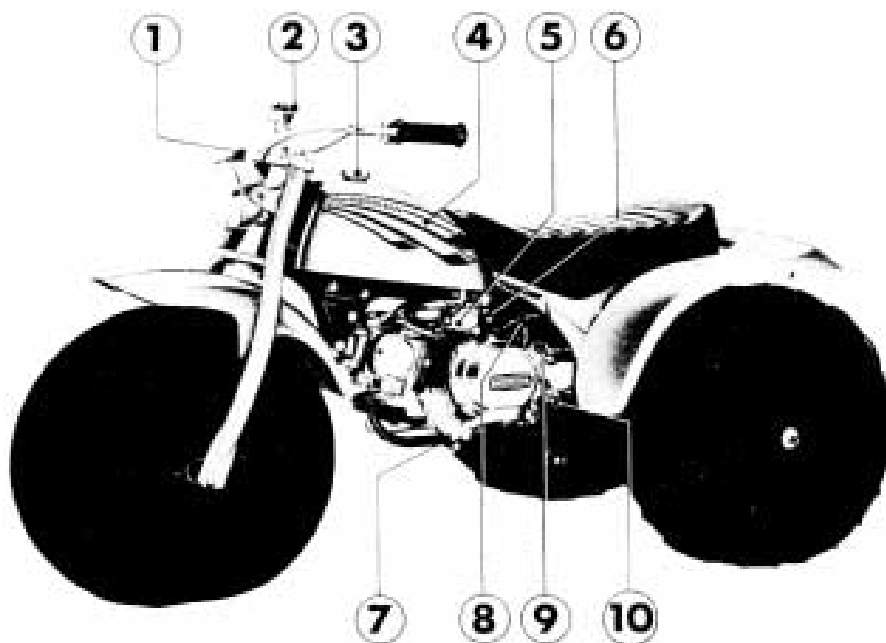
① Frame serial number

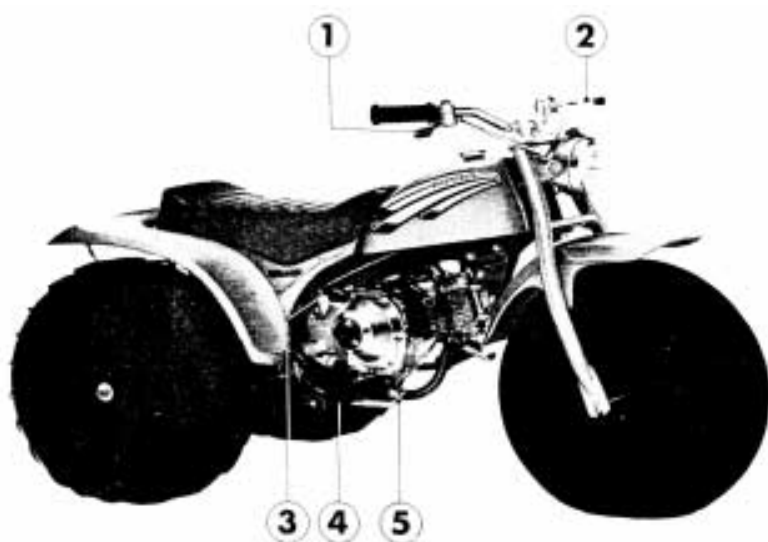


② Engine serial number

NOMENCLATURE

- ① Main/Headlight switch
- ② Emergency switch
- ③ Fuel tank cap
- ④ Fuel tank
- ⑤ Fuel valve
- ⑥ Choke lever
- ⑦ Gear change pedal
- ⑧ Recoil starter
- ⑨ Neutral indicator
- ⑩ Speed range selector lever





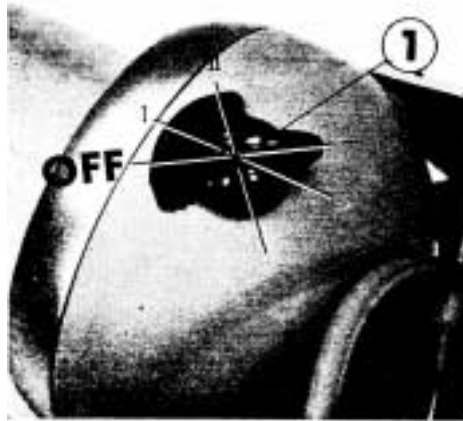
- ① Throttle lever
- ② Brake lever
- ③ Oil filler cap
- ④ Foot rest
- ⑤ Brake pedal

OPERATING INSTRUCTIONS

MAIN/HEADLIGHT SWITCH

The main/headlight switch ① is located on the headlight case. Its operating positions are as follows:

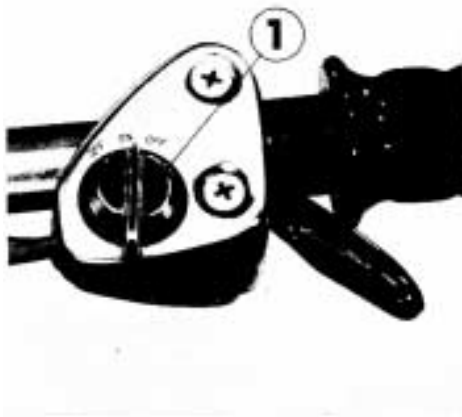
Position	Function
OFF	Engine cannot be started.
I	Engine can be started. Light will be off.
II	Engine can be started. Light will be on.



① Main/headlight switch

EMERGENCY SWITCH

The emergency switch ① (page 5) is located on the right handle grip. Engine can be started by placing this switch in "ON" position with the main/headlight switch in "I" or "II" position. In "OFF" position, engine cannot be started. Turn this switch "OFF" when the engine has to be stopped as soon as possible.



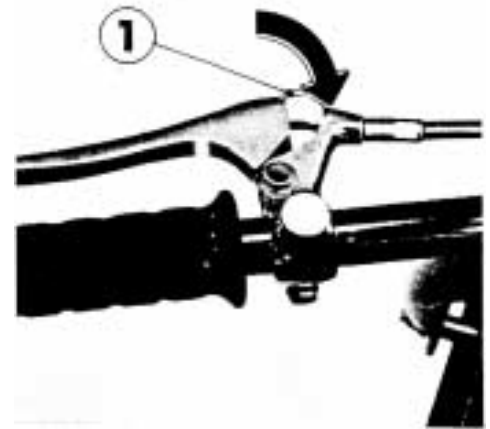
① Emergency switch

PARKING BRAKE

To set the parking brake, pull the hand lever back, and lock it in this position by setting the lock lever ① as shown in the illustration.

Always apply the parking brake when parking on a hill or when leaving the machine with the engine running.

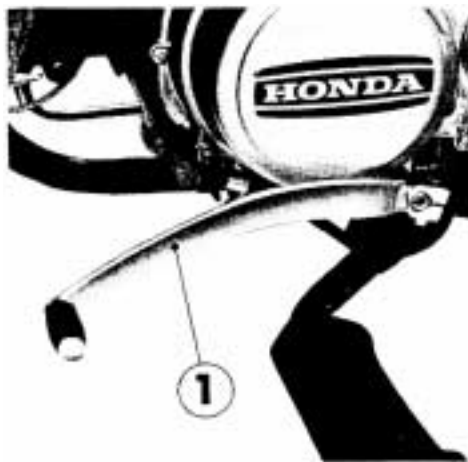
NOTE: Use of the parking brake in freezing weather may cause the brakes to freeze in the locked position.



① Lock lever

GEAR CHANGE PEDAL

The gear change pedal ① is located near the left foot rest. One full stroke of the gear change pedal will shift the transmission into gear. The pedal automatically returns to the horizontal position when released. The next stroke of the pedal engages the next gear in sequence. The shifting sequence is illustrated in the diagram on the opposite page.

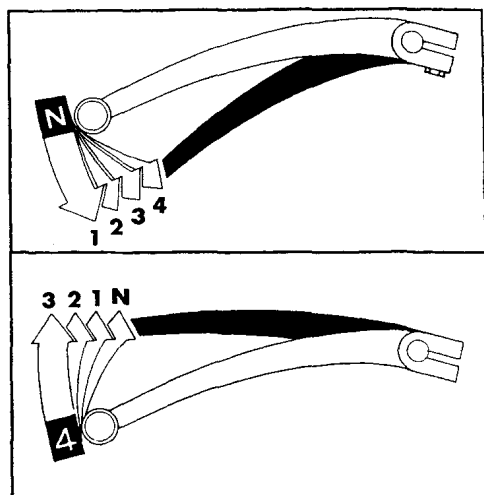


① Gear change pedal

The pedal is depressed with the toe to upshift and is raised to downshift.

Starting with the transmission in neutral, the pedal is depressed to shift into low gear. 2nd, 3rd, and 4th gear are selected in sequence each time the pedal is again depressed.

Each time the pedal is raised, the next lower gear in sequence is engaged until the neutral position is reached.

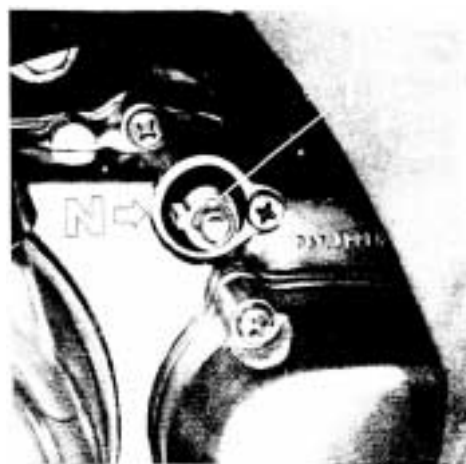


Shifting sequence

NEUTRAL INDICATOR

The neutral indicator ① is located on the left crankcase cover, just behind the recoil starter. This feature enables the rider to see that neutral has been selected before starting the engine.

The indicator rotates as the gears are changed. When the indicator aligns with the "N" mark on the crankcase, the transmission is in neutral.



① Neutral indicator

POSI-TORQUE SPEED RANGE SELECTOR

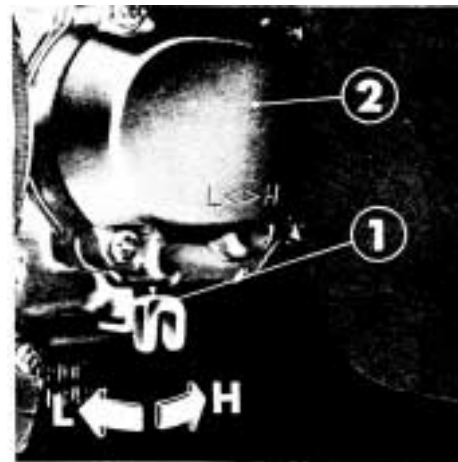
The **ATC 90** is equipped with the Honda Posi-Torque transmission which augments the four forward gears with two final drive ratios.

The speed range selector lever for the sub-transmission is located on the left-crankcase cover to the rear of the recoil starter housing.

Moving the lever to the "L" position selects low range, and moving the lever to the "H" position selects high range. Low range should be selected for low speed riding conditions where greater power is needed, as when climbing hills or traveling difficult

terrain. High range should be selected for higher operating speeds under riding conditions where greater pulling power is not required.

The speed range selector lever may be moved while the engine is at an idle, though it is recommended that the engine first be stopped. If necessary, roll the **ATC 90** forward to facilitate engagement of the sub-transmission gears. Do not move the selector lever while riding or damage to the sub-transmission may result.



① Posi-torque speed range selector lever ② Posi-torque cover

CHOKE LEVER AND HIGH ALTITUDE COMPENSATOR KNOB

The choke lever ① and a high altitude compensator knob ② are located on the left side of the carburetor.

Raising the choke lever will close the choke valve. With the choke lever raised, the carburetor will deliver a rich fuel mixture for starting the engine when cold. Lower the choke lever as the engine attains normal operating temperature.

The carburetor is equipped with an altitude compensator to provide leaner fuel mixture needed in high altitude operation.

Pull the compensator knob out when riding at altitudes above 6000 feet. The knob must be pushed in when riding at altitudes below 6000 feet.



① Choke lever



② High altitude compensator knob

FUEL VALVE

The fuel valve is mounted on the left side of the carburetor.

"S" position

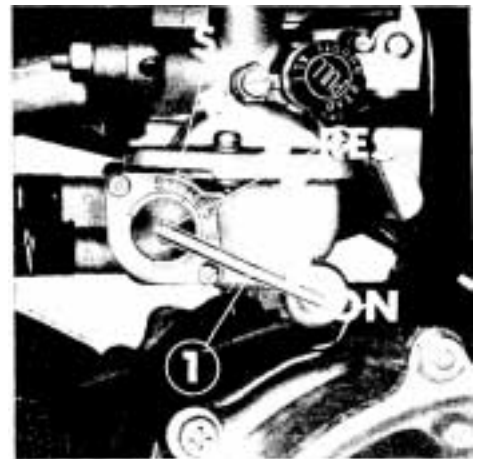
In this position the fuel flow will be cut off. Whenever the vehicle is not in use, set the valve to this position.

"ON" position

The fuel valve lever in this position will permit fuel to flow to the carburetor. When the engine is to be operated, set the valve to this position.

"RES" position

This is the reserve fuel position. The fuel valve should be set in this position only after the regular fuel supply has been consumed. The reserve fuel capacity is approximately one quart. When it becomes necessary to switch to the reserve fuel supply this serves as a warning to the rider that it is time to refill the fuel tank.



① Fuel valve lever

FUEL TANK

The fuel tank cap is removed by twisting it counterclockwise. Fuel tank capacity including reserve is 1.7 gal. Use of low-lead gasoline with 91 research octane number or higher is recommended. If such gasoline is not available, you may use a leaded regular grade gasoline. When refueling, take care to exclude dirt, water, or other contaminants from the fuel tank.

WARNING:

Gasoline is flammable, and explosive under certain conditions. Always stop the engine and do not smoke or allow open flames

or sparks near the ATC 90 when draining or refueling.

FUEL DRAIN

A fuel drain is provided to empty the carburetor and fuel tank for storage or transport.

The fuel drain is opened by turning the carburetor drain screw knob counterclockwise. If the fuel valve is set in the "S" position, the carburetor only will drain. With the fuel valve set in the reserve position, all fuel in the fuel tank and carburetor will drain.

When draining fuel, place the lower end of the carburetor drain tube into

a suitable gasoline container. Before refilling the fuel tank, close the fuel drain by turning the carburetor drain screw knob clockwise until tight.



① Drain screw knob ② Drain tube

OIL RECOMMENDATION

Use only high detergent, premium quality motor oil certified to meet or exceed US car manufacturer's requirements for Service SE. Motor oils intended for Service SE will show this designation on the container.

Oil should be changed at intervals prescribed in the Maintenance Schedule on page 21.

NOTE:

Engine oil is a major factor affecting the performance and service

life of the engine. Non-detergent and low quality oils are specifically not recommended.

The regular use of special oil additives is unnecessary and will only increase operating expenses.

VISCOSITY

Viscosity selection should be based upon the average atmospheric temperature in your riding area. Change to the proper viscosity oil when the atmospheric temperature changes substantially.

RECOMMENDED VISCOSITY:

General, all temperatures

SAE 10W-30 or SAE 10W-40

ALTERNATE:

Above 59°F	SAE 30
32°F to 59°F	SAE 20 or 20W
Below 32°F	SAE 10W

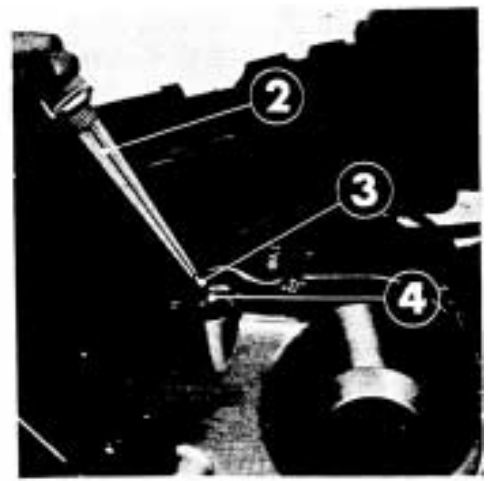
ENGINE OIL LEVEL

Raise or remove the seat for better access to the engine oil filler cap.

The oil filler cap contains a dipstick ② for measuring oil level. Oil level should be checked with the **ATC 90** resting on level ground and the oil filler cap touching the filler orifice but not screwed in. Oil level should be maintained between the upper ③ and lower ④ oil level marks on the dipstick.



① Seat latch



② Dipstick ③ Upper oil level mark
④ Lower oil level mark

THROTTLE LEVER

The throttle lever ① is located at the right handlebar grip and is operated by the rider's thumb. Pressing the lever forward opens the throttle. When the lever is released, spring tension closes the throttle automatically.



① Throttle lever

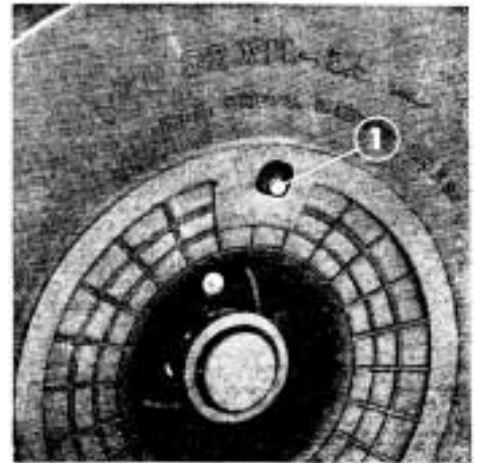
TIRE

The **ATC90** is equipped with 22×11 3.5, Ap. low pressure, tubeless tires. These tires are designed specifically for off-the-road use. Paved surfaces should be avoided, as they will cause excessive tire wear.

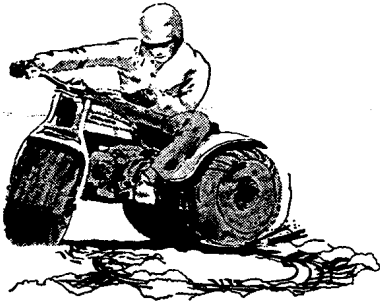
For normal use, the tires should be inflated to a maximum pressure of 2 psi. A manually operated tire pump should be used rather than the high pressure systems found in service stations. This will lessen the chance of inadvertently damaging the tires through overinflation.

Be especially careful to inflate both rear tires equally. If the **ATC 90** is operated with unequal tire pressures, the resultant difference in tire circumference will cause the **ATC 90** to tend to run toward one side and will affect handling adversely.

Recommended Pressure : 1.5 psi
(0.1 kg/cm²)
Max. Pressure : 2 psi
operator only



① Tire valve



PRE-RIDING INSPECTION

Make it your practice to perform a general inspection of the **ATC 90** before each riding session. This inspection will take only a few minutes and can save you much time and expense in the long run.

1. Engine Oil Level

Check engine oil level.
Add oil if necessary.

2. Fuel

Check the quantity of gasoline remaining in the fuel tank. Refill if necessary.

3. Brakes

Check operation and free play in both hand and foot brakes. Adjust if necessary.

4. Tire Pressure

Check tire pressure.

Recommended Pressure : 1.5 psi

Max. Pressure : 2 psi

5. Nuts, Bolts, and Fittings

Check wheels to see that axle nuts are tightened and secured by cotter pins. Check security of all other nuts, bolts, and fittings.

ARTING THE ENGINE



2 Main/headlight switch



4 Neutral indicator

1. Turn the fuel valve lever ① to "ON" position.
2. Turn the main/headlight switch ② to "I" position.
3. Turn the emergency switch ③ to "ON" position.
4. Shift the gear change pedal into neutral. See that the neutral indicator ④ points to "N".
5. Close the choke lever and open the throttle lever approximately 1/4 to 1/3.
6. Pull the recoil starter ⑤ lightly

until compression is felt. With the engine against compression, pull the rope force fully to start.

If the engine does not start after several attempts, it is possible that the engine may have become flooded with excess fuel. To deflood the engine, turn the engine switch off, open the choke, hold the throttle fully open, and pull the recoil starter rope several times.

When the engine is deflooded, turn the engine switch on and repeat the normal starting procedure, but do not close the choke.

- * In cold weather, leave the choke lever closed during the first several minutes after the engine starts and then gradually open the choke as the engine warms up.

NOTE :

Do not race the engine during the warm up period. Revving a cold engine wastes fuel and increases engine wear.

WARNING :

Exhaust contains poisonous carbon monoxide gas. Never run the engine in a closed garage or in a closed garage or confined area.



⑤ Recoil starter

BREAK-IN PROCEDURE

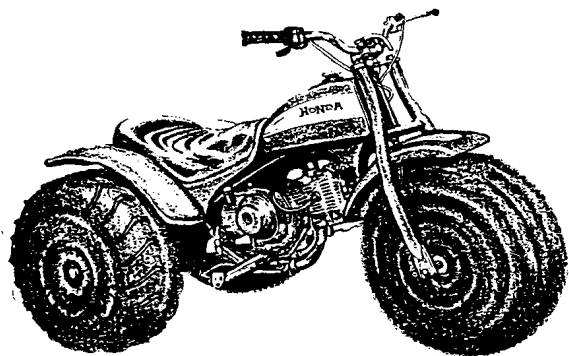
During the first few days of riding, operate your new **ATC 90** so the engine neither pulls laboriously nor approaches maximum R. P. M. Avoid full throttle operation, and select your gear changes to spare the engine undue stress. Careful break-in procedure during initial operation will measurably extend the service life of the engine.

RIDING

1. After the engine has been warmed up, the machine is ready for riding.
2. While the engine is idling, depress the gear change pedal to shift into low (1st) gear.
3. Increase engine speed by opening the throttle.
4. When speed increases close the throttle and shift to 2nd gear by depressing the gear change pedal.
5. This sequence is repeated to progressively shift to 3rd and top gear. The shifting pattern is illustrated on page 7.

PARKING

When the **ATC 90** is parked, turn the main/headlight switch to "OFF" and fuel valve to "S".



STORAGE

Preparing the machine for storage

- ① Completely clean all parts of the machine.
When exposed to sea breeze or salt water, wash the machine down with fresh water and wipe dry.
- ② Drain gasoline from the fuel tank and carburetor.
- ③ Change the engine oil.
- ④ Position the piston to the top of the compression stroke. This can be determined by pulling the starter rope until compression is felt.
- ⑤ Enclose the machine with a dust cover.
- ⑥ Store in a place which is free of humidity and dust.

MAINTENANCE

MAINTENANCE SCHEDULE

The maintenance intervals shown in the following schedule are based upon average riding conditions. Machines subjected to severe use, or ridden in unusually dusty areas, require more frequent servicing.

Items marked * should be serviced by an authorized Honda dealer, unless the owner has proper tools and is mechanically proficient. Other maintenance items are simple to perform and may be serviced by the owner.

INITIAL SERVICE PERIOD

FIRST WEEK OF OPERATION

- ENGINE OIL - Change.
- *CONTACT POINTS AND IGNITION TIMING - Clean, check, and adjust or replace if necessary.
- *VALVE TAPPET CLEARANCE - Check and adjust if necessary.
- *CAM CHAIN TENSION - Adjust
- *CARBURETOR - Check and adjust if necessary.
- THROTTLE OPERATION - Inspect cable. Check and adjust free play.
- *CLUTCH - Check operation and adjust if necessary.
- DRIVE CHAIN - Check, lubricate, and adjust if necessary.
- BRAKE CONTROL LINKAGE - Check linkage and adjust if necessary.
- TIRES - Inspect and check air pressure.
- LIGHTING EQUIPMENT - Check.
- ALL NUTS, BOLTS, AND OTHER FASTENERS - Check security and tighten if necessary.

**REGULAR
SERVICE PERIOD
EVERY 30
OPERATING DAYS**

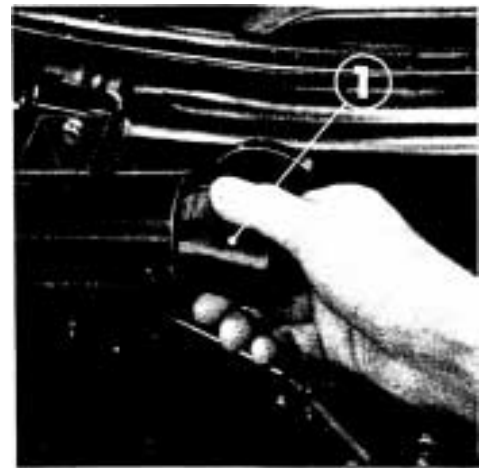
NOTE
Change oil every
30 operating days
or every 3
months, which-
ever occurs first.

EVERY YEAR

- ENGINE OIL - Change.
- SPARK PLUG - Clean and adjust gap, or replace if necessary
- *CONTACT POINTS AND IGNITION TIMING - Clean, check, and adjust or replace if necessary.
- *VALVE TAPPET CLEARANCE - Check and adjust if necessary.
- *CAM CHAIN TENSION - Adjust
- POLYURETHANE FOAM AIR FILTER ELEMENT - Clean and oil. Service more frequently if operated in dusty areas.
- *CARBURETOR - Check and adjust if necessary.
- THROTTLE OPERATION - Inspect cable. Check and adjust free play.
- *CLUTCH - Check operation and adjust if necessary.
- DRIVE CHAIN - Check, lubricate, and adjust if necessary.
- BRAKE CONTROL LINKAGE - Check linkage and adjust if necessary.
- TIRES - Inspect and check air pressure.
- SPARK ARRESTOR - Purge
- LIGHTING EQUIPMENT - Check.
- ALL NUTS, BOLTS, AND OTHER FASTENERS - Check security and tighten if necessary
- FUEL FILTER SCREEN - Clean.
- FUEL LINE(S) - Check.
- *STEERING HEAD BEARINGS - Adjust.
- *BRAKE SHOES - Inspect and replace if worn.

TOOL KIT

The tool kit is stored in the compartment as shown in the figure. The tools provided are sufficient to perform routine maintenance and simple repairs. Any extensive work requiring additional tools should be performed by an authorized Honda dealer.



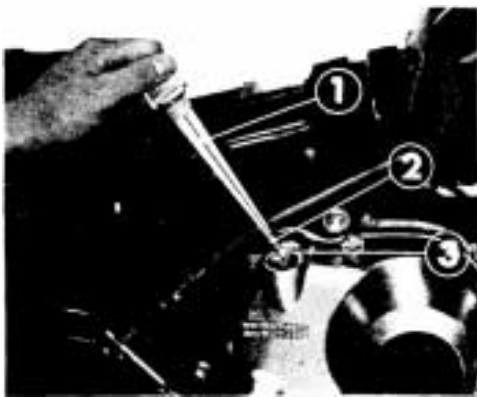
① Tool kit

Listed below are the items included
in the tool kit.

- ① 8×12mm open end wrench
- ② 10×14mm open end wrench
- ③ Spark plug+19mm socket wrench
- ④ Pliers
- ⑤ Tool bag
- ⑥ Screw driver blade
- ⑦ Screw driver handle
- ⑧ 17mm socket wrench
- ⑨ Socket wrench handle

MAINTENANCE OPERATIONS

ENGINE OIL LEVEL



- ① Dipstick
- ② Upper level mark
- ③ Lower level mark

Check engine oil level at the start of each day the **ATC 90** is to be ridden. Raise or remove the seat for better access to the engine oil filler cap. The oil filler cap contains a dipstick for measuring oil level.

Oil level should be checked with the **ATC 90** resting on level ground and with the oil filler cap touching the filler orifice but not screwed in.

Oil level should be maintained between the upper and lower oil level marks on the dipstick.

ENGINE OIL CHANGE

Engine oil should be changed in accordance with the maintenance schedule on pages 21 and 22. Use motor oils of the grade and viscosity recommended on page 12.

When changing oil, drain the used oil from the crankcase while the engine is still warm. This will ensure complete and rapid draining.

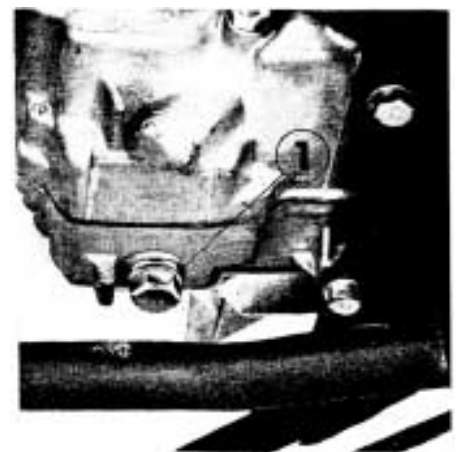
1. Remove the oil filler cap from the right crankcase cover.

2. Place a drip pan under the engine to catch the oil, and then remove the drain plug ① with a 17mm box wrench.
3. After the oil stops draining from the crankcase operate the recoil starter several times to drain any oil which may be left in the engine.
4. When the oil has been completely drained, reinstall the drain plug. Be sure the washer which seals the drain plug is in good condition.
5. Fill the crankcase through the oil filler opening with approximately 1.9 US pt (0.9 liter) of recommended grade of motor oil.

Make sure that the oil level is between the upper and lower marks. If the level is low, add oil.

NOTE :

Machines ridden in unusually dusty areas require oil changes at more frequent intervals than specified in the MAINTENANCE SCHEDULE.

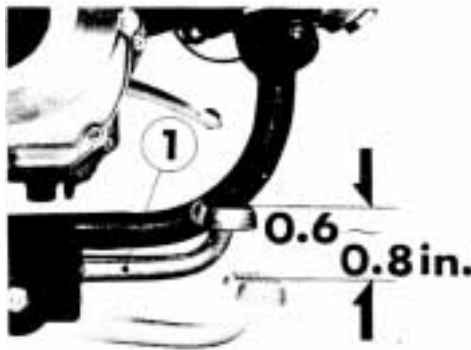


① Drain plug

BRAKE ADJUSTMENT

Free play measured at the end of the brake pedal, should be maintained at 0.6–0.8 inch.

The adjusting nut is located on the brake operating rod at the rear of the frame.



① Brake pedal

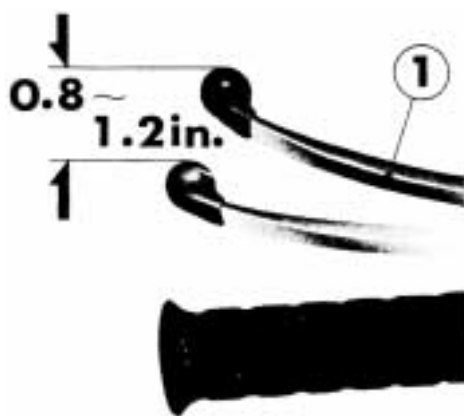


② Adjusting nut

Brake Lever :

Free play, measured at the tip of the brake lever, should be maintained at 0.8-1.2 inch.

Adjusting nuts are located at the brake cable mounting on the right side of the frame just behind the engine.



① Brake lever



② Adjusting nuts

DRIVE CHAIN ADJUSTMENT

The drive chain will wear through use and requires periodic adjustment. Adjustment is normally performed in accordance with the MAINTENANCE SCHEDULE.

Loosen the chain tensioner locking nut ① and push the chain tensioner plate ② upward until resistance is felt. Retighten the locking nut.



① Nut ② Chain tensioner plate

DRIVE CHAIN LUBRICATION

The drive chain can be lubricated through the hole in the top rear of the drive chain case. This hole is covered with a rubber plug which excludes dirt from the chain case. Be sure to reinstall the plug after lubrication.

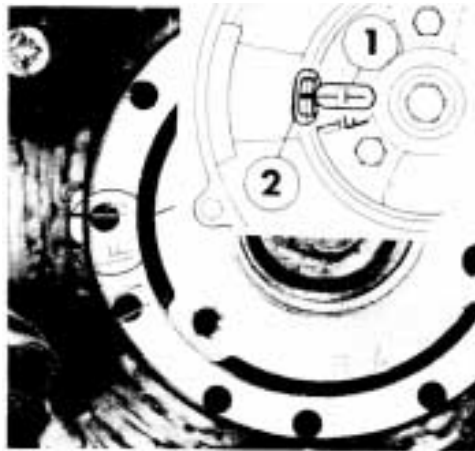
Commercially prepared drive chain lubricants may be purchased at most motorcycle dealerships and should be used in preference to motor oil for lubricating the drive chain.



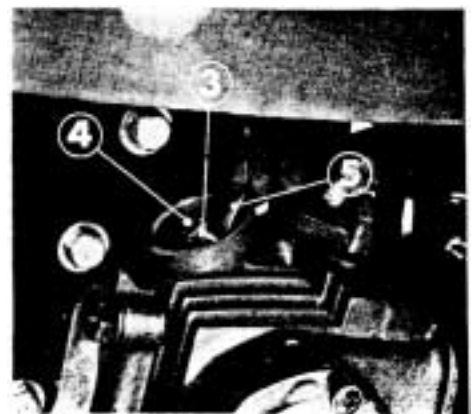
VALVE TAPPET ADJUSTMENT

Valve tappet clearance should be maintained at 0.002 in. (0.05mm). Excessive clearance will cause tappet noise. Insufficient clearance will cause loss of power and valve damage.

Valve tappet clearance must be checked with the engine cold.



- ① "T" mark
- ② Index mark



- ③ Adjusting screw lock nut
- ④ Adjusting screw
- ⑤ Tappet gauge

1. Remove the recoil starter and tappet adjusting hole caps.
2. Rotate the dynamo rotor counter-clockwise until the "T" mark ① on the dynamo rotor lines up with the timing index mark ② on the stator.

In this position, the piston may either be on the compression or the exhaust stroke. The adjustment must be made when the piston is on top of the compression stroke when both the inlet and exhaust valves are closed. This can be determined by moving the tappets with the fingers. If the tappets are free, it is an indication that the

valves are closed and that the piston is on the compression stroke. If the tappets are tight and the valves are open, rotate the dynamo rotor 360° and realign the "T" mark to the timing index mark. Check the clearance of both valves by inserting the 0.002 in. (0.05 mm) gauge between the adjusting screw and valve stem.

If it is necessary to make an adjustment, loosen the adjusting screw lock nut ③ and turn the adjusting screw ④ so that the valve clearance will offer a slight resistance when the gauge is inserted. After completing the adjustment, tighten the adjusting screw lock nut while

holding the adjusting screw to prevent it from turning. Recheck the clearance to make sure that the adjustment has not been disturbed.

CONTACT BREAKER POINT ADJUSTMENT

1. Remove the point and dynamo cover.
2. Open the contact breaker points ① with finger or small screw driver blade and examine the contact surface. If pitted or burned, the points should be replaced and the condenser checked. A gray discoloration is normal and can be removed with an ignition point file. Filing should be done carefully and kept to minimum. After filing clean the point contacts with a piece of unwaxed paper such as a business card or chemical point cleaner.
3. Turn the dynamo rotor counter-clockwise until the contact points open to their maximum clearance. Check the contact point gap with a clearance gauge.
4. The standard gap is 0.012~0.016 in. (0.3~0.4 mm).
5. If adjustment is necessary, loosen the contact breaker point locking screws ② and move the base of the contact breaker point assembly to achieve the correct gap. When properly gapped retighten the locking screws ②.



① Contact breaker points
② Contact breaker point locking screws

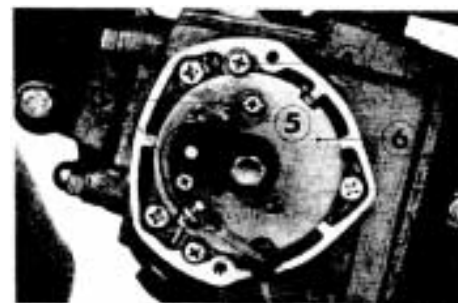
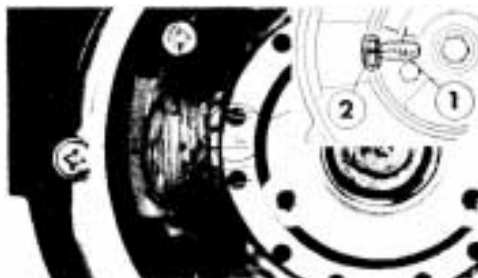
IGNITION TIMING

Do not set ignition timing until after the contact breaker point gap has been adjusted.

1. Rotate the dynamo rotor counter-clockwise and align the "F" mark ① to the index mark ②. At this time the contact breaker point ⑤ should just start to open.
2. To adjust loosen the two base plate locking screws ④ and move the contact breaker base plate ⑥. Moving the plate in the clockwise direction will advance the timing.
3. After performing the ignition timing adjustment recheck the contact breaker point gap ⑤ to be sure that it has not been changed. Static ignition timing is relatively accurate and will give satisfactory engine performance. However, the

use of a stroboscopic timing light will assure the more precise timing. When using the stroboscopic timing light, idle the engine at 1,200 rpm.

Perform the adjustment in the same manner as described above.



- ① "F" mark ② Index mark
- ③ Breaker point locking screws
- ④ Base plate locking screws
- ⑤ Contact breaker point
- ⑥ Base plate

SPARK PLUG REPLACEMENT + ADJUSTMENT

For normal riding conditions, we recommend using an NGK D-8HS spark plug.

The spark plug may be removed for cleaning or replacement, using the socket wrench provided in the tool kit.

When the used spark plug is removed inspect the firing tip. If the electrodes and insulator nose appear unusually fouled or burned, we suggest that you contact your Honda dealer for his analysis of the problem.

A fouled spark plug can be indicative of too cold a spark plug heat range selection, rich fuel mixture or excessive oil consumption.

A spark plug with burned electrodes and a glazed or blistered insulator nose can be indicative of too hot a spark plug heat range selection, lean fuel mixture or excessively advanced ignition timing.

WARNING :

The use of spark plugs of incorrect size or heat range can cause serious engine damage.

The spark plug gap should be adjusted to 0.024~0.028 in. (0.6~0.7 mm), using a clearance gauge between the electrodes. Adjustment is made by carefully bending the side electrode.

Before installing the spark plug, clean any oil or dirt from the spark plug seat in the cylinder head.

Install the spark plug by hand until finger tight, then using the spark plug wrench, tighten the spark plug an additional 1/2 to 3/4 turn or until the sealing gasket is compressed.



① Bend side electrode to adjust gap.

AIR CLEANER MAINTENANCE

The air filter element accumulates dust and must be cleaned periodically. If the **ATC 90** is ridden in unusually dusty areas, the filter element must be cleaned at more frequent intervals than specified in the MAINTENANCE SCHEDULE.

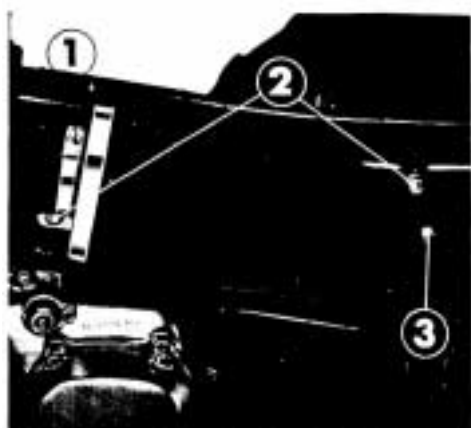
1. Remove the mounting bolts ② and the air cleaner tube clamp ①.
2. Unscrew the air filter setting bolt ③, and withdraw the filter from the housing.
3. Remove the filter element ④ from its core, and wash the filter element in clean stoddard solvent and allow

to dry thoroughly.

4. Soak the filter element in clean gear oil (SAE 80~SAE 90) until saturated, then squeeze out excess oil.
5. Reassemble by reversing the disassembly sequence.

WARNING:

Gasoline or low flash point solvents are highly flammable and must not be used to clean air filter elements.



① Air cleaner tube clamp.
② Mounting bolts ③ Filter setting bolt



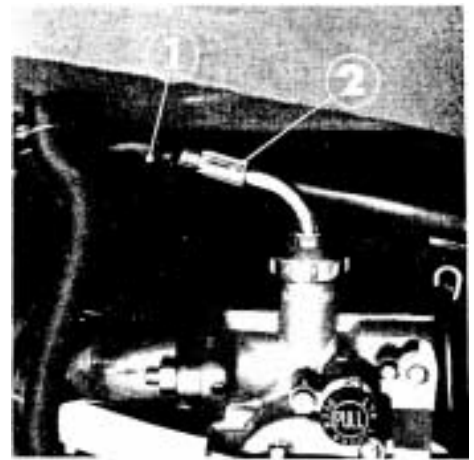
④ Filter element

THROTTLE CABLE INSPECTION + ADJUSTMENT

Inspect the condition and operation of the throttle cable. The throttle cable must not bind or impair smooth operation of the throttle lever in any steering position. Reroute the cable if it is improperly installed. Replace the cable if it has become worn or kinked.

Free play, measured at the tip of the throttle lever, should be maintained at 0.2 inch.

The adjusting nut is located the top of the carburetor, against the end of the throttle cable sheath. Slide back the rubber sleeve ① to expose the throttle cable adjuster ②. Replace the sleeve after adjustment.

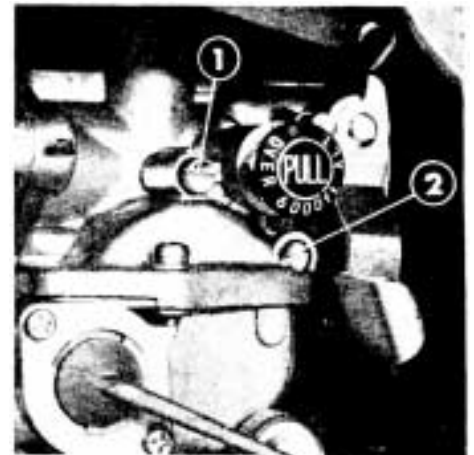


① Rubber sleeve
② Throttle cable adjuster

CARBURETOR ADJUSTMENT

The carburetor should be adjusted with the engine warmed to operating temperature and the choke fully open.

1. Turn the throttle stop screw ① until the engine idles at 1,200 R. P. M. The throttle stop screw is turned clockwise to increase engine speed and counterclockwise to decrease engine speed.
2. Turn the air screw ② both clockwise and counterclockwise until you hear the engine miss or decrease in speed. Set the air screw exactly between these two extreme positions. Turning the air screw clockwise creates a richer fuel mixture, while turning the air screw counterclockwise creates a leaner fuel mixture. Usually the correct setting will be found to be $1 \frac{1}{8}$ to $1 \frac{3}{8}$ turns open from a fully closed position.
3. If idle speed has changed after adjusting fuel mixture, readjust the throttle stop screw ①.

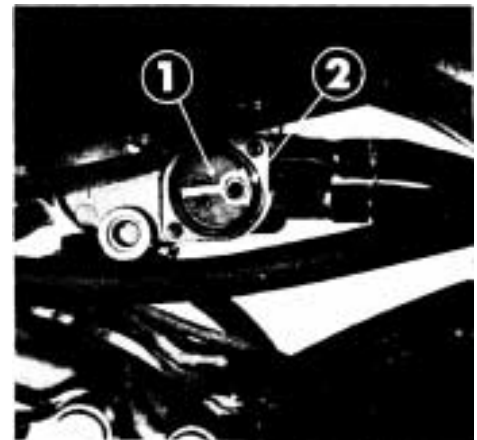


① Throttle stop screw ② Air screw

FUEL STRAINER MAINTENANCE

The fuel strainer is located on the right side of the carburetor body. The fine mesh screen of the strainer prevents dirt from entering the carburetor passages. Dirt which accumulates at the filter must be removed periodically, or the flow of fuel will eventually be restricted.

1. Turn the carburetor fuel valve to the "S" position.
2. Remove the two screws which retain the fuel strainer cover, and remove the cover.
3. Remove the neoprene "O" ring ② and the filter screen ①.
4. Wash the filter screen in solvent.
5. Reassemble by reversing the disassembly sequence.
6. Turn the carburetor fuel valve to the "ON" position, and check for leaks at the fuel strainer cover.



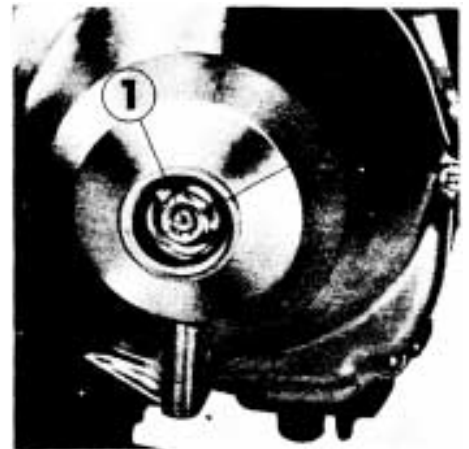
① Filter screen ② "O" ring seal

CLUTCH ADJUSTMENT

The automatic clutch must be adjusted while the engine is not running.

Loosen the lock nut ②, and turn the clutch adjuster ① counterclockwise until you feel resistance. Then turn the clutch adjuster 1/8 to 1/4 turn clockwise, and tighten the lock nut to hold the adjuster in this position.

After adjustment, start the engine and test ride the **ATC 90** to be certain that the clutch is operating properly.

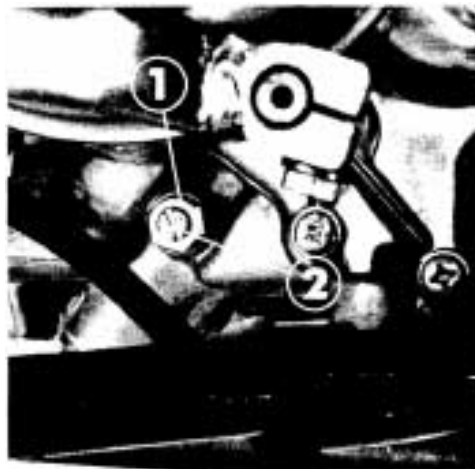


① Clutch adjuster ② Lock nut

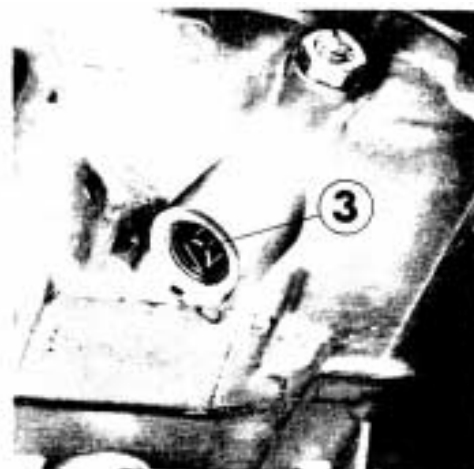
CAM CHAIN ADJUSTMENT

Too tight or too loose a cam chain will adversely affect the engine. Make tension adjustment while the engine is idling.

1. To adjust, loosen the lock nut ①, and loosen tensioner adjust bolt ② approximately one half turn.
2. If the chain is still noisy even after the above adjustment, loosen the 14 mm sealing bolt located on the left bottom side of the crankcase, and screw in the tensioner bolt ③ gradually until the cam chain becomes quiet. After completing the adjustment, tighten the tensioner adjust bolt, lock nut, and 14 mm sealing bolt securely.



① Lock nut ② Tensioner adjust bolt



③ Tensioner bolt

SPARK ARRESTOR MAINTENANCE

The exhaust system spark arrestor must be purged of accumulated carbon periodically.

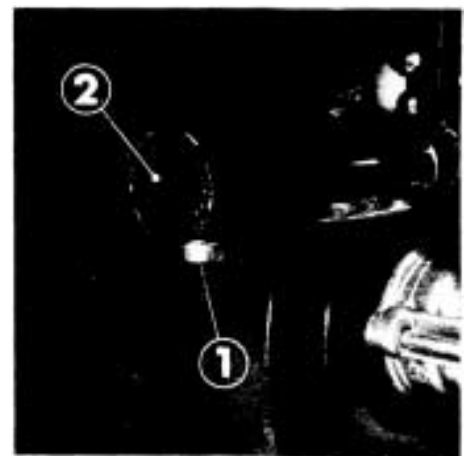
1. Shift the gear change pedal to place the transmission in "Neutral" position.
2. Stop the engine.
3. Remove the diffuser pipe mounting bolt ① and slide out the diffuser pipe ②.
4. Start the engine, and purge accumulated carbon from the spark arrestor by momentarily revving up

the engine.

5. Stop the engine.
6. Reinstall the diffuser pipe with the mounting bolt.

WARNING :

Servicing must be performed when the engine cools down completely.



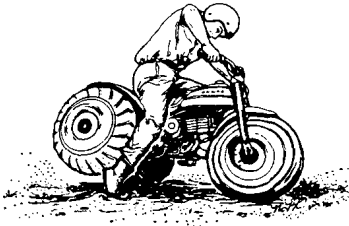
- ① Diffuser pipe mounting bolt
- ② Diffuser pipe

RIDING THE HONDA ATC

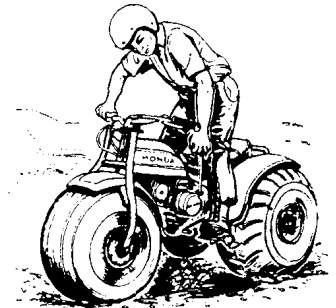
SAFETY PRECAUTIONS

For your initial riding practice, select a safe area, free of obstacles, with an even surface of dirt, sand, snow, etc. Avoid paved surfaces, as they are more difficult on which to learn to maneuver and will also significantly shorten the life of the tires.

The clothing most suitable for comfort and protection varies with factors of climate and hazards of the terrain to be traveled. This matter is therefore best left to the discretion of the individual rider. In all circumstances, however, we recommend wearing a safety helmet, and boots which rise at least above the ankles.



Shift the transmission into neutral before starting the engine. Allow sufficient warm up time before proceeding. Ride with your feet upon the foot pegs at all times. Under normal riding conditions, it is not necessary nor desirable to touch the ground for balance.



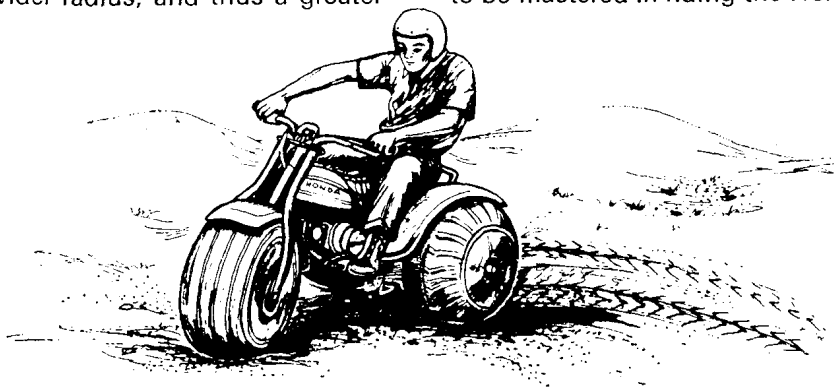
WARNING: IF YOUR FEET ARE REMOVED FROM THE FOOTPEGS TO TOUCH THE GROUND WHILE THE ATC IS IN MOTION, THEY COME IN CONTACT WITH THE REAR WHEELS.

TURNING MANEUVERS

For better traction in off-the-road use, the ATC has been fitted with a rear axle which drives both rear wheels equally at all times.

When negotiating a turn, however, the wheel on the outside of the turn must travel a wider radius, and thus a greater

distance, than the inside wheel. As the rear axle does not permit differing rate of wheel rotation, it is not enough to merely steer the ATC into a turn. The new rider must learn to shift his weight and control the throttle to allow the rear tires to negotiate the turn. This is the primary technique to be mastered in riding the Honda ATC.

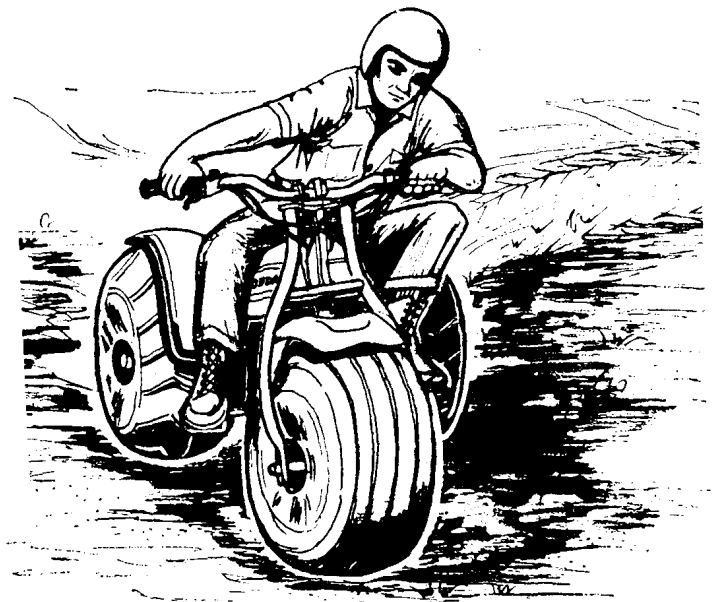


For your initial riding practice, operate the ATC in low gear. Defer higher speeds until you are confident of your proficiency.

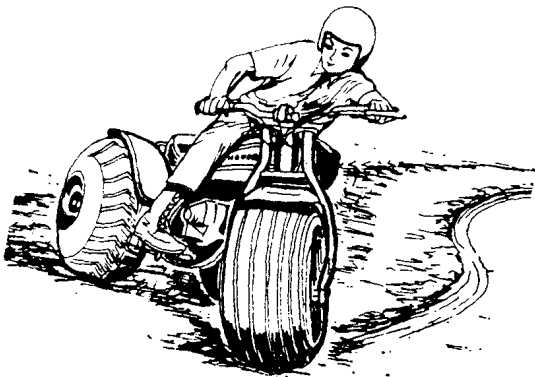
Practice turning the ATC at slow, constant speeds. **Steer in the direction of the turn, and lean your body to the inside of the turn, while supporting your weight on the outer foot peg. Use the throttle to maintain power throughout the turn.**

This technique allows the ATC to lean slightly toward the outside, altering the balance of traction between the rear wheels sufficiently to let them negotiate the turn.

Once this technique is learned, turning maneuvers can be performed within a relatively small area.



SKIDDING



Incorrect turning technique may cause the front wheel to slide straight ahead when steered, without affecting the ATC's direction of travel. If this should occur, close the throttle, come to a stop, then continue practice, adhering to the technique out-lined on the preceding page.

If the front wheel tends to skid in mud or snow, you may be able to improve control under these conditions by leaning forward, transferring additional weight to the front wheel.

If the rear wheels inadvertently skid sideways, correct your slide by steering in the direction of the skid if you have room to perform this maneuver safely. Avoid braking or accelerating until you have directional control of the ATC.

To avoid skids while traveling any slippery terrain, the rider must exercise a high degree of caution.

After you become experienced at handling the ATC, you may wish to try some international skidding maneuvers. Controlled skids and spins, when performed safely, add to the sport the rider can enjoy. However, as skidding maneuvers are inherently more hazardous than those performed under full traction, we must caution the rider to first master the basic techniques of handling the ATC before practicing any skidding maneuver.

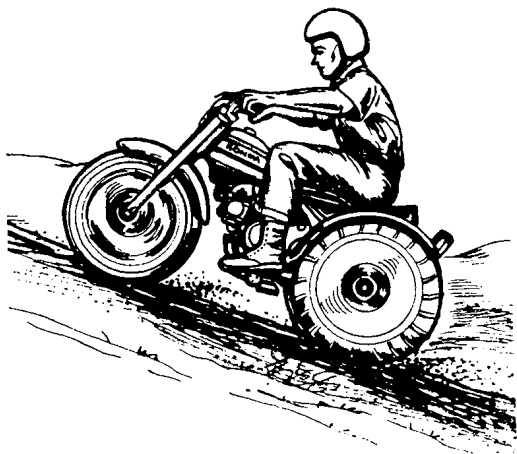
The technique in executing a skidding turn differs from the basic turning technique previously outlined in that the rider must steer more sharply to the side and must open the throttle wider in order to break traction. As greater power is needed to break traction, it is easier to initiate a rear wheel skid with the transmission in low gear.

Once the skid is begun, steering opposite to the direction of the skid will tend to cause the ATC to spin in a circle, while steering in the direction of the skid will tend to cause the ATC to resume a straight course. Lean your body to counter centrifugal force and reduce the hazard of overturning.

Surface composition is, of course, a major factor affecting skidding capability. It is obviously easier to slide on packed snow than in deep sand. Surfaces with extremely low or extremely high coefficients of friction must not to be used for skidding maneuvers, however. It is dangerous to skid on ice, because you may lose all directional control, and it is dangerous to skid on pavement, because you may regain traction suddenly and unexpectedly, which can cause you to lose your balance and overturn.



CLIMBING HILLS



Practice climbing on even slopes of less than 20°. The ATC's capability in climbing hills or traveling any specific terrain is dependent upon the skill of the rider. As you gain experience in handling the ATC, and learn the hazards to be encountered and your own limitations, you may then proceed to ride more challenging terrain. However, you must first be able to discern and avoid any hill or hazard that would cause the ATC to overturn.

WARNING: IF THE FRONT WHEEL IS ALLOWED TO RISE FROM THE GROUND. THIS WILL LESSEN YOUR CONTROL OVER THE ATC AND FURTHER, MAY CAUSE THE ATC OVERTURN BACKWARD. THE SUDDEN APPLICATION OF POWER BY OPENING THE THROTTLE OR GEAR CHANGING WILL TEND TO RAISE THE FRONT WHEEL, ESPECIALLY WHILE ASCENDING A HILL.

The riding technique for hill climbing involves transferring your weight toward the front wheel to keep it in contact with the ground. This may be done by leaning forward from the normal riding position, or for greater weight transfer, by standing on the foot pegs and leaning forward.

Take a running start, approaching the base of the hill in the appropriate gear and speed for the ascent, and climb at a steady rate of speed.

If you should find that you have incorrectly estimated climbing capability and lack the power or traction to continue the ascent, then if space permits, turn the ATC while you still have the forward speed to do so and descend. Avoid stalling part way up a hill, as maneuvering will then become more difficult.

WARNING: BEFORE ATTEMPTING ANY TURNING MANEUVER ON A HILLSIDE, THE RIDER SHOULD FIRST LEARN TURNING TECHNIQUE BY PRACTICING ON LEVEL GROUND.

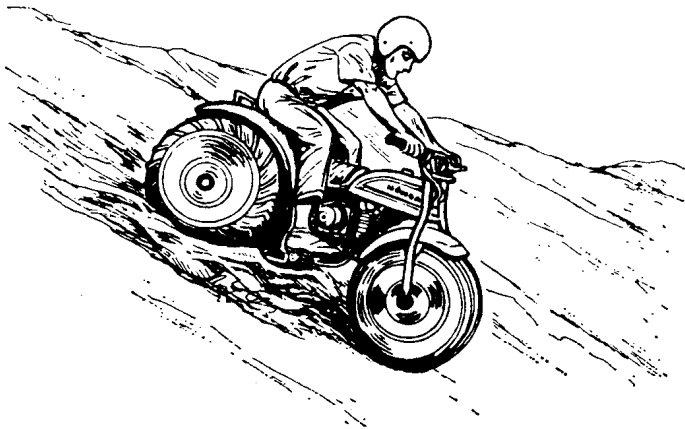
If you do lose all forward speed, and can neither continue uphill nor maneuver the ATC under its own power, it will be necessary to dismount and physically turn the ATC about in order to descend.

WARNING: TO AVOID OVERTURNING, THE RIDER MUST EXERCISE A HIGH DEGREE OF CAUTION WHEN DISMOUNTING OR LUGGING THE ATC ABOUT ON A HILLSIDE.

If it becomes necessary to roll the ATC backward, first shift the transmission into neutral. Wherever circumstances permit, however, we strongly recommend that the rider turn the ATC rather than backing downhill.

WARNING: APPLYING THE BRAKES OR ENGAGING THE TRANSMISSION, WHILE ROLLING BACKWARD DOWNHILL, CAN EASILY CAUSE THE ATC TO OVERTURN BACKWARD AND TUMBLE UPON THE RIDER.





DESCENDING HILLS

It is usually advisable to descend hills with the ATC pointed directly downhill, avoiding angles that would cause the ATC to lean sharply to one side. As you approach the point of descent, stop and survey the terrain below. Never ride headlong past your limit of visibility. When you have picked a safe path of descent, shift the transmission into low gear and descend slowly with the throttle closed. Sit well back in the seat, with arms extended and braced upon the handlebars.

When descending sand dunes, we recommend that the rider also apply the brakes, locking the rear wheels to further retard forward speed.

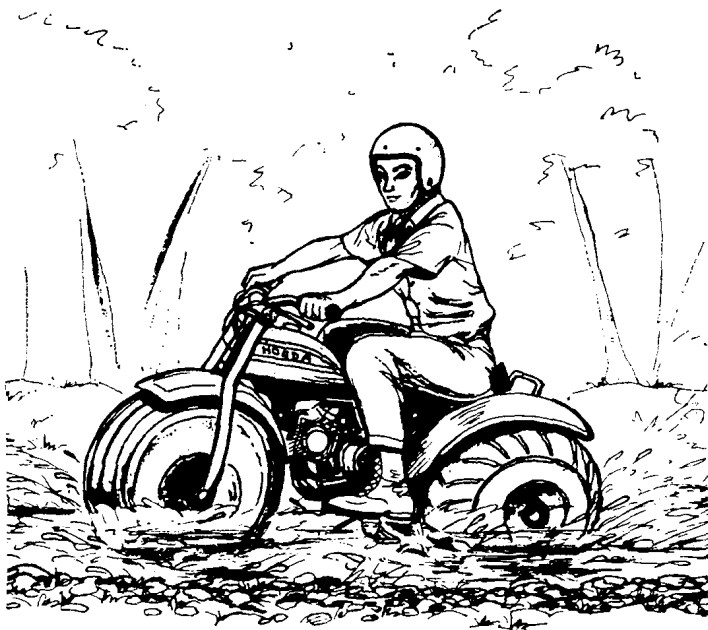
Braking effectiveness is, of course, reduced while descending any incline with loose surface composition.

TRAVERSING SLOPES

When riding across a slope, at right angles to the incline of the hill, lean your body in the uphill direction to maintain balance and stability. In addition, especially on loose surface such as sand, it may become necessary to steer slightly uphill in order to maintain your course of travel.

WARNING: *BALANCE IS MORE PRECARIOUS WHILE THE ATC IS TILTED TO ONE SIDE. AVOID TRAVERSING SLOPES WHERE THERE IS SLIPPERY OR DIFFICULT TERRAIN.*





RIDING THROUGH WATER

The Honda ATC can ford water to a depth of approximately 10 inches, though the rider must be careful to avoid wetting the spark plug or air cleaner.

When crossing streams, choose a course where both banks have gradual inclines. Proceed at a slow, steady speed, and take care to avoid submerged obstacles and slippery rocks.

WARNING: DO NOT FORD ANY STREAM WITH FAST FLOWING WATER.

After riding through water, the brakes may be less effective than normal. Test the brakes after traveling through any water, and if necessary, apply the brakes repeatedly until the heat of friction has dried them, and the brakes regain their normal effectiveness.

TIRE CARE

The Honda ATC is equipped with 22 x 11—3.5, low pressure, tubeless tires. For normal use, they should be inflated to a maximum pressure of 2 p.s.i. A manually operated tire pump should be used rather than the high pressure systems found in service stations. This will lessen the chance of accidentally damaging the tires through overinflation.

If no air pressure gauge is available to accurately measure 2 p.s.i., this value can be obtained by measuring the circumference of the tires with a measuring tape. The tires will increase in circumference as air pressure is added. When inflated to 2 p.s.i., the maximum tire circumference, measured over the tread ribs, will be approximately 72 to 73 inches. The relationship between tire pressure and actual circumference varies slightly with factors of wear and stretching that occur through use.

To increase traction for use in deep snow, the tires may be deflated and run with neutral pressure (0 p.s.i.). The tires can be quickly depressurized by removing the valve cores

from the tire valve stems. As soon as all air under pressure has escaped, replace the valve cores. The air remaining in the tires at atmospheric pressure will be sufficient to support the weight of the ATC while ridden in deep snow. Be sure to reinflate the tires to 2 p.s.i. before riding the ATC on firmer terrain.

Be especially careful to inflate both rear tires, equally. If the ATC is operated with unequal tire pressures, the resultant difference in tire circumference will cause the ATC to tend to run toward one side and will affect handling adversely.

If these tires sustain a puncture, they may be repaired by applying an automotive inner tube patch to the outside surface of the tire. The procedure for applying a patch is the same as that used in patching automobile inner tubes. Any tire that is severely damaged or damaged in a position that will not hold a patch must be replaced.

Whenever the ATC is to be operated far from service facilities or available transport, we recommend that the rider carry with him a tire pump and a suitable tire patch kit.

TRANSPORTING THE ATC

FUEL

If the ATC is to be carried on its side, drain all gasoline from the fuel tank and carburetor to prevent leakage during transit.

If your ATC is equipped with the optional, sealing fuel tank cap, it will be necessary to drain the carburetor only

It is not necessary to drain the engine oil from the crankcase, as no appreciable oil leakage will occur when the ATC is rested on its side.

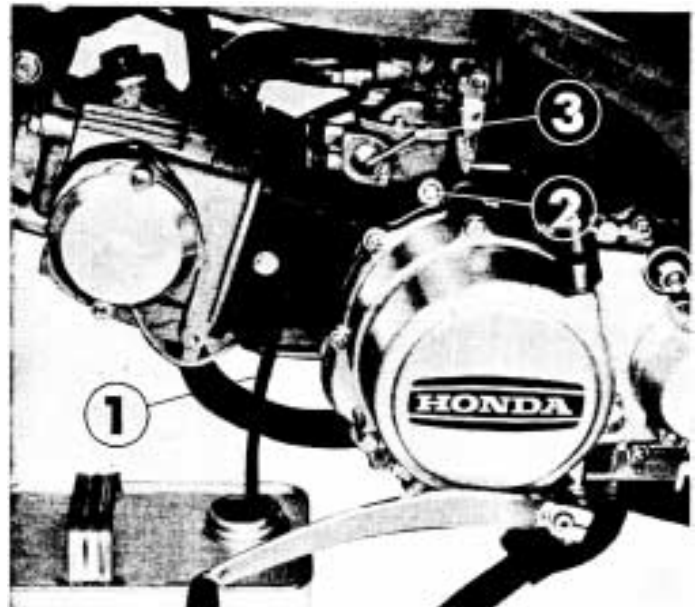
WARNING: *GASOLINE IS FLAMMABLE, AND EXPLOSIVE UNDER CERTAIN CONDITIONS. ALWAYS STOP THE ENGINE, AND DO NOT SMOKE OR ALLOW OPEN FLAMES OR SPARKS NEAR THE ATC WHEN DRAINING OR REFUELING.*

DRAINING FUEL FROM THE TANK AND CARBURETOR

You may drain all fuel through the carburetor drain tube. This tube is connected to the carburetor float bowl at the left side of the engine and extends downward by the left foot peg.

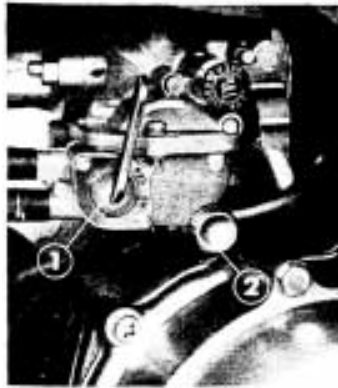
1. Turn the carburetor fuel valve to the reserve position. This will allow all gasoline in the fuel tank to drain through the carburetor.
2. Place the free end of the carburetor drain tube into a suitable gasoline container.
3. Open the carburetor drain by turning the drain screw knob counterclockwise.
4. When all fuel has been drained from the ATC, close the carburetor drain screw.
5. Turn the carburetor fuel valve to the "S" position.

- ① DRAIN TUBE
- ② DRAIN SCREW
- ③ FUEL VALVE





SEALING FUEL TANK CAP-
OPTIONAL EQUIPMENT.



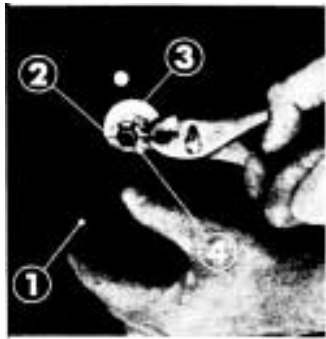
- ① FUEL VALVE
- ② DRAIN SCREW

TRANSPORTING THE ATC (Continued)

DRAINING FUEL FROM THE CARBURETOR ONLY ; ATC EQUIPPED WITH SEALING FUEL TANK CAP

If your ATC is equipped with the optional, sealing fuel tank cap, it may be transported with gasoline in the fuel tank, and it will be necessary to drain the carburetor only.

1. Turn the fuel tank cap lever to the "OFF" position, and turn the carburetor fuel valve to the "S" position. This seals the fuel tank against leakage in transit.
2. Drain the carburetor as described in steps 2, 3, and 4 on the preceding page.



AXLE CAP
COTTER PIN
AXLE NUT
WASHER



TRANSPORTING THE ATC (Continued)

REMOVING THE REAR WHEELS

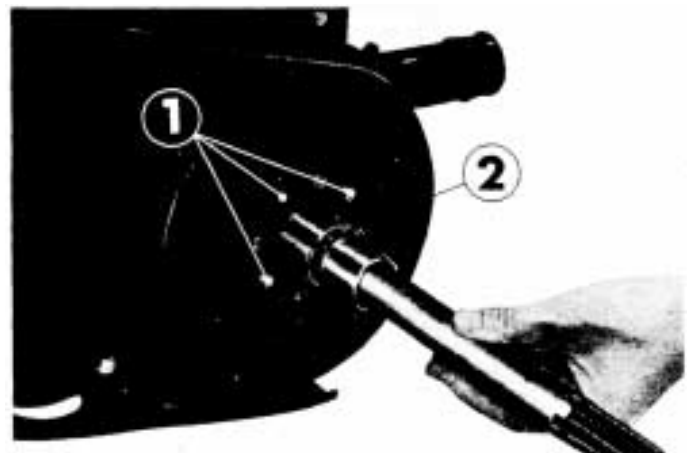
1. Unlatch the seat and remove it from the ATC.
2. Remove the axle cap from the right rear wheel.
3. Remove the cotter pin which secures the axle nut.
4. Loosen the axle nut, using the 19 mm socket. Remove the axle nut and washer.
5. Remove the wheel and wheel spacer from the axle.
6. Remove the axle and left rear wheel from the ATC.
7. The left rear wheel may be removed from the axle following the same procedure used to remove the right rear wheel.

INSTALLING THE REAR WHEELS

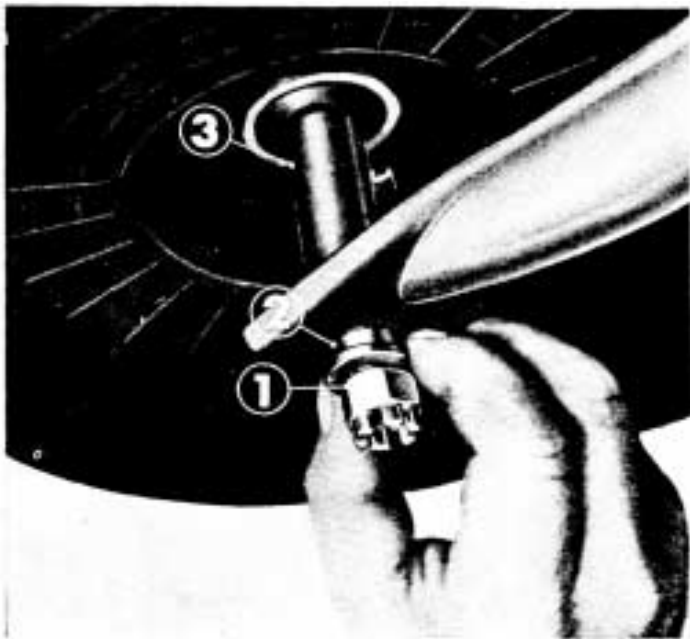
Reinstall the rear wheels by reversing the disassembly sequence.

When installing the rear axle, align the axle so that the four pins in the sprocket shaft of the ATC fit into the corresponding holes in the drive flange of the axle.

Replace any axle nut cotter pins that appear damaged or broken.



- ① PINS
- ② FLANGE



TRANSPORTING THE ATC (Continued)

REMOVING THE FRONT WHEEL

If limited carrying space requires removal of the front wheel, the procedure is as follows:

1. Remove the cotter pins securing both front axle nuts.
2. Loosen both axle nuts, using the 17 mm socket from the tool kit. Remove the nuts and axle collars.
3. Remove the front wheel and axle from the ATC.
4. Remove the axle and wheel spacer from front wheel.

- ① AXLE NUT
- ② AXLE COLLAR
- ③ WHEEL SPACER

INSTALLING THE FRONT WHEEL

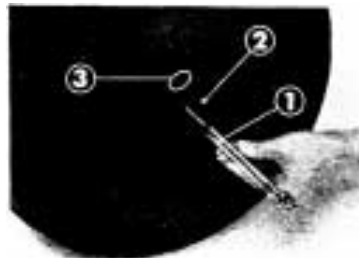
Reinstall the front wheel by reversing the disassembly sequence.

Insert the front axle through the wheel hub from the side of the wheel on which the tire valve stem is located. Install the wheel spacer on the other side of the wheel.

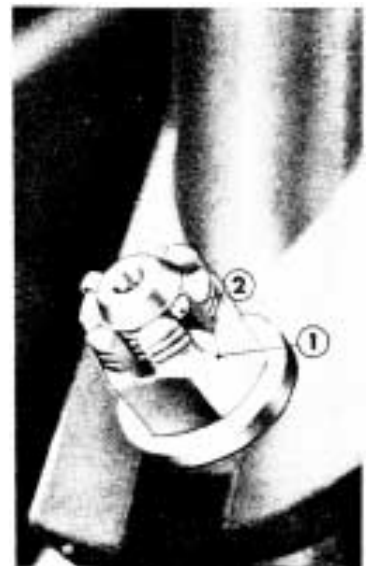
There is no "right" or "left" side to the wheel and axle assembly. It may be installed on the ATC in either position.

Replace any axle nut cotter pins that appear damaged or broken. To reduce the hazard of snagging the ends of the cotter pins, while the ATC is operated, we recommend that the projecting ends of the front axle cotter pins be cut close to the axle nuts, as illustrated.

WARNING: BE CERTAIN THAT THE AXLE NUTS ARE TIGHTENED AND SECURED BY COTTER PINS. OTHERWISE, IT IS POSSIBLE FOR THE WHEELS TO COME LOOSE WHILE THE ATC IS BEING OPERATED.



- ① FRONT AXLE
- ② WHEEL HUB
- ③ VALVE STEM



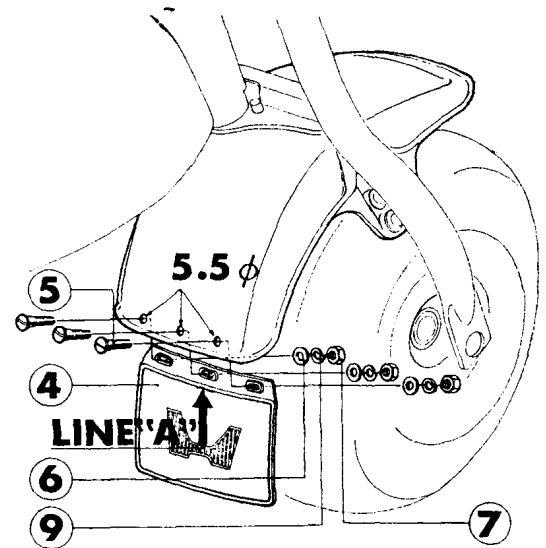
- ① AXLE NUT
- ② COTTER PIN

OPTIONAL PARTS

For riding in loose sand or wet mud, use of the front and rear mud guards may be advisable.

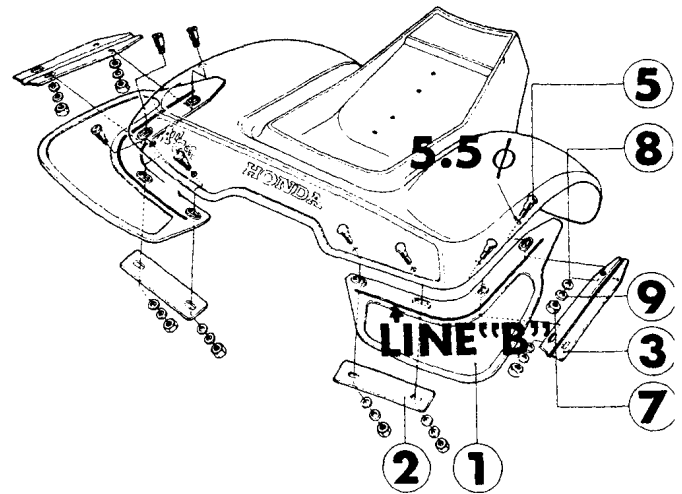
Front Mud Guard:

Position the guard so that the line "A" aligns with the edge of the front fender. Drill three 5.5 mm holes through the guard and fender. Insert the screws (5) through the holes and secure with the washers (6) and (9) and nuts (7).



Rear Mud Guard:

Line up the line "B" with the edge of the frame body cover. Using the holes in the guard as a guide, drill eight 5.5 mm holes through the cover. Secure the guard with the plates (2) and (3), washers (8) and (9), screws (5) and nuts (7). Install the plates (3) so that the inner holes are used.



Parts List

	Part Name	Q'ty
①	MUD GUARD, rear	2
②	PLATE, body cover, rear	2
③	PLATE, body cover, side	2
④	MUD GUARD, front	1
⑤	SCREW, 4×12	11
⑥	WASHER, special 4 mm	3
⑦	NUT, hex., 4 mm	11
⑧	WASHER, plain, 4 mm	8
⑨	WASHER, spring, 4 mm	11

SPECIFICATIONS

DIMENSIONS

Overall length61.8 in. (1,570 mm)
Overall width38.2 in. (970 mm)
Overall height34.6 in. (880 mm)
Wheel base39.8 in. (1,010 mm)

WEIGHT

Dry weight206.2 lbs (93.5 kg)

CAPACITIES

Engine oil1.9 U.S. pt. (0.9 liter)
Fuel tank1.6 U.S. gal. (6.0 liter)
Fuel reserve capacity ...1.0 qt (1.0 liter)

ENGINE

Bore and stroke1.970×1.797 in. (50.0×45.6 mm)
Compression ratio.....8.2 : 1
Displacement5.5 cu in. (89.5 cc)
Contact breaker
point gap0.012~0.016 in.(0.3~0.4mm)
Spark plug gap0.024~0.028 in. (0.6~0.7 mm)
Valve tappet clearance...0.002 in. (0.05 mm)

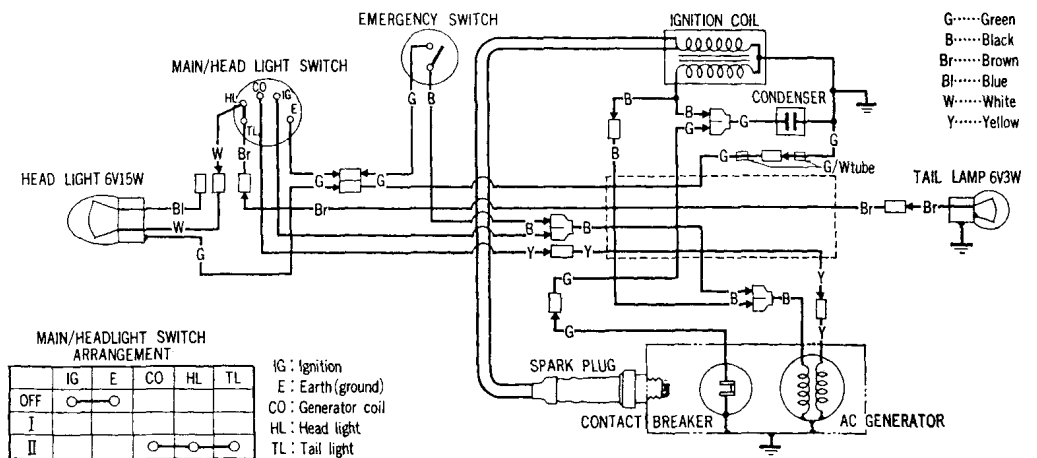
CHASSIS AND SUSPENSION

Caster angle69°
Trail length2 in. (50 mm)
Tire size, front and rear22×11–3.5 ATV tire

POWER TRANSMISSION

Primary reduction3.722
Final reduction3.267
Gear ratio, 1st.....2.538
 2nd1.611
 3rd.....1.190
 4th.....0.958
Posi-torque gear ratio
 Low range1.867
 High range1.000

WIRING DIAGRAM





HONDA
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