

CONTENTS

Page

Foreword -----	1
Operation Warning -----	3
Safety Information -----	4
Specifications -----	5
Periodical Check and Services -----	6
Pre Operating Inspection -----	8
Operation -----	13
Maintenance -----	26
Correct Way of Driving -----	33
Abnormalities and Trouble Shooting -----	35
VIN number and Identification -----	36
Pre-Delivery Inspection -----	37
Maintenance and Service record -----	40
Abnormalities Service Record -----	41

FOREWORD

May we, the manufacturer, take this opportunity to thank you for choosing our **ATV** to serve you.

This Owner's Manual is prepared for you to properly operate in safety. It also includes information about the general care and maintenance of your **ATV**. Therefore, we would like you to read the manual before operating the vehicle.

It is our sincere wish that you enjoy operating the **ATV** and receive fun from it. Should you have any problems, please feel free to contact our local dealer in your area.

OPERATION WARNING

-  **THIS VEHICLE IS NOT A TOY AND CAN BE HAZARDOUS TO OPERATE.**
-  **NEVER OPERATE THIS VEHICLE WITHOUT PROPER INSTRUCTION.**
-  **THIS VEHICLE IS NOT FOR YOUTH UNDER 16 YEARS OLD.**
-  **ALWAYS WEAR A HELMET.**
-  **READ THIS OWNER'S MANUAL CAREFULLY.**
-  **IT'S DANGEROUS TO DRIVE ON AN UNCLEAR ROAD CONDITION.**
-  **TO LOWER YOUR SPEED WHEN DRIVING AT NIGHT.**
-  **NEVER CONSUME ALCOHOL OR DRUGS BEFORE OR DURING RIDING.**
-  **NEVER OPERATE THIS VEHICLE ON HILLS TOO STEEP.**
-  **ALWAYS INSPECT YOUR VEHICLE EACH TIME YOU USE IT.**

SAFETY INFORMATION

-  Don't allow your child to ride.
-  Read all warning sticks on vehicle and follow the instruction.
-  Keep a safe distance between your vehicle and other vehicles.
-  Take a training course if you are a beginner.
-  This vehicle is designed to be operated only on level, off road surfaces, free of obstacles.
-  This vehicle is not equipped with differential gears, do not make turns at high speed.
-  When operate this vehicle on public streets, follow all safety rules that required.

SPECIFICATIONS

MODEL TYPE	ATV-280A(U)	ATV-280A(S)
DISPLACEMENT	249 cc (15.20 cu. in)	
TYPE	4 Stroke, SOHC, 2 Valves, Liquid cooled.	
STARTING	Electric w/recoil	
LUBRICATION	Wet sump with washable oil filter	
TRANSMISSION	CVT with H/L & Reverse gears.	
SPARK PLUG	NGK, DPR7EA	
BATTERY	12 volts, 10 Ah Maintenance free	
OIL CAPACITY	1.0 L (1.0567 U.S. quarts) SAE 5W-40 or 10W-40	
COOLANT	Ethylene-glycol/water mix (25% coolant, 75% distilled water)	
FUEL TANK	10.5 Liter (2.64 US Gal)	
OVERALL LENGTH	1980 mm (77.95 inches)	1850 mm (72.83 inches)
OVERALL WIDTH	1150 mm (45.27 inches)	1155 mm (45.47 inches)
OVERALL HEIGHT	1170 mm (46.06 inches)	1110 mm (43.70 inches)
SEAT HEIGHT	832 mm (32.75 inches)	832 mm (32.75 inches)
WHEEL BASE	1280 mm (50.39 inches)	1280 mm (50.39 inches)
CLAIMED DRY WEIGHT	222 kg (489.4 lb)	215 kg (474.0 lb)
BRAKE	Front: R/L Disc Brake	Rear: Disc Brake
BRAKE FUEL	DOT 4	
SUSPENSION	Front: Dual A-arm with 5 way preload-adjustable shocks Rear: Swing arm with preload-adjustable shock	
FRONT TIRE	21 x 7-10 or 22 x 7-10	21x7-10 or 22x7-10
REAR TIRE	21x10-8 or 22x10-10 or 22x11-10	21x10-8 or 22x10-10 or 20x11-9

 **Manufacturer reserves the right to make change without notice.**

SPECIFICATIONS

MODEL TYPE	ATV-320U	ATV-320S
DISPLACEMENT	272 cc	
TYPE	4 Stroke, SOHC, 4 Valves, Liquid cooled.	
STARTING	Electric w/recoil	
LUBRICATION	Wet sump with washable oil filter	
TRANSMISSION	CVT with H/L & Reverse gears.	
SPARK PLUG	NGK, CR8E	
BATTERY	12 volts, 10 Ah Maintenance free	
OIL CAPACITY	1.0 L (1.0567 U.S. quarts) SAE 5W-40 or 10W-40	
COOLANT	Ethylene-glycol/water mix (25% coolant, 75% distilled water)	
FUEL TANK	10.5 Liter (2.64 US Gal)	
OVERALL LENGTH	1980 mm (77.95 inches)	1850 mm (72.83 inches)
OVERALL WIDTH	1150 mm (45.27 inches)	1155 mm (45.47 inches)
OVERALL HEIGHT	1170 mm (46.06 inches)	1110 mm (43.70 inches)
SEAT HEIGHT	832 mm (32.75 inches)	832 mm (32.75 inches)
WHEEL BASE	1280 mm (50.39 inches)	1280 mm (50.39 inches)
CLAIMED DRY WEIGHT	223 kg (491.6 lb)	216 kg (476.2 lb)
BRAKE	Front: R/L Disc Brake	Rear: Disc Brake
SUSPENSION	Front: Dual A-arm with 5 way preload-adjustable shocks Rear: Swing arm with preload-adjustable shock	
FRONT TIRE	21x7-10 or 22x7-10 or 25x8-12	21x7-10 or 22x7-10
REAR TIRE	21x10-8 or 22x10-10 or 25x10-12	21x10-8 or 22x10-10 or 20x11-9

 **Manufacturer reserves the right to make change without notice.**

PERIODICAL CHECK & SERVICES

Maintenance Schedule

The maintenance intervals in the following table are based upon average riding conditions. Riding in unusually dusty areas, require more frequent servicing.

Item \ Frequency	Regular Service Mileage (KM)						
	500	1000	2000	3000	4000	5000	6000
Engine Oil	R	I	I	R	I	I	R
Oil Filter	C			C			C
Spark Plug	I			I			I
Valve Clearance	I			I,A			I,A
Coolant	CHECK EVERY RIDE						
Air Filter	CLEAN AND CHECK EACH 1000KM OR AFTER OFF-ROAD USE						
Carburetor	I		A		A		C,A
Driver Chain	CHECK AND LUBRICATION EVERY RIDE						
Gear Oil	R			I			R
CVT Belt							I / R
Suspension	I			I			I
Brake System	CHECK EVERY RIDE						
Tires Pressure	CHECK EVERY RIDE						
Tire Wear				I			I
Brake Fluid				R			R
Steering	I			I			I
Chassis Nuts , Bolts	I			I			I
Battery	I		I		I		I

⚠ C: Clean; A: Adjust; R: Replace; C: Clean; I: Inspect, Adjust, Verify, Lubricate.

PRE OPERATING INSPECTION

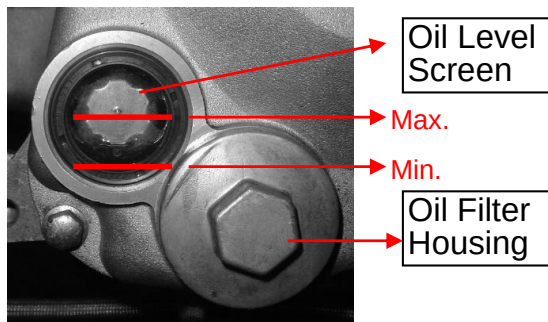
Inspect your vehicle before you ride it.

It only takes a few minutes to check and may save your life.

-  Check the tires condition and pressure.
-  Check the nuts, bolts and other fasteners.
-  Check the drive chain condition and slack.
-  Check the engine stop switch for good function.
-  Check the throttle for smooth opening and closing.
-  Check the fuel level in fuel tank
-  Check oil level in crankcase thru oil screen.
-  Check the coolant level in coolant reservoir.
-  Check brake fluid to make sure it's sufficient and not contaminated.
-  Check the brake operation to see if there is any binding of the brake cables.
-  Check the ease of turning to the left and right of steering handle.
-  Check brake lever for effective braking. Try braking soon as you are driving off.

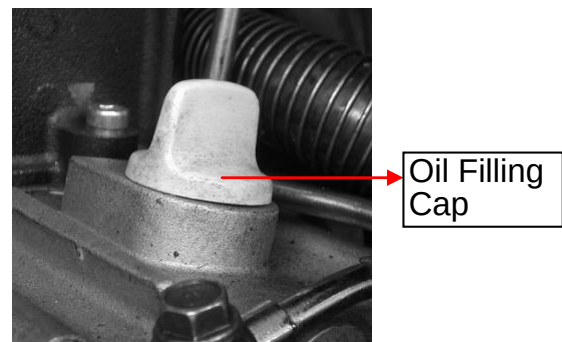
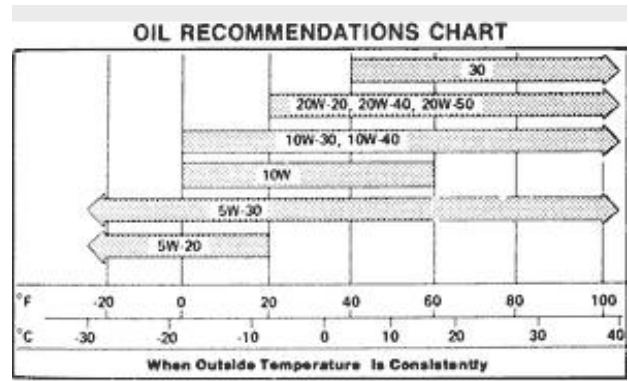
PRE OPERATING INSPECTION

Check and / or Refill Oil



CAUTIONS :

- * Be sure to have sufficient oil, see the oil level screen, and the filling cap is installed correctly.
- * Total oil capacity : 1.0 Liter
- * Prescribed 4-stroke engine oil only, synthetic type is recommended.
- * Select the proper viscosity of oil.
- * It would damage or burn down the engine parts if oil is insufficient.



PRE OPERATING INSPECTION

Check and refueling

Insert the key and turn to “open” position to open the fuel cap.

After refueling, insert the cap properly and turn the key to “lock” position.

Pull out the key and check fuel cap to make sure it's locked.



CAUTIONS :

- * Stop the engine for refueling.
- * Use unleaded gasoline with octane level 92 or higher.
- * Turn the gasoline cap counter clockwise to loose it, clockwise to tighten.
- * Avoid overfilling the gasoline, when refueling, it could cause a fire when the engine is hot.



PRE OPERATING INSPECTION

Tire pressure

CAUTIONS :

Recommended tire pressure:
On-road 10 psi (0.35 kgf/cm²), Off-road 5 psi.
Max. pressure : 10 psi (0.35 kgf/cm²)
Min. pressure : 3.0 psi (0.245kgf/cm²)



Do not over inflate the tire pressure as for your safety concern.

Check if there is any gravel in the tread grooves or any nail puncture. If so clean it.

Check for any crack or heavy wear. If wear exceeds the limit, replace it with new one.

Please check the marking on tires for detail specification.

Front and Rear Shock Absorbers

-  Apply pressure on both front steering handle and rear hand hold to check the function of front and rear shock absorbers.

PRE OPERATING INSPECTION

Battery

This vehicle is equipped with a maintenance free type battery that requires no maintenance.

Remove and Check

- ⚠ Remove negative and positive terminals (negative first).
- ⚠ Remove battery and check voltage.
- ⚠ Normal voltage : 12V and above
- ⚠ Keep terminals clean constantly.
- ⚠ Charge the battery based on the instruction that are printed on battery.



PRE OPERATING INSPECTION

Coolant level

With vehicle on a level surface, liquid should be between MIN and MAX level marks on coolant reservoir.



CAUTIONS :

Check coolant level while engine is cold.
Never open radiator cap when the engine is hot.
If the coolant is added in the coolant reservoir, check the level in the radiator too. Add coolant if necessary.

OPERATION

MAIN SWITCH



OFF

- ⚠ To turn off the engine.
- ⚠ The key can be extracted.



ON

- ⚠ To start the engine.
- ⚠ To operate the head light.
- ⚠ The key can not be taken out



OPERATION

ELECTRIC STARTER

Grip the brake lever then push the starter switch to crank the engine

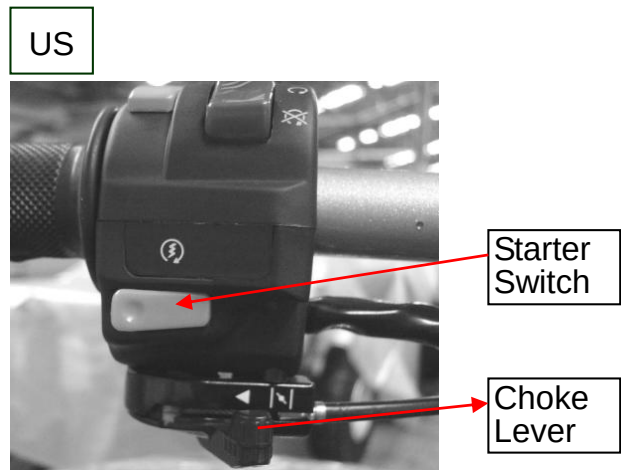
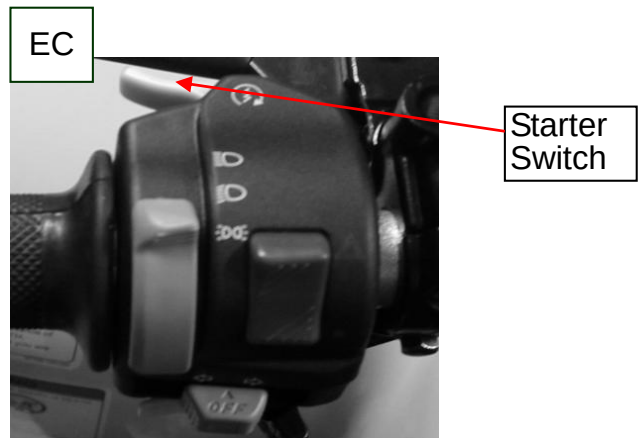
Use choke lever in case of cold weather or difficult starting.

CAUTIONS :

When cranks the engine:

Don't push down again the starter button as the engine is running.

Don't press the starter button more than 10 seconds when start up.



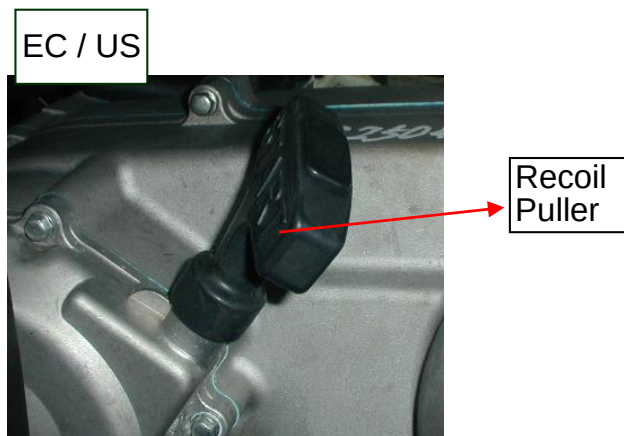
OPERATION

RECOIL STARTER

When starter motor or battery are inactive.
Use recoil puller to start the engine.

NOTE :

Grip the brake lever when use the recoil
puller in order to start the engine.



OPERATION

SIGNAL LIGHT SWITCH

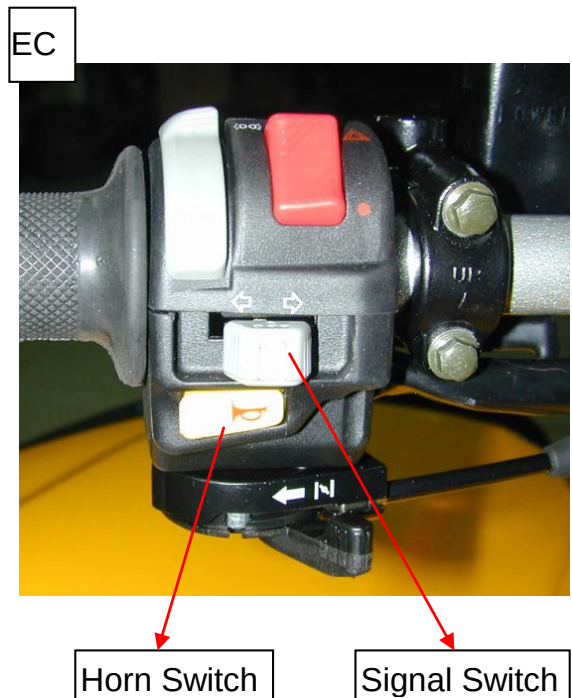
- ⇒ Right signal light flashing indicates turning to the right.
- ⇐ Left signal light flashing indicates turning to the left.
- ⚠ Push switch to turn off lights.

⚠ CAUTIONS:

Always turn on signal lights before turning.

HORN BUTTON

Turn on main switch and press down on the horn Button, the horn will sound.



OPERATION

HEADLIGHT BEAM SWITCH (EC)

 Low beam

For normal condition.

 High beam

For farther lighting.

 Position light indicator

HAZARD WARNING SWITCH

 HAZARD

Push switch and all indicator lights will start blinking together.

- STOP



Beam Switch

Hazard Switch

OPERATION

HEADLIGHT BEAM SWITCH (US)

-  Low beam
For normal condition.
-  High beam
For farther lighting.
-  Position light indicator



Beam Switch

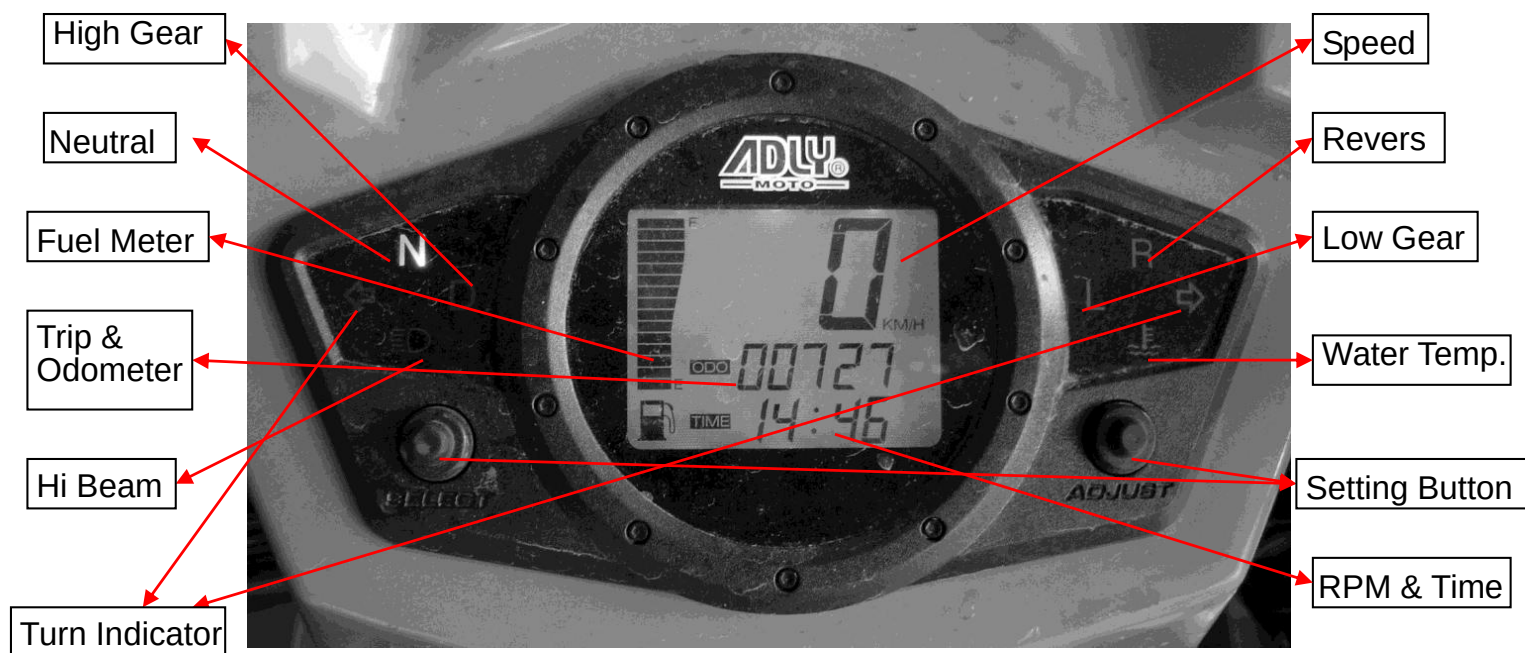
Emergency
Stop Switch

EMERGENCY STOP SWITCH

-  When switching on this position, engine will stop and can't start again.
-  When switching on this position, engine can run normally.

OPERATION

INSTRUMENT PANEL (EC)



OPERATION INSTRUMENT PANEL (US)



OPERATION

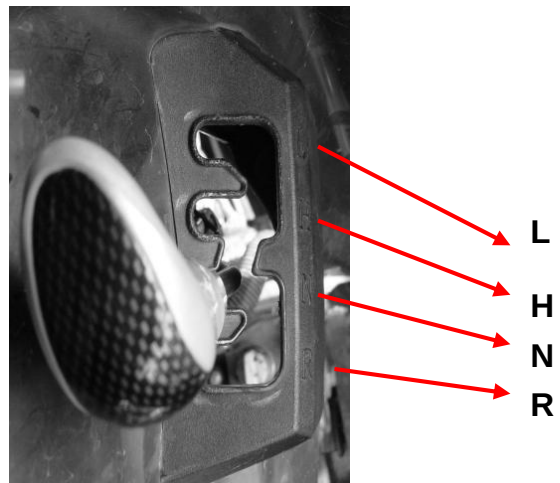
GEAR SHAFT

- L** From **Neutral** position, move the gear shaft to top for low speed forward.
Use in uphill driving or rough terrain conditions.
Speed shall be limited below 50 Km/Hr to operate.
- H** From **Neutral** position, move the gear shaft to high speed forward.
Use in general driving conditions.
- R** From **Neutral** position, pull down the gear shaft for reverse.
Speed limited below 15Km/Hr.
- N**-Neutral

Nearing :

Do not shift gears while the vehicle is moving.

This might damage the gear.



⚠ CAUTION:

Always completely stop the vehicle and apply the brake prior to moving the gear shaft.

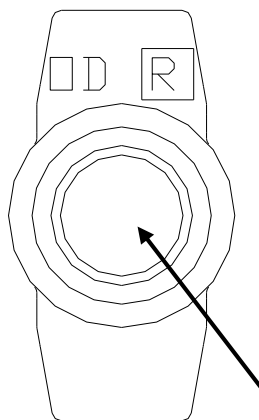
Totally stop vehicle when you are from reverse to forward.

Before moving vehicle in reverse, ensure the path behind is clear of obstacles or bystanders. Remain seated.

OPERATION

REVERSE GEAR SPEED LIMITER / OVERDRIVE

The switch is located on left side of handle bar. The limiter is always functioning during reverse operation.



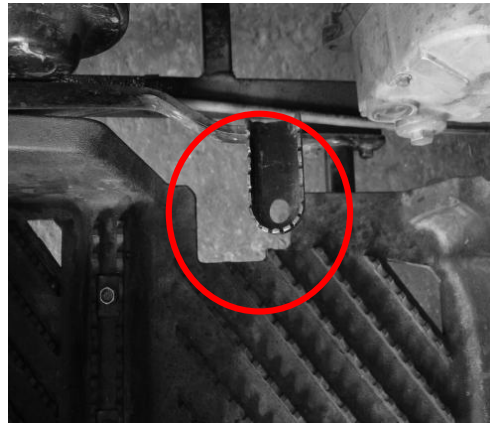
Press the bottom (**ON**) to perform reverse override function

OPERATION

FRONT / REAR BRAKE

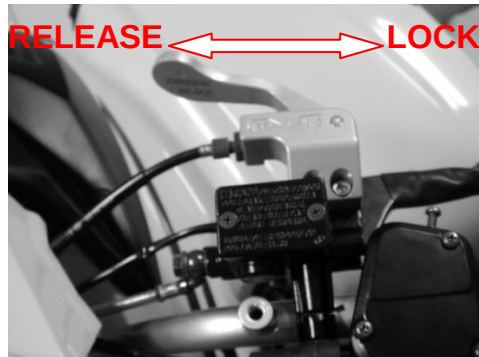
The foot brake pedal is located on the right side in front of the foot rest.

- EC - When stepping on the brake pedal, front and rear wheels will brake at the same time.
- US - When stepping on the brake pedal, the Rear wheels will perform brake function.



PARKING BRAKE LEVER

Pull the parking brake lever clockwise will perform brake function.
Push back the parking brake lever to release.



OPERATION

ENGINE START-UP & CAUTIONS

 Check oil and fuel prior to start-up.

1. Set the gear lever to neutral and throttle lever at the “close” state.
2. Use key to turn “Main Switch” on.
3. Grip the brake lever and push electric starter.

CAUTIONS :

Release the starter button immediately after engine start-up.

Did not pressing the button again as engine is running otherwise engine may be damaged.

Start-up the engine at an open area to avoided emission poisoning.

4. In case the engine will not start after the starter engages for 3 ~ 4 seconds, push the throttle lever slightly, then try again and engine should start.
5. Use choke function on bottom of left switch if the temperature is low and difficult to start.

OPERATION

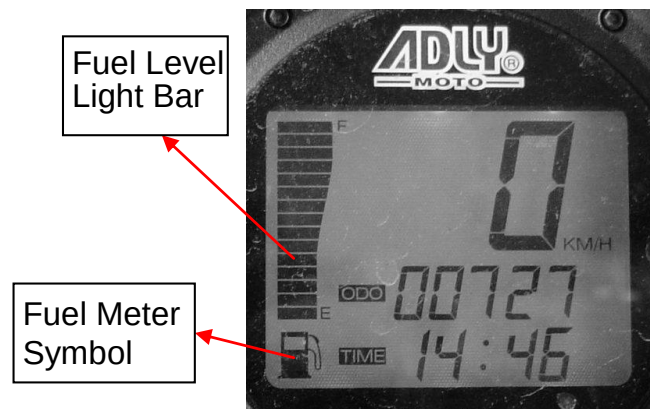
FUEL METER

The fuel meter is located on the left side of the instrument panel.

When the tank is full, the level light bars are shown at top. During fuel consumption, light bars cease from top then down to bottom.

It is recommend to add fuel when fuel meter symbol starts to flashing.

- ⚠ **About 2.0L fuel remains in the tank when the fuel symbol start to flashing.**



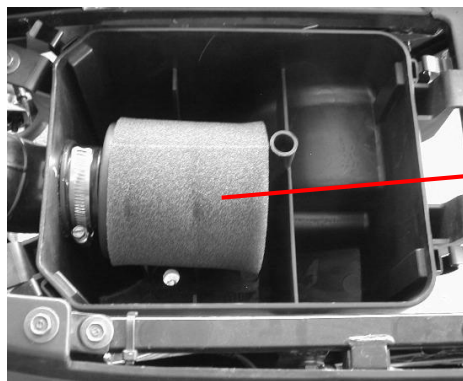
MAINTENANCE

CLEAN AND REPLACE AIR FILTER

Air filter is located under the seat.

Remove the seat to find air filter box.

CLEAN AND CHECK FILTER EACH 1000KM OR AFTER OFF-ROAD USE. REPLACE AIR FILTER YEARLY.



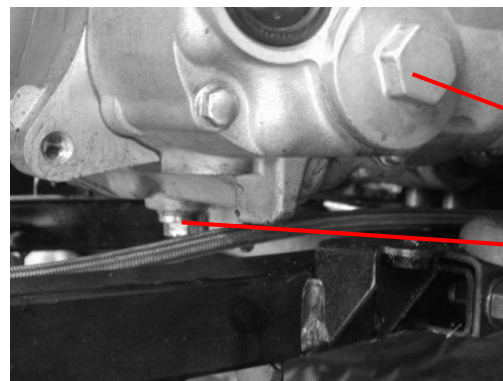
Air Filter

CLEAN OIL FILTER

Oil filter housing is located on lower right side of fly wheel cover.

Remove oil filter housing to clean filter.

Clean the filter screen every time when changing the engine oil.



Oil Filter

Oil Drain Plug

MAINTENANCE

DRAIN AND REFILL GEAR OIL

Replace gear oil each 6000KM

Place the vehicle on a level surface. Select NEUTRAL position, then apply parking brake.

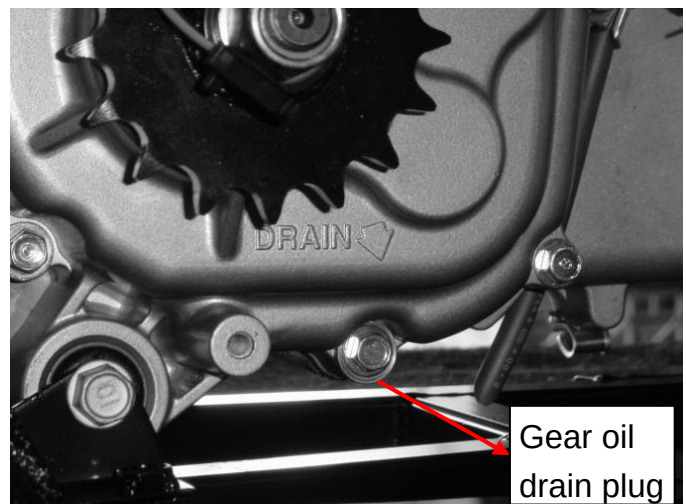
Check the gearbox oil level by removing the gearbox oil level plug.

The oil should be level with the bottom of the oil level hole.

Removing drain plug to drain gear oil.

Tighten drain plug and place a funnel into the level hole to refill gear oil.

Do not overfill. Properly tighten level plug.



CAUTIONS :

Replace gear oil at first 500Km maintenance. Then, replace each 6000Km
Check oil level each 3000Km.
Use grade SAE 80W-90 transmission oil in gear box.
Total oil capacity : 0.55 Liter

MAINTENANCE

CVT drain

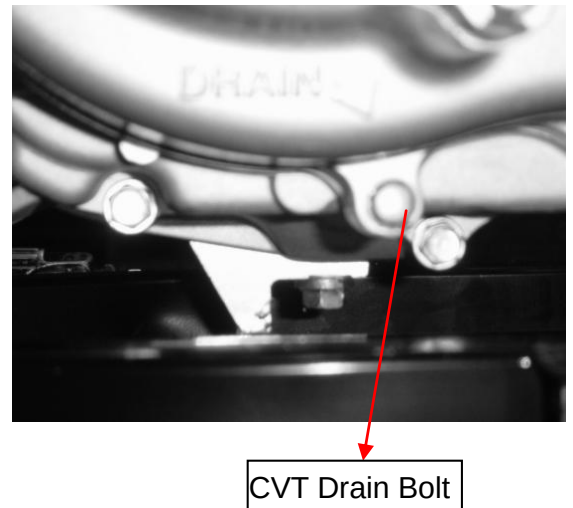
In case water gets in CVT house and causes slipping.

Switch off the engine then place the vehicle on a level surface.

Remove the bolt below CVT drain mark for draining.

Tighten the bolt properly then restart the engine.

Wait till CVT is warmed-up to ride.



MAINTENANCE

DRIVE CHAIN

Adjust drive chain before each use.

Before operating the vehicle, always inspect the drive chain.

Never operate this vehicle with the drive chain too loose or too tight as severe damage to the drive components can occur. Check the free play of drive chain and adjust if necessary.

Check for damage or missing O-ring or rollers.

Do not brush chain.

Lubricate only with an approved O-ring chain lubricant.

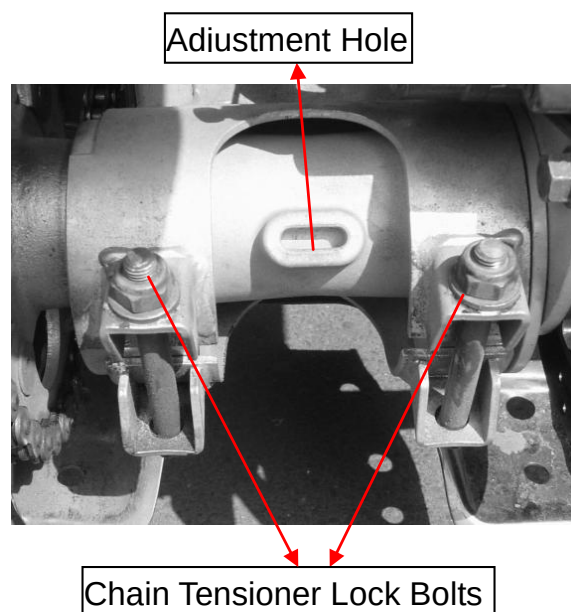
Adjustment

Loosen chain tensioner lock bolts for adjustment.

Insert a screw drive to adjustment hole and move up-down to change free play.

The deflection should be between 10 and 20 mm (3/8 and 3/4 in).

Tighten lock bolts after proper adjustment.

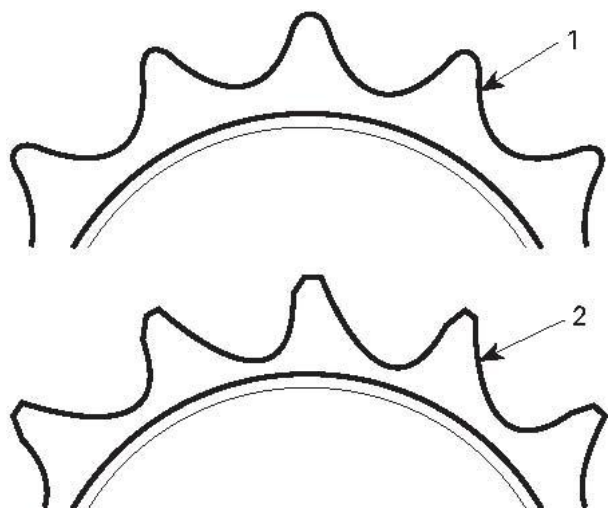


MAINTENANCE

SPROCKET

Inspection

Check the sprocket axle and pinion for distortion, excessive wear or other damages.



- 1. Good
- 2. Replace

MAINTENANCE

PARKING BRAKE

Parking brake is in conjunction with the rear brake caliper but control by parking brake lever and wire is separate.

Check parking before ride.

Adjust parking brake if your ATV slipping or can be easily moving even with the brake lever was engaged.

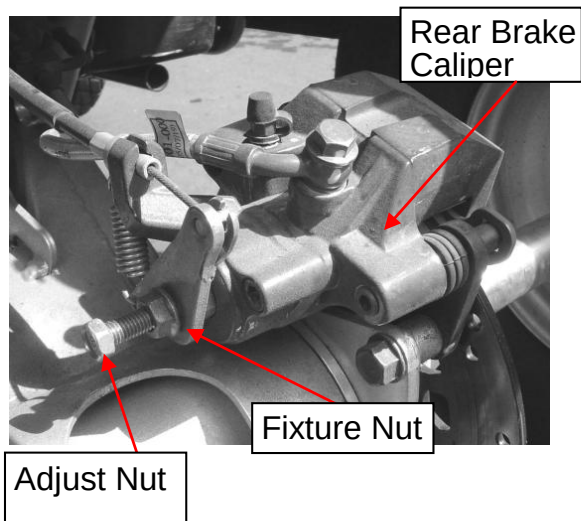
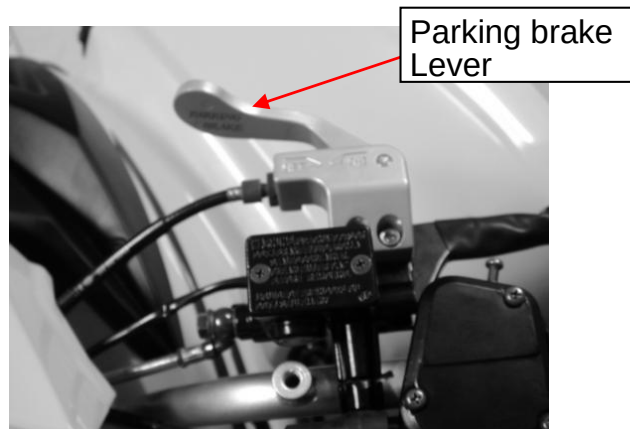
Adjustment

Set parking brake lever in “OFF” position.

Loosen the fixture nut and turn the adjustment nut until you can feel it is slightly touching.

Turn out the adjustment nut half turn then hold it and tighten the fixture nut.

Recheck the parking brake effectiveness.



MAINTENANCE

SPARK ARRESTER

The muffler must be periodically purged of accumulated carbon.

Place transmission on NEUTRAL position and apply parking brake.

Remove the screw retaining the spark arrester to muffler.

Pull the spark arrester out of muffler.

Using a brush, remove the carbon deposits from the spark arrester.

NOTE: A soft brush is recommended to avoid damaging spark arrester.

Install the spark arrester in muffler.

Check the exhaust system for damage, cracks or leaks (exhaust pipe).

Repair or change if necessary.

Spark Arrester



CORRECT WAY OF DRIVING TO START DRIVING

Press the throttle lever slowly to control your speed.

- ⚠ Acceleration is to increase the speed.
Slowly press the throttle lever while driving on a slope. It will engage the engine power.
- ⚠ Deceleration is to decrease the speed.
Release the lever will do so.
- ⚠ This vehicle is not equipped with differential gears. The rider must learn to move his weight and control the throttle not to tip over.



Throttle lever

CORRECT WAY OF DRIVING

STOPPING THE VEHICLE

Approaching the parking point:

Release the accelerator and apply both front and rear wheel brakes while the vehicle is slowing.

Complete stop:

Stop the engine by turning the main switch to “OFF”.

 **Don't park on uneven ground to avoid tipping over.**

CAUTIONS :

Don't turn the main switch or engine stop switch to “OFF” during operation.
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BREAK-IN PROCESS

During the first 500KM of riding, do not run the vehicle more than 60km/hr or approach maximum RPM of the engine.

 **The break-in process will greatly increase the lifetime and long term power of the engine.**

ABNORMALITIES AND TROUBLE SHOOTING

If the engine fails to start or engine fails to keep running.

Check that the engine stop switch is in the RUN position.

Check the gas tank for fuel.

Whether the procedure for engine start up is correct.

-  **Try to diagnose these malfunctions yourself first.**
-  **Contact the local dealer as soon as possible for checking on any abnormality of your vehicle.**

VIN NUMBER and IDENTIFICATION

Please record the VIN and engine number for further reference.

The frame number (VIN) is stamped on the front right side of frame.

FRAME NO. RFL



FRAME NUMBER

The engine number is engraved on rear top of left crankcase.

ENGINE NO. _____



ENGINE NUMBER

P.D.I. (Pre-Delivery Inspection)

- ☐ 1. Record the frame and engine number into the owner's manual.
- ☐ 2. Check that all tires have correct pressure specified on the tire or in the owner's manual.
- ☐ 3. Engine oil (4 stroke, SAE10W/40 or Grade SAE40) is enough.
- ☐ 4. Battery is installed properly.
- ☐ 5. All brakes are adjusted properly.
- ☐ 6. Fuel tank has enough gasoline to operate.
- ☐ 7. Check the suspension and drive chain for proper setup.
- ☐ 8. Check that all electrical components and lights are working properly.
- ☐ 9. Make sure that the owner's manual and tool bag are installed in the tool box.
- ☐ 10. Make sure that the bolts and nuts are fastened properly.

MAINTENANCE and SERVICE RECORD

P.D.I.	500 KM	1,000 KM
NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____
DEALER :	DEALER :	DEALER :
DATE :	DATE :	DATE :
2,000 KM	3,000 KM	4,000 KM
NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____
DEALER :	DEALER :	DEALER :
DATE :	DATE :	DATE :

MAINTENANCE and SERVICE RECORD

5,000 KM	6,000 KM	7,000 KM
NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____
DEALER :	DEALER :	DEALER :
DATE :	DATE :	DATE :
8,000 KM	9,000 KM	10,000 KM
NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____
DEALER :	DEALER :	DEALER :
DATE :	DATE :	DATE :

MAINTENANCE and SERVICE RECORD

11,000 KM	12,000 KM	13,000 KM
NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____
DEALER :	DEALER :	DEALER :
DATE :	DATE :	DATE :
14,000 KM	15,000 KM	16,000 KM
NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____
DEALER :	DEALER :	DEALER :
DATE :	DATE :	DATE :

ABNORMALITIES SERVICE RECORD

ODOMETER : KM	ODOMETER : KM	ODOMETER : KM
NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____
DEALER :	DEALER :	DEALER :
DATE :	DATE :	DATE :
ODOMETER : KM	ODOMETER : KM	ODOMETER : KM
NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____
DEALER :	DEALER :	DEALER :
DATE :	DATE :	DATE :

ABNORMALITIES SERVICE RECORD

ODOMETER : KM	ODOMETER : KM	ODOMETER : KM
NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____
DEALER :	DEALER :	DEALER :
DATE :	DATE :	DATE :
ODOMETER : KM	ODOMETER : KM	ODOMETER : KM
NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____	NOTES : _____ _____ _____ _____
DEALER :	DEALER :	DEALER :
DATE :	DATE :	DATE :



ATV-280A S/U
ATV-320 S/U
OWNER'S MANUAL