

YAMAHA

**OWNER'S/
OPERATOR'S
MANUAL**

GOLF CAR

G5E

LIT-11626-07-49

J51-28199-11

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G5-E

OWNER'S MANUAL

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LIT-11626-07-49

INTRODUCTION

Congratulations! Your choice of a Yamaha golf car assures you of the highest quality and dependability. Your Yamaha golf car is manufactured by a company well-known for excellence in the field of recreational vehicles, using the most advanced production equipment and technology. We are confident that this golf car will fully meet your needs. This manual is designed to acquaint you with the operation and minor maintenance required for satisfactory service of this golf car. Should major repairs ever be required, you are advised to consult your nearest Yamaha golf car dealer who will assure you of the best service. We hope that the information within this booklet will help you enjoy many hours of pleasure with your Yamaha golf car.

NOTICE:

Some data in this manual may become outdated due to improvements made to this model in the future. If there is any question concerning this manual, consult your nearby Yamaha golf car dealer.

SERVICE DEPT.
LEISURE VEHICLE AND
POWER PRODUCTS OPERATIONS
YAMAHA MOTOR CO., LTD.

Particularly important information is distinguished in this manual by the following notations:



The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

! WARNING

Failure to follow WARNING instructions could result in severe injury or death to the machine operator, a bystander, or a person inspecting or repairing the machine.

IMPORTANT:

AN IMPORTANT indicates special precautions that must be taken to avoid damage to the machine.

NOTE:

A NOTE provides key information to make procedures easier or clearer.

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WIRING DIAGRAM

— MEMO —

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YAMAHA MOTOR CORPORATION, U.S.A. G5 GOLF CAR LIMITED WARRANTY

Yamaha Motor Corporation, U.S.A. hereby warrants that any new G5 (gas and electric models) Yamaha Golf Car purchased from an authorized Yamaha dealer in the continental United States, will be free from defects in material and workmanship for the period of time stated herein, subject to the stated limitations.

THE PERIOD OF WARRANTY for any G5 (gas and electric models) will be two years from date of purchase.

The first year of warranty shall cover the entire car except for batteries, battery chargers, tires and rims which are warranted by their respective manufacturers.

The second year of warranty shall cover the engine assembly, clutch, transmission, axles, electrical system, frame, suspension components, electric motor, control cables, and steering gear.

Parts excluded from the second year of warranty include the body parts, seats, mats, bumper assembly, bag carrier, scorecard holder, and trim.

DURING THE PERIOD OF WARRANTY any authorized Yamaha Golf Car Dealer will, free of charge, repair or replace any part adjudged defective by Yamaha due to faulty workmanship or material from the factory. Parts used in warranty repairs will be warranted for the balance of the machine's warranty period. All parts replaced under warranty become property of Yamaha Motor Corporation, U.S.A.

GENERAL EXCLUSIONS from this warranty shall include any failures caused by:

- Abnormal strain, neglect, or abuse, including lack of proper maintenance, use contrary to the owners manual instructions.
- Accident or collision damage.
- Installation of parts or accessories that are not original equipment.
- Fading, rust or deterioration due to exposure or ordinary wear and tear.
- Modification or alteration that affects the car's condition, operation, performance, or durability, or which makes the car serve a purpose other than that as a two-person, closed grounds vehicle.

SPECIFIC EXCLUSIONS from this warranty shall include any parts replaced due to normal wear or routine maintenance, including oil, air filter elements, brake shoes, spark plugs, starter, and clutch drive belts. Any charges incurred in transporting a golf car to and from an authorized Yamaha Golf Car Dealer for service or in performing field service is also excluded from this warranty.

THE CUSTOMER'S RESPONSIBILITY under this warranty shall be to:

- Operate and maintain the golf car as specified in the appropriate Owner's Manual;
- Give notice to an authorized Yamaha dealer of any and all apparent defects within ten (10) days after discovery, and make the machine available at that time for inspection and repairs by the dealer's authorized representative.

WARRANTY TRANSFER: To transfer the warranty from the original purchaser to any subsequent purchaser, it is imperative that the machine be inspected and registered for warranty by an authorized Yamaha Golf Car Dealer. In order for this warranty to remain in effect, this inspection and registration must take place within ten (10) days after transfer. An inspection and registration fee will be charged for this service.

YAMAHA MOTOR CORPORATION, U.S.A. MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE OBLIGATIONS AND TIME LIMITS STATED IN THIS WARRANTY ARE HEREBY DISCLAIMED BY YAMAHA MOTOR CORPORATION, U.S.A. AND EXCLUDED FROM THIS WARRANTY.

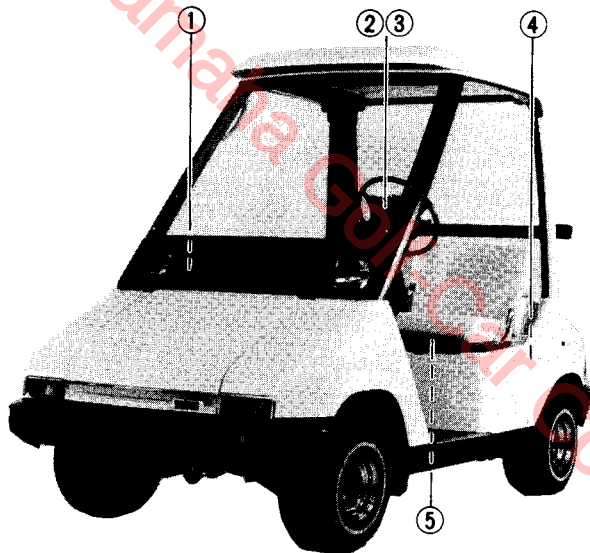
SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. ALSO EXCLUDED FROM THIS WARRANTY ARE ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING LOSS OF USE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

YAMAHA MOTOR CORPORATION
Post Office Box 6555
Cypress, California 90630

LOCATION OF THE IMPORTANT LABELS

Never remove any labels on your golf car. If a label becomes difficult to read or comes off a replacement label is available from your Yamaha dealer.



1

▲ WARNING

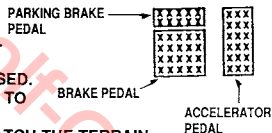
FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SEVERE PERSONAL INJURY OR DEATH.

- OPERATION BY AUTHORIZED ADULTS ONLY AND ONLY IN DESIGNATED AREAS.
- THIS VEHICLE IS RESTRICTED TO TWO OCCUPANTS.
- DO NOT START THE VEHICLE UNTIL ALL OCCUPANTS ARE SEATED.
- REMAIN SEATED AND HOLD ON WHEN IN MOTION.
- KEEP ENTIRE BODY INSIDE VEHICLE.
- DRIVE SLOWLY IN TURNS.
- DRIVE SLOWLY STRAIGHT UP AND DOWN SLOPES.
- SET PARKING BRAKE BEFORE LEAVING VEHICLE.
- TURN MAIN SWITCH TO "OFF" AND REMOVE KEY WHEN NOT IN USE.
- READ OPERATING INSTRUCTIONS ON STEERING WHEEL BEFORE OPERATION.

2

OPERATING INSTRUCTIONS

- READ WARNING LABEL ON THE INSTRUMENT PANEL BEFORE OPERATING.
- BE SURE OCCUPANTS ARE SEATED.
- SELECT FORWARD OR REVERSE BEFORE TURNING MAIN SWITCH TO "ON".
- THIS VEHICLE STARTS AUTOMATICALLY WHEN ACCELERATOR PEDAL IS DEPRESSED. RELEASE THE PEDAL AND APPLY BRAKE TO STOP.
- VARY THE SPEED OF THE VEHICLE TO MATCH THE TERRAIN.
- BRING THE VEHICLE TO A COMPLETE STOP BEFORE REVERSING DIRECTION.
- DRIVE WITH EXTRA CARE IN CONGESTED AREAS AND WHEN OPERATING IN REVERSE.
- ALWAYS SET PARKING BRAKE SECURELY AND TURN MAIN SWITCH TO "OFF" BEFORE LEAVING THE VEHICLE.
- PARKING BRAKE WILL RELEASE WHEN ACCELERATOR PEDAL IS DEPRESSED.
- DO NOT EXCEED THE FACTORY SPEED SETTING OF 12 MPH UNDER ANY CIRCUMSTANCES.
- READ THE OWNER'S MANUAL FOR FURTHER INFORMATION.



ATTENTION

- THIS VEHICLE WAS NOT MANUFACTURED FOR USE ON PUBLIC STREETS AND DOES NOT COMPLY WITH FEDERAL MOTOR VEHICLE SAFETY STANDARDS APPLICABLE TO PASSENGER CARS.

③

IMPORTANT

DO NOT HOLD VEHICLE ON HILL/INCLINE WITH ACCELERATOR. — THIS WILL DAMAGE MOTOR — USE THE BRAKE.

④

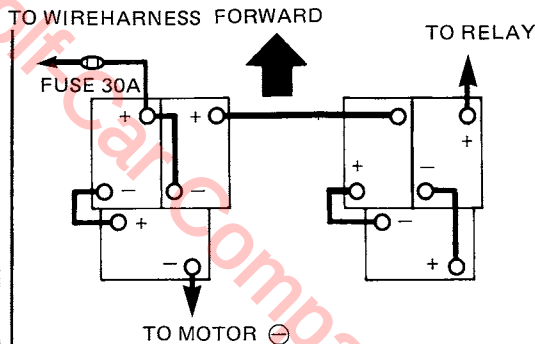


WARNING

- BATTERY GASES ARE EXPLOSIVE.
 - KEEP SPARKS, FLAMES AND LIGHTED CIGARETTES AWAY FROM THE BATTERY
 - THE DANGER IS INCREASED WHILE CHARGING THE BATTERIES.
- WHEN THE BATTERIES ARE CHARGED IN THE VEHICLE, THE VEHICLE MUST BE IN A WELL VENTILATED AREA.

⑤

BATTERY INSTALLATION AND WIRE LEAD CONNECTION



SAFETY INFORMATION

FAILURE TO OBEY THESE SAFETY WARNINGS MAY RESULT IN SEVERE PERSONAL INJURY OR DEATH.

BEFORE OPERATING THE VEHICLE

- Read the Owner's Manual carefully and be sure you understand the controls.
- Always perform the pre-operation checks listed in this manual before driving this vehicle.
- This vehicle was designed to carry two adults only, and only when the operator and passenger are seated on the seats provided.
- Operate the vehicle only in designated driving areas.
- Non-approved modifications may render the vehicle unsafe and could cause injury.
- Do not depress the accelerator pedal until after the main switch has been turned on.

WHILE OPERATING THE VEHICLE

- Be sure all occupants remain seated and that the passenger holds onto the arm rest.
- Keep arms, legs, and feet inside the vehicle.
- Slow down when turning.
- Avoid sharp, quick turns.
- Vary the speed of the vehicle to match the terrain.
- If you come to an incline, drive directly up or down the incline — never drive across a slope at an angle.

- Keep speed down and exercise caution when going downhill.
- Do not exceed the factory set maximum speed of 12 mph under any circumstances.
- Do not use the accelerator to hold the vehicle at a standstill on an incline; the vehicle may become damaged. Use the brake to hold the vehicle at rest while on a hill.

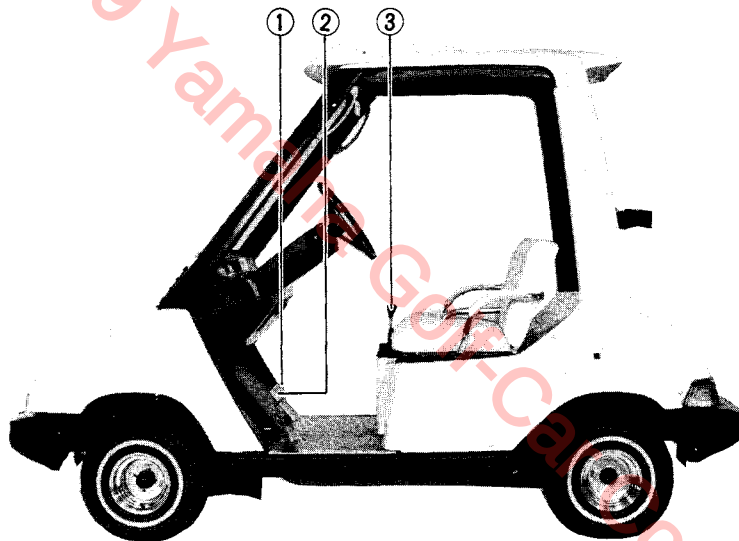
BEFORE LEAVING THE VEHICLE

- Turn the switch to the "OFF" position, and remove the key.
- Always set the parking brake by firmly depressing the parking brake pedal.
- Avoid parking on an incline. If you must park on an incline, block the wheels. Accidental movement of the accelerator pedal may cause the vehicle to roll down the incline.

— MEMO —

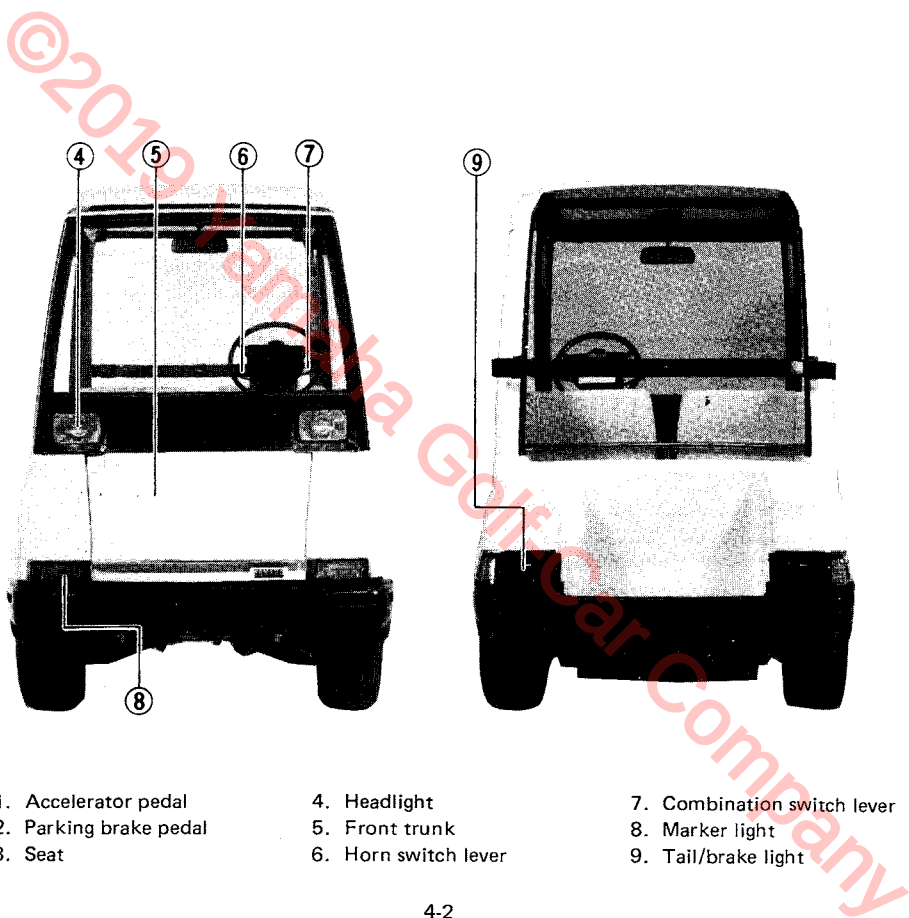
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DESCRIPTION



NOTE: _____

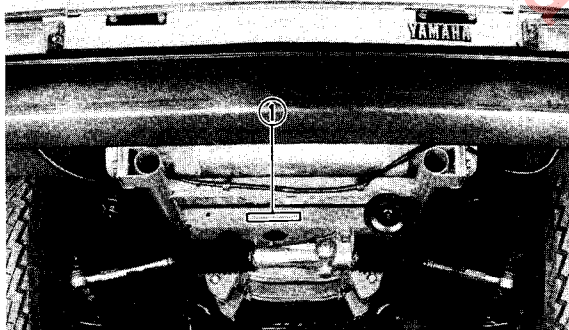
The golf car that you have purchased may differ partly in design and specifications from that shown in this photo.



MACHINE IDENTIFICATION

Frame serial number

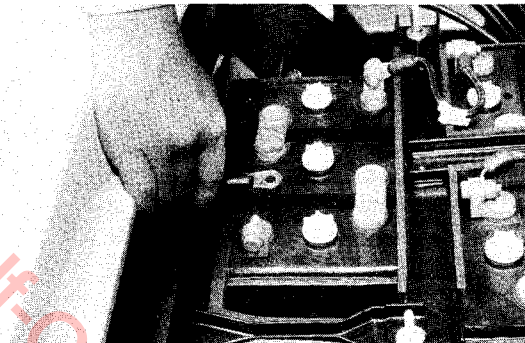
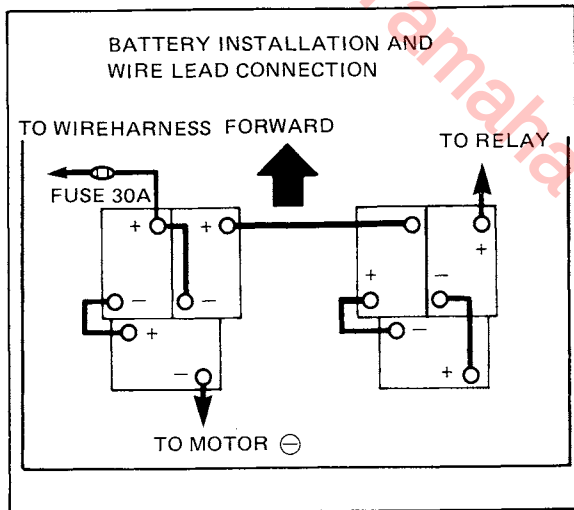
The frame serial number is located on the front of the cross frame. The first three digits identify the model. This is followed by a dash. The remaining digits identify the production number of the unit.



1. Frame serial number

⚠ WARNING

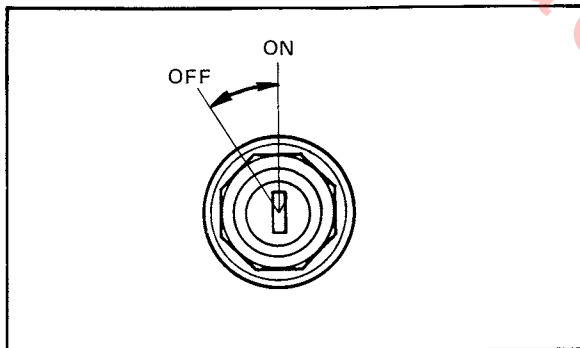
To prevent possible injury, disconnect the battery before working on the vehicle. Remove the negative battery cable as shown below.



MAIN PARTS FOR OPERATION

Main switch

The main switch has two positions, on and off. Turn to the right for the "ON" position. Whenever the key in the "OFF" position, the engine cannot be started and the key can be removed.



Drive select lever

The drive select lever is used to shift the machine into forward, or reverse.

Accelerator pedal

With the main switch in the "ON" position, depressing the accelerator pedal will start the engine and make the vehicle move in the selected direction. When the accelerator pedal is released, the engine will stop and the vehicle will coast to a halt.

Brake pedal

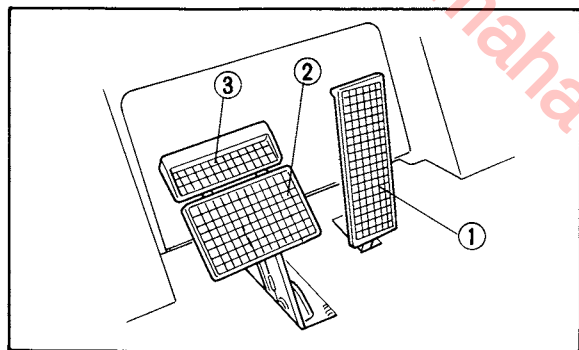
When the brake is depressed, the brakes will be applied in proportion to the force applied to the brake pedal. When the brake is operated, the brake light will illuminate.

IMPORTANT:

Do not hold vehicle on hill/incline with accelerator. — This will damage motor — Use the brake.

Parking brake

The parking is located above the regular brake pedal. It functions as a lock on the regular brake. The parking brake is activated by depressing it. Depressing the accelerator pedal will release the parking brake.



- 1. Accelerator pedal
- 2. Brake pedal
- 3. Parking brake pedal

NOTE: _____

With the main switch in the "ON" position and the engine stopped. The brake lights will automatically be switched off regardless of brake or parking brake activation.

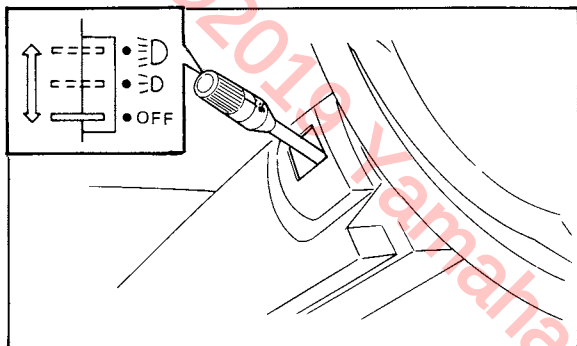
Combination headlight, dimmer, and turn switch

Light switch:

To turn the lights on, twist the knob on the lever end.

Twist the knob to " ΞD ", to turn on the front position, license, and taillights.

Twist the knob to " ΞD ", to turn on the head, front position, license, and taillights.



Light (dimmer) switch:

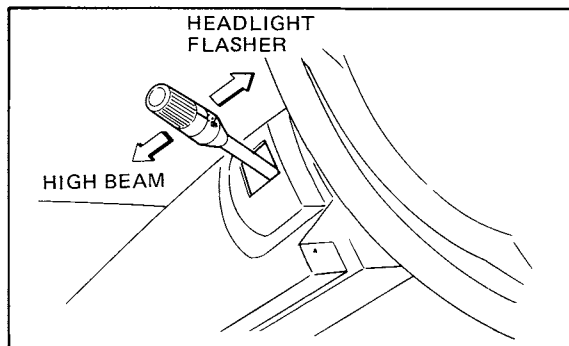
For the high beam, push down the lever.

Pull it back for the low beam.

For the headlight flasher, pull it further back.

NOTE:

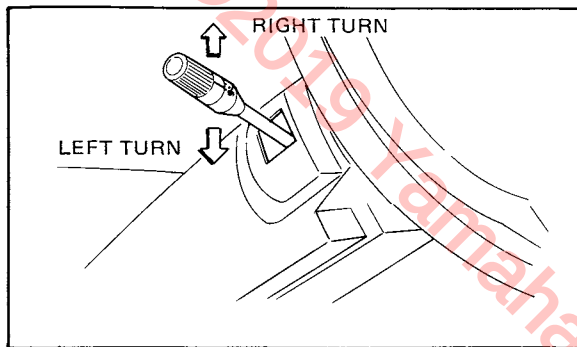
The headlight flasher works whether the headlight switch is on or off.



Turn signal switch:

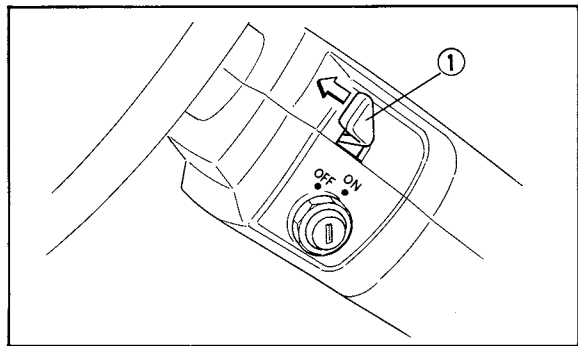
To signal a right or left-hand turn, push the lever as shown.

To cancel the signal, return the lever to the original position. Or returning the steering wheel to the "straight" position allows the self-cancelling device to cancel the signal.



Horn switch

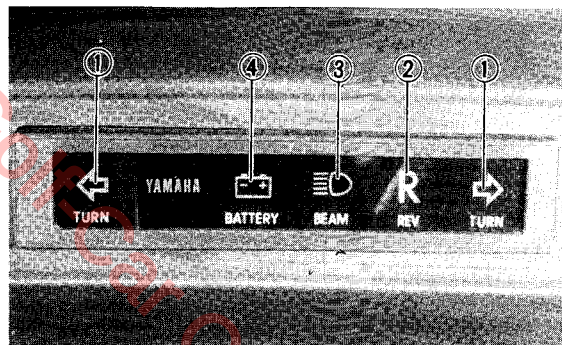
Pull up the lever to sound the horn.



1. Horn switch lever

Indicator lights

- "TURN" indicator light (orange)
This indicator flashes when the turn switch is "ON".
- "BEAM" indicator light (blue)
This indicator comes on when the headlight high beam is "ON".



1. "TURN" indicator light
2. "REV" indicator light
3. "BEAM" indicator light
4. "BATTERY" low voltage indicator light

- "REV" indicator light (red)

This indicator light comes on when the main switch is "REV" position.

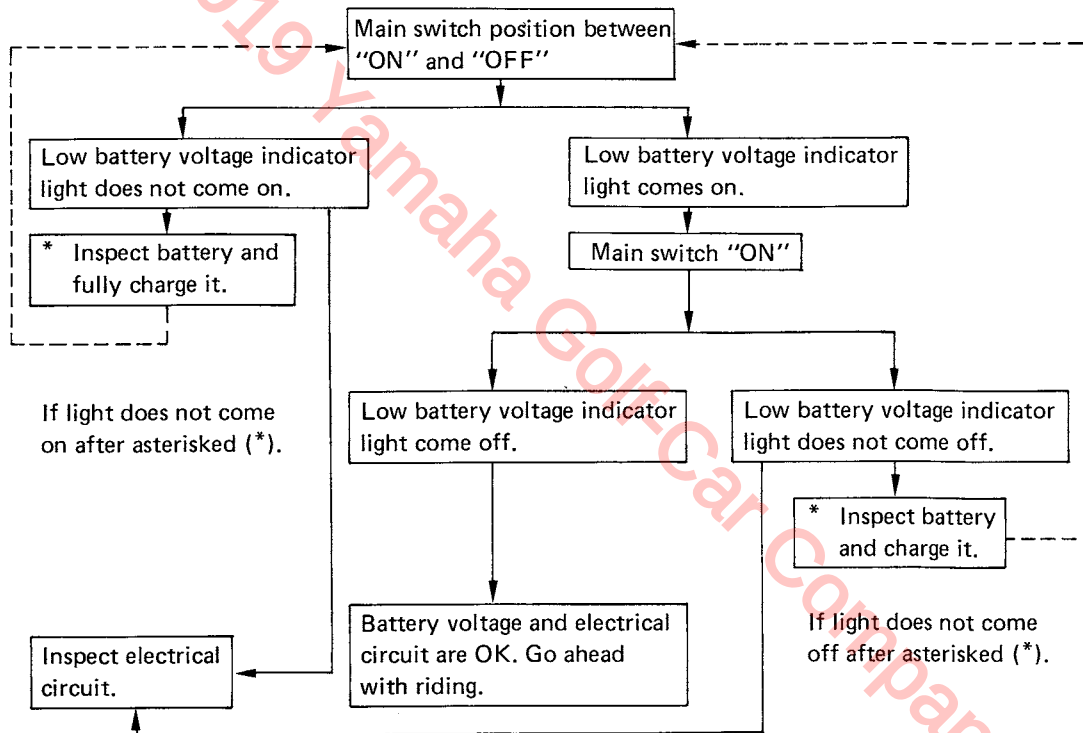
"BATTERY" low voltage indicator light

When the battery voltage goes lower than 32 volts, this indicator light starts to come on intermittently when starting or climbing uphill. If the light starts to come on, charge the batteries as soon as possible.

NOTE:

- After the light starts to come on intermittently, the vehicle will travel approximately another about 5 km (3 miles) on level ground before the light comes on continuously.
 - After the light comes on continuously, the motor power output is drastically reduced.
-

Battery Voltage Visual Inspection Steps:



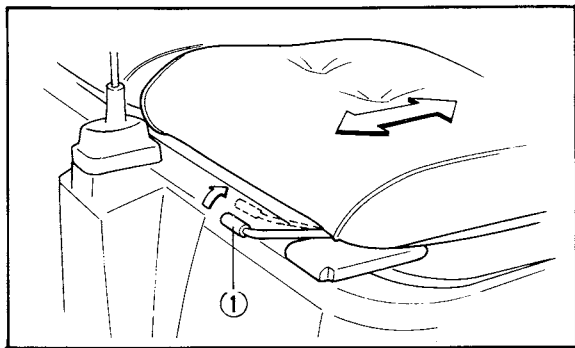
Seat adjustment

Slide the seat lock lever as shown. Move the seat to the desired position with slight body pressure and release the lever.

After releasing the seat lock lever, slide the seat forward and backward to make sure it is locked in position.

⚠ WARNING

This adjustment should not be made while the golf car is moving.

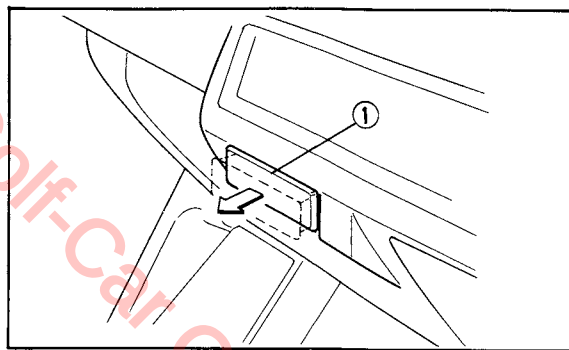


1. Seat lock lever

Ashtray

After using the ashtray, push it in completely. Otherwise the heat of a cigarette may cause other cigarette butts to burn, resulting in a fire.

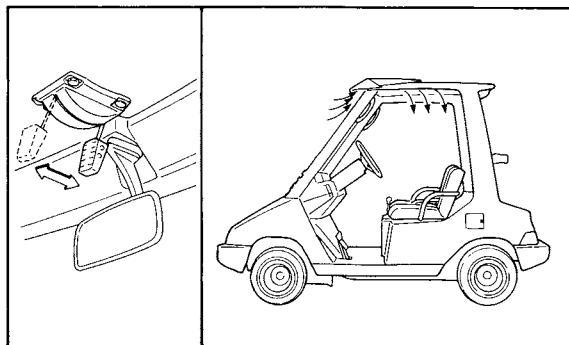
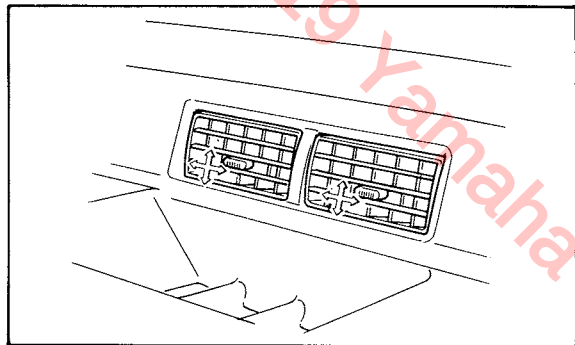
To remove the ashtray, press down on the protector and pull it out.



1. Ashtray

Air ducts

Air direction can be changed as shown.

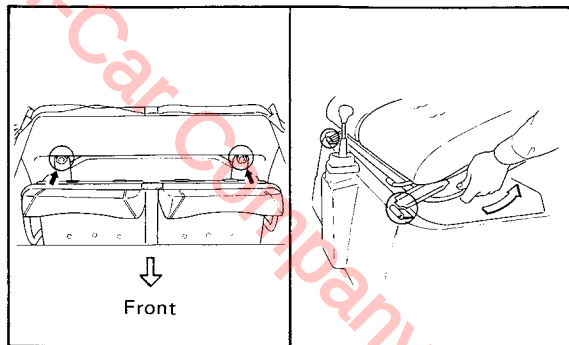


Seat removal

1. Remove the bolts.
2. Pull the seat stopper end as shown.

Roof ventilation

The roof vent may be opened or closed as shown.

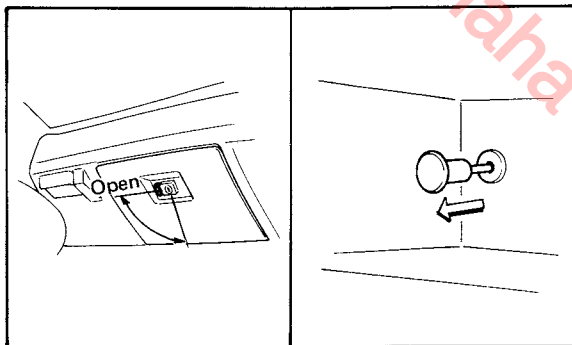


Seat installation

Install the seat by reversing the “seat removal” procedure.

Front trunk

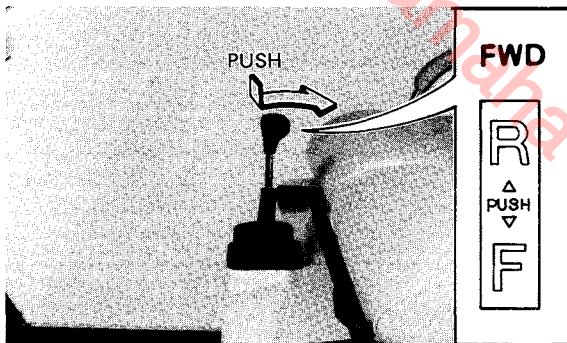
1. Open the glove box.
2. Pulling the knob as shown.



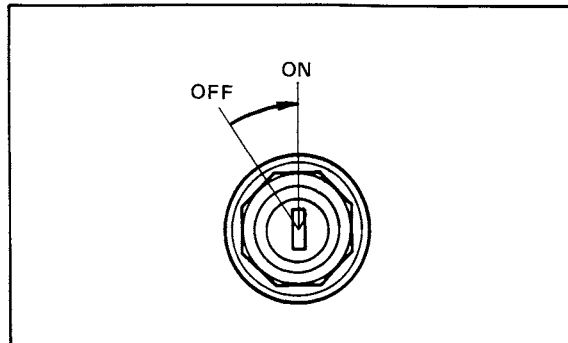
OPERATING INSTRUCTIONS

a. Forward

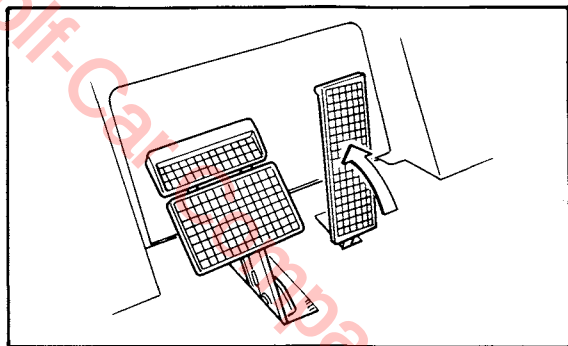
1. Shift the drive select lever to the "F" position.



2. Turn the main switch to the "ON" position.



3. Depress the accelerator pedal gradually.



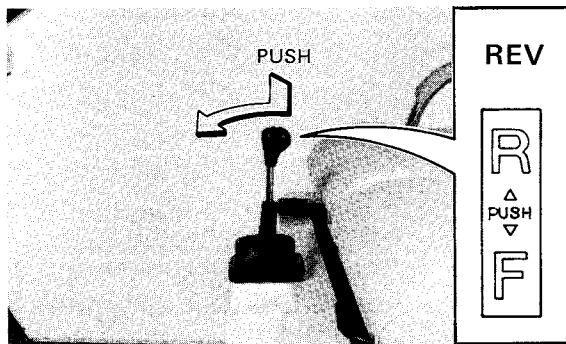
⚠ WARNING

Depressing the accelerator pedal fully before turning the main switch may cause loss of control, resulting in an accident.

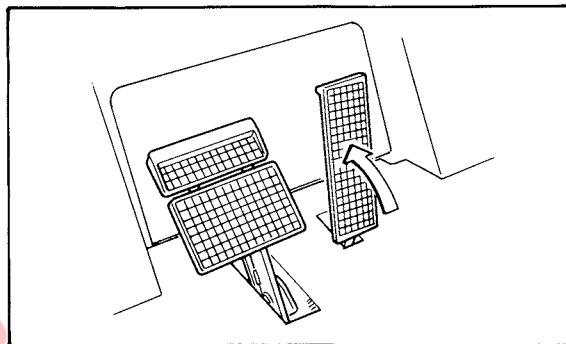
Turning the steering wheel sharply at high speeds may cause loss of tire traction, resulting in an accident.

b. Reverse

1. Bring the vehicle to a complete stop.
2. Shift the drive select lever to the "R" position.



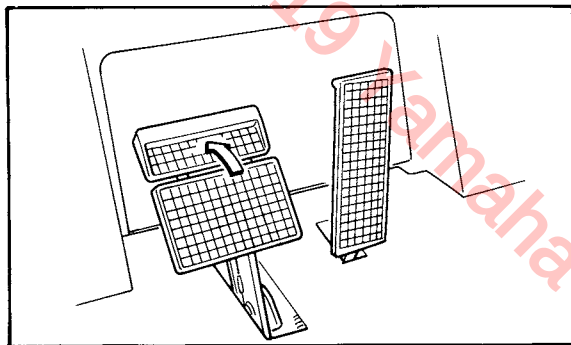
3. Depress the accelerator pedal gradually.



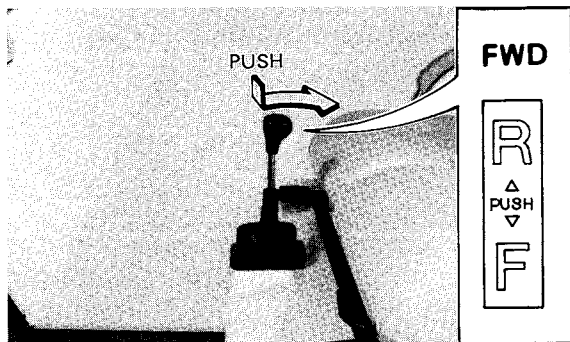
4. The back-up buzzer will sound until the accelerator pedal is released.

c. Starting on an upward slope

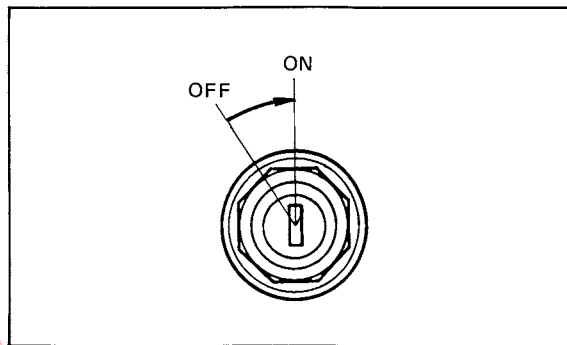
1. Set the parking brake:



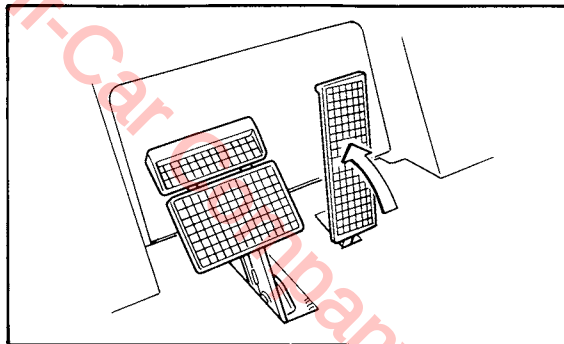
2. Shift the drive select lever to "F".



3. Turn the main switch to "ON".



4. Depress the accelerator pedal.



⚠ WARNING

The crossing the side of a hill always drive straight up or straight down a hill to prevent car from tipping.

Stopping

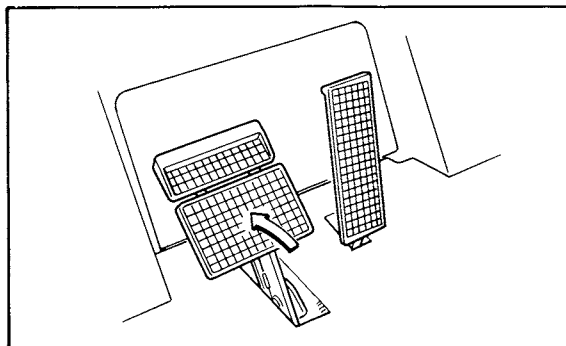
To slow or stop the car, move your foot off the accelerator pedal and carefully depress the brake pedal as much as necessary.

IMPORTANT:

Do not use the accelerator to hold the vehicle at a standstill on an incline.

Use only the brake to hold the vehicle on a hill.

Continued “stalled” conditioned as described will cause damage to the motor and electrical controls.



3) Parking

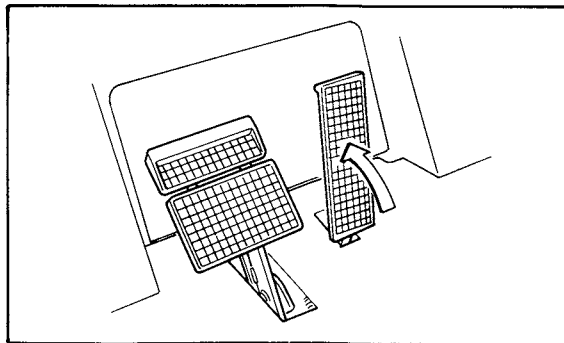
Parking

a. Parking

Always set the parking brake when parking the vehicle.

⚠ WARNING

- Park the car on a level surface as much as possible.
- Do not leave car unattended unless the main switch is in the "OFF" position or key is removed and the parking brake is ON. Accidental movement of the accelerator pedal may cause the car to coast down an incline.



b. Parking brake release

To release the parking brake, depress the accelerator slightly. If you do not want the engine to start, be sure that the main switch is set to the off position.

Speed

The vehicle is designed to attain its maximum operating speed on level ground. That speed can be easily exceeded when traveling down hill. Slow down and exercise caution when driving down slopes. Excessive speed will lengthen stopping distances, and may make the vehicle tend to tip while turning.

WARNING

Do not exceed the factory speed setting of 19 km/h (12 mph) under any circumstances.

Auxiliary D.C. terminal

Auxiliary D.C. terminal a located in the front panel. This terminal can be used for an accessory not exceeding maximum fuse rating 10A. Fuse for terminal a located in the fuse box.

Auxiliary D.C. Terminals: 12V 10A

IMPORTANT:

1. Do not use accessories requiring 12V 10A or more for each terminal.
2. To prevent wiring damage, never use fuses of a higher amperage rating than specified.
3. The voltage (red lead) and the ground (black lead) must be observed when connecting the terminals.

TIPS FOR SAFETY

The Yamaha golf car may be used safely while following these basic rules.

- *Bring the car to a complete stop before changing drive select lever position.
- *Do not depress the accelerator pedal before turning on the main switch.
- *Avoid starting or stopping abruptly.
- *Avoid turning the steering wheel too sharply at high speed, an accident may result.
- *Keep your hands on the steering wheel and your eyes on the path ahead.
- *Always drive straight up or straight down inclines; never at an angle. Pay special attention when driving over rough terrain.
- *When backing up, do so slowly, and watch where you are going.
- *Park the car on a level surface as often as possible.

*Always apply parking and turn main switch to the "OFF" position when car is unattended.

*Never allow more than two people to ride in the car.

PRE-OPERATION CHECKS

Before using this golf car, check the following points.

NOTE: _____

Before checking, turn the main switch to the "OFF" position.

Procedure	Item	Check point	Refer to page
1	Battery	Fluid level	11-1
2	Wheel	Tire pressure Cracks, damage, or hard objects embedded in tires	11-13
3	Steering wheel	Tightness, excess play Handling (Shaking, pulling to one side, stiffness)	13-4
4	Back-up buzzer	Back-up warning alarm at "reverse" key position	13-5
5	Brake pedal	Play	6-1, 11-14
		Braking efficiency	13-4
6	Parking brake	Braking efficiency and releasing timing	6-2, 13-4
7	Accelerator pedal	Easy operation and return	6-1, 13-4
8	Lights/Signals	Operation	6-3

Procedure	Item	Check point	Refer to page
9	Miscellaneous	Installation of golf bag securing device. Any irregularities noticed during operation on the day before	13-7

NOTE:

Pre-operation checks should be made each time the machine is used. Such an inspection can be thoroughly accomplished in a very short time; and the added safety it assures is more than worth the time involved.

PERIODIC MAINTENANCE AND MINOR REPAIR

Periodic inspection and adjustment will keep your golf car in the safest and most efficient condition possible. Safety is an obligation of the golf car owner.

The most important points of inspection and adjustment are explained in the following.

1) Daily check

For best operation from a safety and maintenance standpoint, it is important that any car that is not functioning correctly be removed from use until it is properly repaired.

The only practical way to insure that any problem receives proper attention is to ask that the owner or whoever is responsi-

ble for moving the cars is aware of the proper "feel" of the car on such critical areas as BRAKE OPERATION, ACCELERATOR OPERATION, STEERING MOVEMENT AND PLAY, and other operator controls. Any function that does not have the proper "feel" should be inspected more closely.

The best way to insure that proper attention is given to these items is to impress upon the owner or the person who moves the cars that it is an important part of the service procedure, and if responsibly carried out, can improve safety and prevent customer dissatisfaction.

WARNING

If the owner is not familiar with golf car service, this work should be done by a Yamaha dealer.

PERIODIC MAINTENANCE TABLE

Item	Remarks	Daily	Weekly	Monthly	Others	Page
Batteries	Charge	○				11-7 ~ 11-10
	Check electrolyte level.			○		11-1
	Clean tops and terminals, check for corrosion.			○		11-1
	Check for loose or broken connections.			○		11-12
	Check the specific gravity of electrolyte.			○ (3 ~ 4 cells)	every two months (all cells)	11-3
Accelerator (including speed controller)	Check for free movement and return	○				13-5
	Check for loose or broken wires and connections.			○		11-16
	Check controller contacts.				every six months	11-15 ~ 11-18
	Adjustment: Contact allowance [1.0 ~ 2.0 mm (0.04 ~ 0.08 in)]				every year	11-15 ~ 11-18
Resistor	Check for loose or broken wires and connections.			○		11-12
Solenoid relay	Check "click" (Solenoid contact sound).	○				11-8
	Check wires and connections.			○		11-13

Item	Remarks	Daily	Weekly	Monthly	Others	Page
Solenoid relay	Check solenoid contacts.				every six months	11-5
Traction motor	Check for loose or broken connections.			○		—
	Check brush and commutator				every four years	—
Wiring	Check all wire insulation for cracks and/or worn spots.				every six months	—
Differential	Check gearbox oil level and leakage.				every six months	11-18
	Replace gearbox oil. Oil capacity: 800 cm ³ (0.70 Imp qt, 0.85 US qt) Oil type: SAE 90 gear oil				every two years	11-18
Brakes	Check operation and adjust if necessary.	○				13-4
	Adjustment: Brake wire end play [0.1 ~ 0.5 mm (0.004 ~ 0.02 in)]			○		11-13 ~ 11-15
	Check for wear or damage parking brake ratchet and stopper.				every six months	13-4
	Check shoe lining thickness. Wear limit: 1.5 mm (0.06 in)				every six months	—

Item	Remarks	Daily	Weekly	Monthly	Others	Page
Steering	Check operation and adjust if necessary.	○				13-4
	Check gear box for oil leakage, oil amount: 150 cc (0.13 Imp qt, 0.16 US qt) Oil type: SAE 90 Gear oil				every four years	—
	Adjustment: Wheel alignment [Toe-in: Unloaded 10 ~ 20 mm (0.4 ~ 0.8 in), Fully loaded 0 mm (0 in)]				every year	—
	Check kingpin play.				every year	—
Wheel	Check tire pressure and correct if necessary. Front and rear: 137 kPa (1.4 kg/cm ² , 20 psi)	○				11-13, 13-5
	Check tire groove depth or for damage. Wear limit: 1.0 mm (0.04 in)				every year	11-13
	Check for play front wheel bearing.				every year	—
	Check for play rear axle bearing.				every year	—

Item	Remarks	Daily	Weekly	Monthly	Others	Page
Body & Chassis	Check body and chassis for damage.				every year	—
	Check tightness of all bolts, nuts and screws.				every year	—
	Check shock absorber for oil leakage.				every year	—

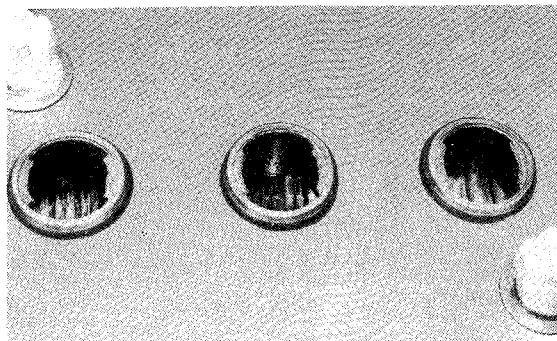
NOTE: _____

Keep from high pressure water all the electric parts; solenoids, motor, resistor, and controller.

OWNER SERVICING

⚠ WARNING

For any adjustments or repairs not mentioned in the preceding owner service section, take your golf car to the nearest Yamaha golf car service dealer.



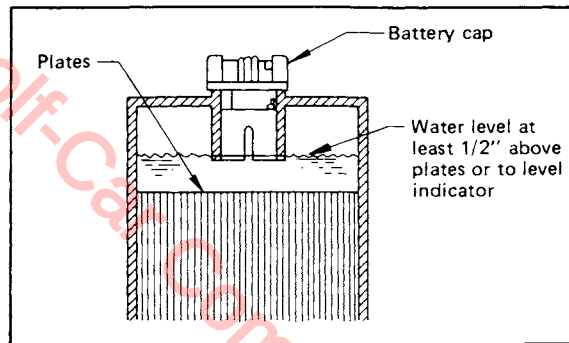
1) Battery

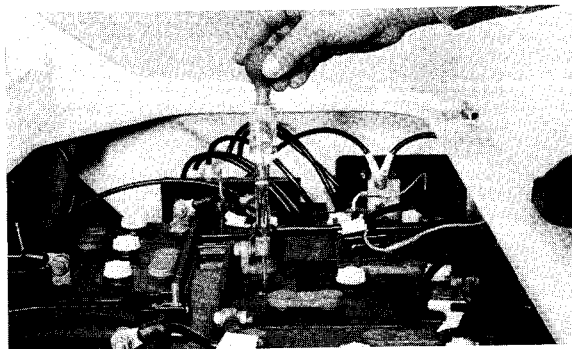
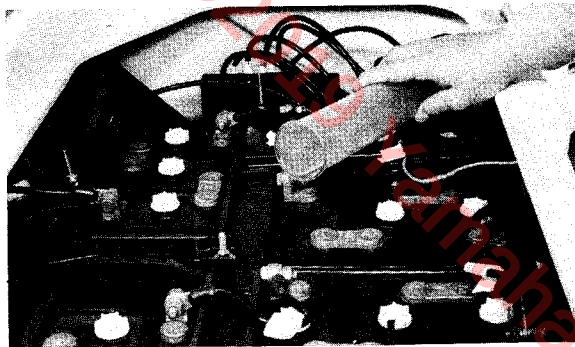
The batteries can be easily maintained simply by opening the seat.

BATTERY CARE

To keep your batteries in top condition, follow this maintenance program on a regular basis:

- a. Check the electrolyte level weekly. Fill to manufacturer's recommended level when necessary. Use only distilled water or other water certified within impurity limits for battery use. Do not overfill!





- b. Clean the battery tops weekly by hosing off with a water hose. While this is being done, inspect the battery terminals, hold-downs and general area for corrosion. If found, consult your Yamaha dealer for corrective measures.
- c. Check the specific gravity of the battery electrolyte every week by "spot checking" 3 ~ 4 cells.

Always first add water as necessary, then charge the batteries, then wait for the bubbles in the electrolyte to dissipate, then check specific gravity. Every two months, check all cells. If any low readings are found, consult your Yamaha dealer with this information to determine the appropriate action.

⚠ WARNING

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes or clothing.

Antidote: **EXTERNAL** — Flush with water. **INTERNAL** — Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call physician immediately.

Eyes: Flush with water for 15 minutes and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flame, cigarettes, etc., away. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

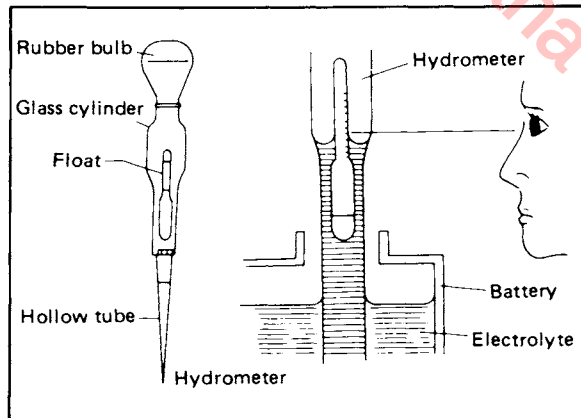
d. Specific gravity table

The specific gravity of battery electrolyte varies greatly according to temperatures; use the chart as reference.

Temperature		Satisfactory uncorrected hydrometer reading
°F	°C	
120	48.9	1.244
110	43.3	1.248
100	37.8	1.252
90	32.2	1.256
80	26.7	1.260
70	21.1	1.264
60	15.6	1.268
50	10.0	1.272
40	4.4	1.276
30	-1.1	1.280

The reading should be 1.260 at 80°F (26.7°C). If the specific gravity is low, charge the batteries. Before charging batteries, remove the vent caps, and be sure the vent holes are free to permit escape of gases. Then replace the vent caps on the batteries, and charge the batteries.

e. Hydrometer



By squeezing and releasing the rubber bulb, fill with fluid until the float is positioned as in the illustration.

With the hydrometer float supported by the fluid, check the specific gravity. Be sure to read as illustrated.

BATTERY CARE FOR ELECTRIC CARS

WARNING

Batteries emit hydrogen gas while they are charging. Hydrogen gas is extremely explosive. All possible sources of ignition, such as flames, sparks, etc., must be kept away from charging batteries.

1. New batteries must be given at least a 12-hour charge before their first use. Check the specific gravity to ensure adequate charging.
2. For the first five rounds, new batteries should go only 18 holes between charges.
3. Charge the batteries daily if they are used; the charge time is dependent on the amount the car is operated. In addition, a 30-minute charge between rounds helps extend battery life.
4. Add only distilled water to obtain the proper electrolyte level; do not overfill the cells. Never add electrolyte to a battery already in service.
5. Organize and store the cars so they get equal use.
6. Check the specific gravity of the electrolyte and refer to the catch-up chart to determine if a catch-up charge is needed.
7. The specific-gravity charts must be used to ensure proper charging; the charts should be prominently displayed.
8. Temperature has an effect on specific-gravity readings; this effect is computed on the specific-gravity charts. Use a combined hydrometer/thermometer for accurate readings. Never use a "floating ball" type hydrometer.
9. To ensure accuracy, hydrometers must be cleaned regularly; flush them with clean water after each day's use.

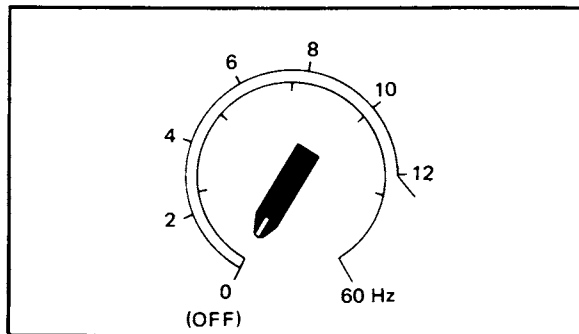
10. As batteries get older, their lives can be extended by decreasing the charge time from the normal 12 hours to as little as six hours when they are close to replacement.
11. Be sure the main switch of the car is turned off before charging the batteries.
12. The charger switch must be turned off when inserting and removing the charger plug at the car's receptacle; this will help prevent dangerous sparks near the batteries.
13. Place the charger cord carefully to avoid damage and accidents.
14. The charger should be mounted on a platform above the ground or in such a way to allow airflow beneath and around the charger; this will prevent overheating and possible damage to the charger.
15. Before charging batteries, remove the vent caps and inspect the vents for obstructions. Replace the vent caps after ensuring that the vents are clear, and proceed with charging.
16. Batteries which are operated with a low charge will soon sulfate, decreasing their service lives.
17. Overcharging batteries will seriously decrease their lives.

BATTERY CHARGING

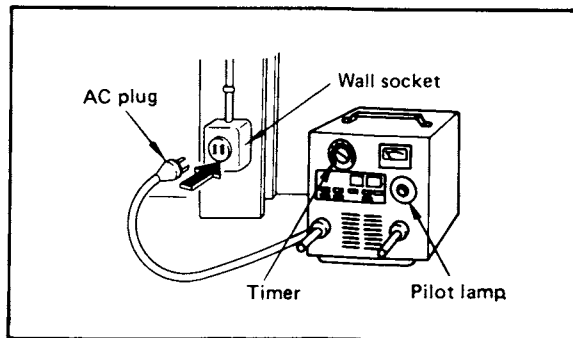
NOTE:

Charge the batteries after each day of use, or periodically during extended storage.

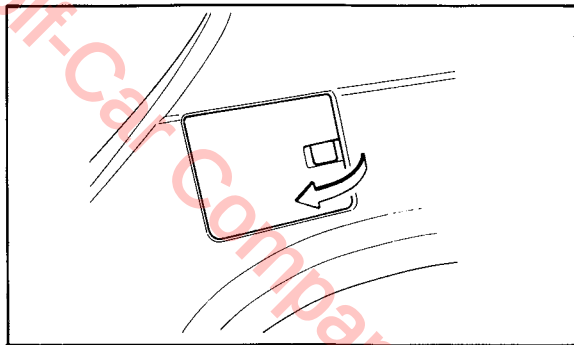
- Turn the main switch to the "OFF" position.
- Turn off the charger timer switch to the "0 Hr" position.



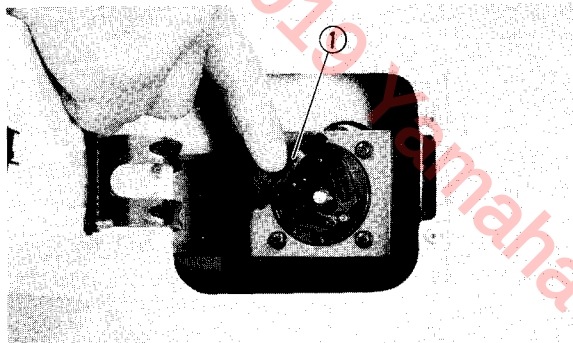
- Connect the AC plug of the battery charger to a wall socket.



- Open the lid.

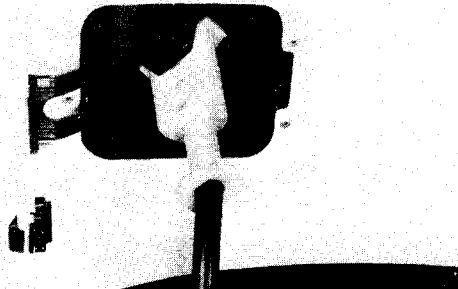


e. Open the receptacle cap.



1. Receptacle cap

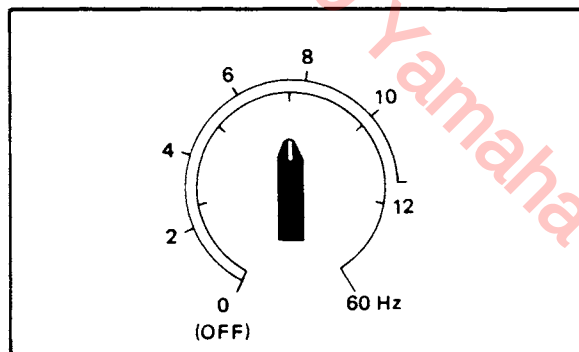
f. Insert the charger plug into the car's charging receptacle.



⚠ WARNING

Do not unplug the charger from the receptacle in the car until the charger is turned off. Unplugging an operating charger will cause sparks.

- g. Set the timer to the desired charging time.
The charger will turn on for the indicated number of hours.



- h. When charging is complete, the switch turns off automatically.
- i. Average charge durations are indicated in the chart below.

Golf car Use	Charging Time
9 holes or less	7 hours
18 holes or more	12 hours or more
Commercial Use	
Less than 1 hour	7 hours
More than 1 hour	12 hours or more

If use is greater than one round, charging between rounds is recommended. The best duration for a charge between rounds is a full recharge. If this is not possible, at least 30 minutes is recommended. If use was greater than 18 holes, and the finish rate is greater than 4 amps, additional recharging may be necessary. (See catch-up charging recommendations.)

If the specific gravity is less than 1.260 (corrected) charge the batteries according to the catch-up charge recommendations below.

If the specific gravity does not increase after the recommended time, the batteries are aging, and should be charged according to the finish rate chart.

Finish rate on Charger Ammeter	Timer setting
1 • 4 Amps	12 Hrs
6 • 8 Amps	10 Hrs
10 • 12 Amps	8 Hrs
15 Amps +	6 Hrs

NOTE:

Ambient temperatures of 38°C (100°F) or higher will cause high finish rates, use caution not to overcharge the batteries at these temperatures. Colder temperatures will require longer charging times.

Batteries should be charged every day that they are used even if the car only went 9 holes. However, the batteries should not be charged if they are not used unless testing

shows that a catch-up charge is required. This would lead to overcharging.

Catch-up and storage charge recommendations*:

State of charge (Specific Gravity)	Charge
1.260 to 1.280	None needed
1.240 to 1.260	4 Hours
1.220 to 1.240	8 Hours
Below 1.220	12 Hours

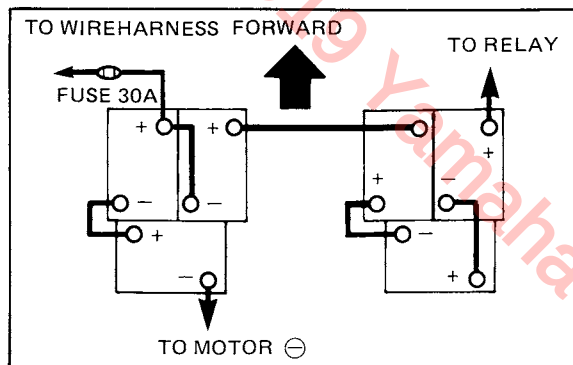
IMPORTANT:

- Take care that the batteries are not overcharged. This will shorten their life.

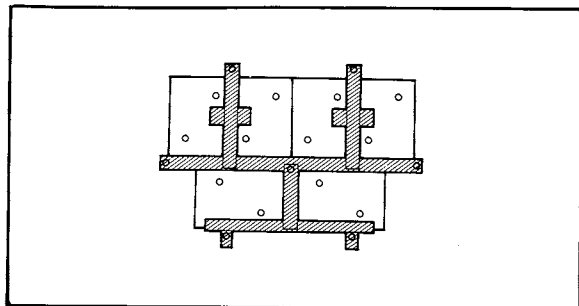
⚠ WARNING

- Keep fire and sparks away from the batteries while they are being charged. (Explosive gases are formed during charging)
- Never charge the batteries in a closed area. Choose a well-ventilated area.

BATTERY INSTALLATION AND WIRE LEAD CONNECTION



- a. Install the battery holddown plates as shown.



IMPORTANT:

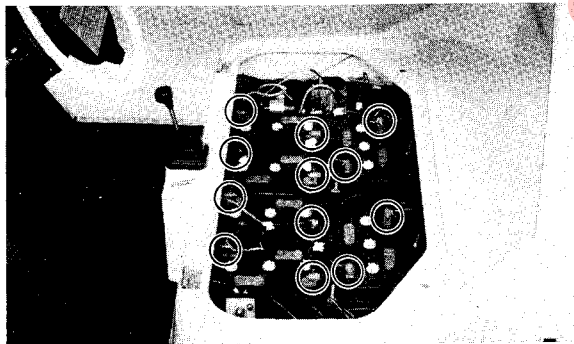
Do not overtighten the battery holddown nuts. Excessive force will damage the battery casing.

- b. Connect the wire leads as shown. Each wire lead has its own length, position and identification mark.

- c. Keep all battery wires, connectors, and posts free of corrosion, and keep their connector bolts tight.

Corrosion should be prevented by use of chemically treated felt washers, special corrosion resistant spray coating, or grease.

- d. Keep the batteries secured in position to avoid damage to the casing, internal parts, or connection posts and wires.



IMPORTANT:

- When installing batteries, be sure that maximum possible space is allowed between them to allow proper battery cooling.
- When placing batteries in the car, make sure there are no pebbles or any other things under the battery, and firmly secure them to the car.
- Never hammer the battery terminals when connecting the cable terminals to batteries.

⚠ WARNING

When installing batteries or tightening electrical connectors or terminals, be careful to avoid short circuiting by:

- 1) Careful placement of battery cables and holdowns.
- 2) Avoid touching wrenches to ground when tightening terminal nuts (insulate wrench with tape).

- 3) Always remove the negative (–) cable to the traction motor first, and install it last.
-

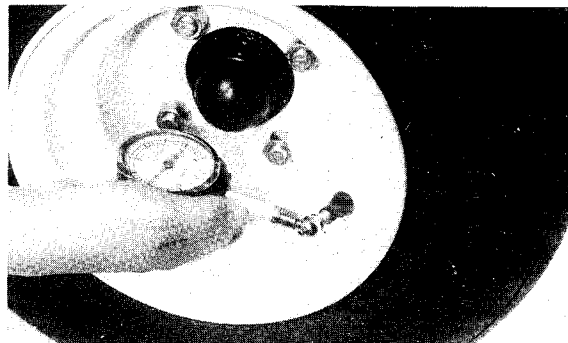
WIRING

Keep the wiring secured in position to avoid damage to the casing, internal parts, or connection posts and wires.

Tires

Check tire pressure. Tire pressure should be 110 ~ 130 kPa (1.1 ~ 1.3 kg/cm², 16 ~ 18 psi) for both front and rear. Check for wear or damage to the tires and replace any tire that is damaged or exceeds wear limit.

Minimum tread depth: 1 mm (0.04 in)



Brakes

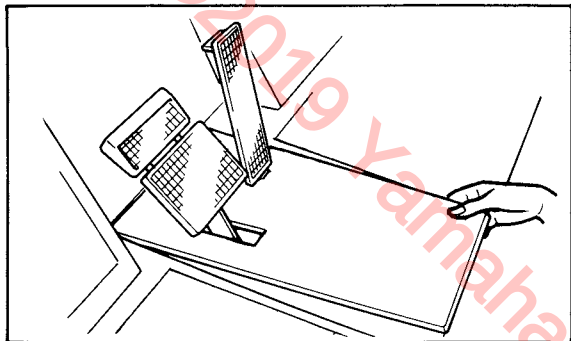
PROCEDURE:

- a. Brake shoe adjustment:

Brake shoes are self-adjusting. Before the initial start on a new car, just step down the brake pedal about 10 times to make sure that braking works.

- b. Linkage adjustment:

- 1) Remove the floor panel, which is located to the rear of the brake pedal.



- 2) Check the brake wire end play as illustrated.

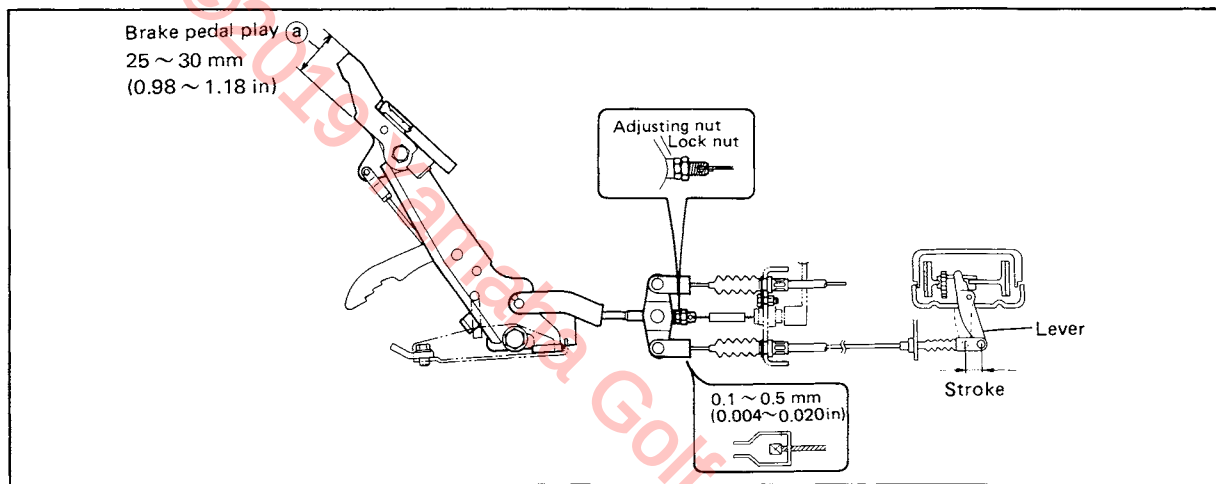
Brake wire end play:
0.1 ~ 0.5 mm (0.004 ~ 0.02 in)

⚠ WARNING

1. To provide the brake shoe self-adjusting lever with an effective stroke, the brake wire end (as illustrated below) must be set

just tight enough not to be loose (0.1 ~ 0.5 mm play). If the brake wire end play is too tight, it will not enable the self-adjusting device to work, thereby causing the brake pedal play ① to increase with the resultant braking feel.

2. If the brake wire end play is too loose, it will cause the brake pedal play ① to increase accordingly, also resulting in a bad braking feel.



If necessary, adjust the brake wire end play by turning the adjusting nut and lock it with the Lock nut.

If this adjustment does not give smooth, even stopping without heavy pedal pressure, contact your Yamaha dealer before using your golf car again.

Adjustment (Adjusting nut)	Free play (Brake wire end)
Tightening	Decreasing
Loosening	Increasing

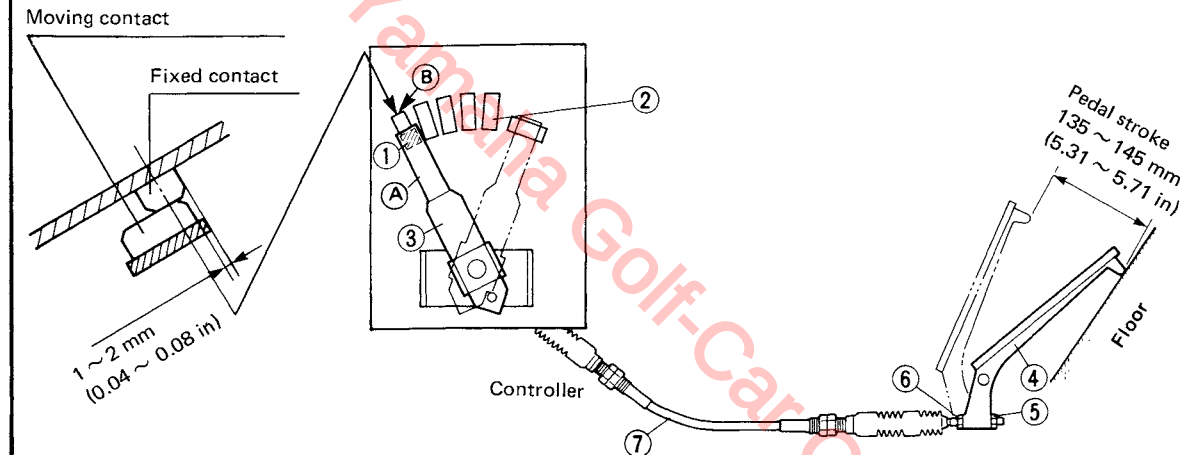
Adjustment of speed controller

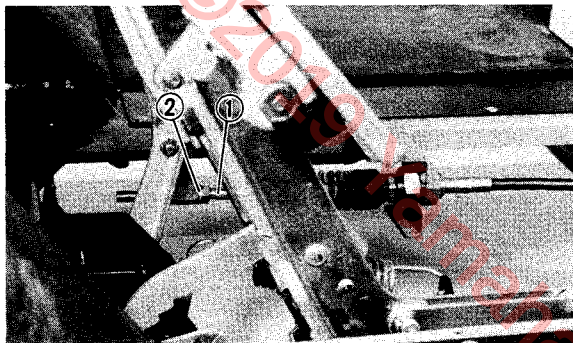
- a. When the accelerator pedal is slowly depressed to the full extent, check whether moving contact is located in position (A) the (with the following allowance (B)) in relation to the fixed contact #6 see figure.

Allowance (B):

1 ~ 2 mm (0.04 ~ 0.08 in)

If not, loosen the two lock nuts (5) on the accelerator rod (6) and bring the movable contact to the correct position. Tighten the two lock nuts securely.





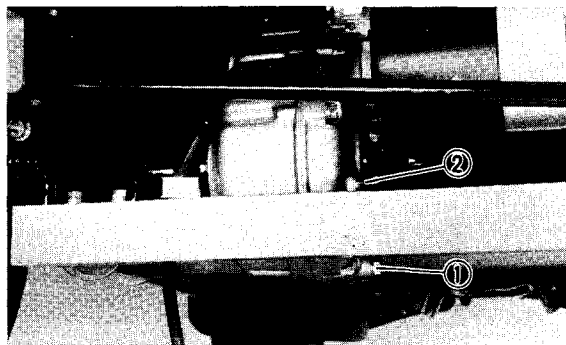
1. Accelerator rod
2. Lock nuts

Gear box oil

Check the oil level using the level plug. Add oil if necessary.

Drain the gear box and refill it at least once every 2 years.

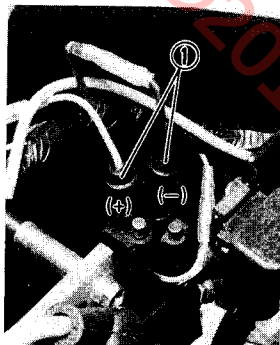
Recommended oil: SAE 90 gear oil
Capacity: 800 cm³ (0.70 Imp qt,
0.85 US qt)



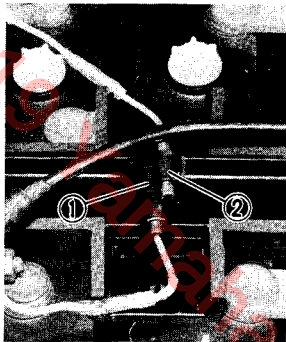
1. Drain bolt
2. Oil level plug

Fuse replacement

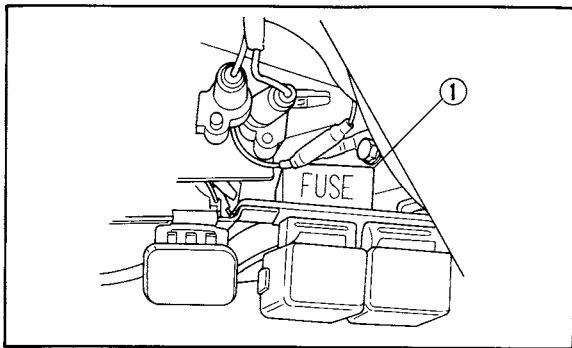
1. There are three fuse cases and one fuse box on this golf car, located under the seat three of them.



1. Fuse case



2. Spare fuse



1. Fuse box

2. If the fuse is blown, turn off the main switch and install a new fuse of proper amperage.

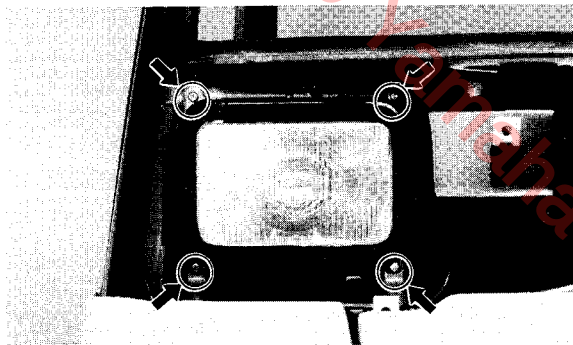
Then turn on the switches, if the fuse immediately blows again, consult a Yamaha dealer or other qualified mechanic.

⚠ WARNING

Do not use fuses of higher amperage rating than those recommended. Substitution of a fuse of improper rating can cause extensive electrical system damage and possibly a fire.

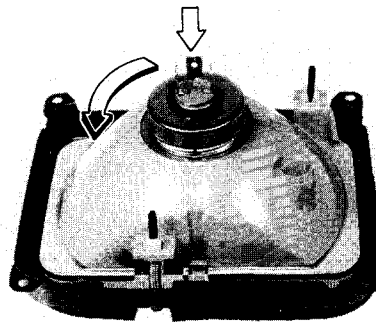
Headlight bulb replacement

1. Loosen the four (4) screws at the front panel and headlight cover.



1. Headlight cover

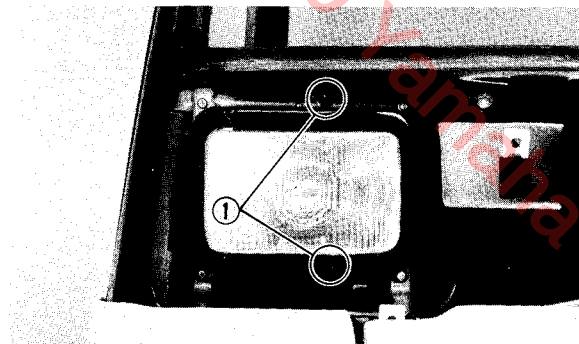
2. Remove the headlight assy and disconnect the lead wires.
3. Turn the bulb holder counterclockwise and remove the defective bulb.



4. Slip a new bulb into position and secure it with the bulb holder.
5. Reinstall by reversing the removal procedure. Adjust the headlight beam if necessary.

Headlight beam adjustment.

To adjust the headlight beam, turn the adjuster clockwise or counterclockwise.



1. Adjuster

STORAGE AND RETURN TO SERVICE

When a golf car is to be stored during the off-season, certain steps must be taken to prevent deterioration and extend the life of the car. Likewise, preparations must be made to return a car to service after storage.

STORAGE PREPARATION

1. Add distilled water to the battery cells to achieve the proper level.
2. Fully charge the batteries.
3. Check the specific gravity of the batteries every eight weeks, and charge them as necessary to maintain the proper specific gravity.
4. Store the batteries in an unheated area during the off-season.
5. Increase the tire pressure to 140 kPa (1.4 kg/cm²), 20 psi.

6. Protect the tires from moisture, oil, and ozone.
7. Clean and dry the chassis.
8. Avoid storing the car in damp, humid areas to prevent rust and corrosion.

RETURN TO SERVICE

1. Ensure that the battery is at the proper specific gravity and fluid level.
2. Adjust the tire pressure to 137 kPa (1.4 kg/cm²), 20 psi.
3. With the key turned off, check the operation of the brakes, parking brake, accelerator, and steering mechanism.

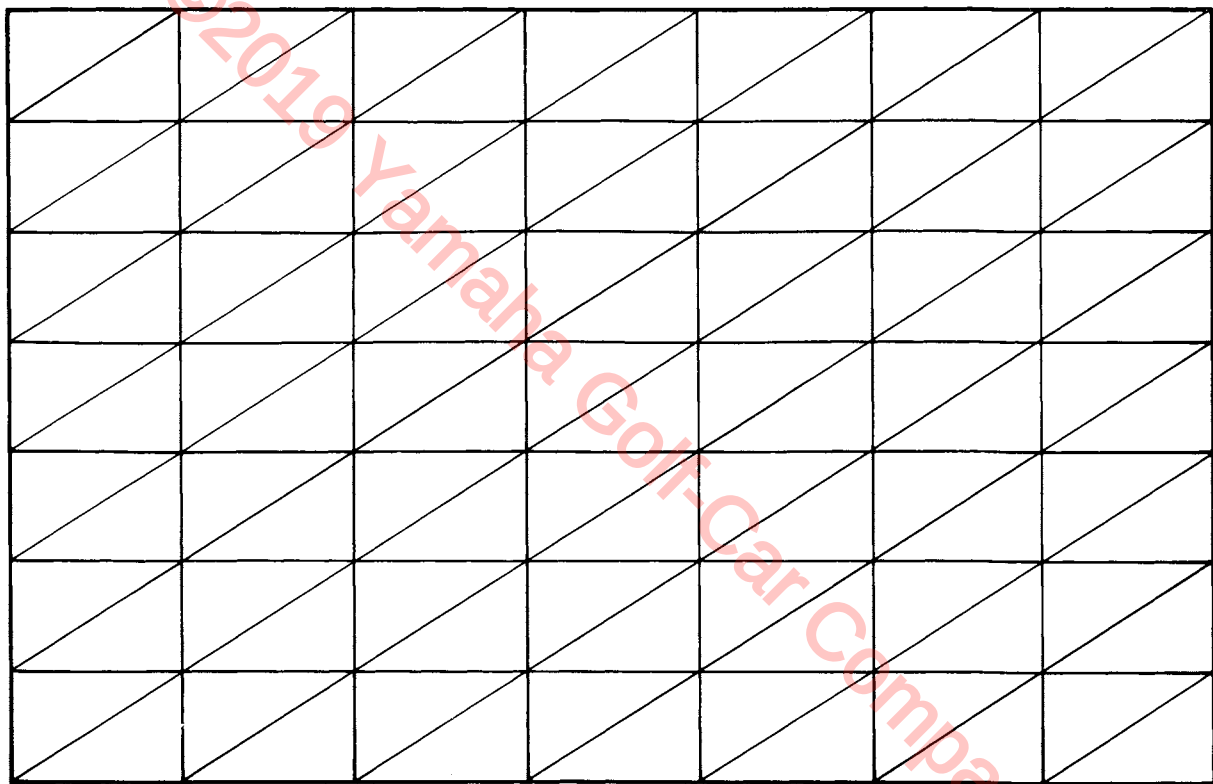
MAINTENANCE CHECK LIST

1) Daily maintenance check list

CODE	PROBLEM
1.	TIRES: ● Inflation ● Uneven wear ● Damage or cuts
2.	BRAKES: ● Pedal adjustment ● Parking lock ● Free movement
3.	STEERING: ● Free movement ● Full-lock check ● Wheel play

CODE	PROBLEM
4.	ACCELERATOR: ● Free movement
5.	RUNNING: ● Forward check ● Forward brakes ● Reverse check ● Back-up buzzer ● Rear brake
6.	RATTLES OR UNUSUAL NOISES
7.	BATTERY FLUID LEVEL
8.	CLEANUP

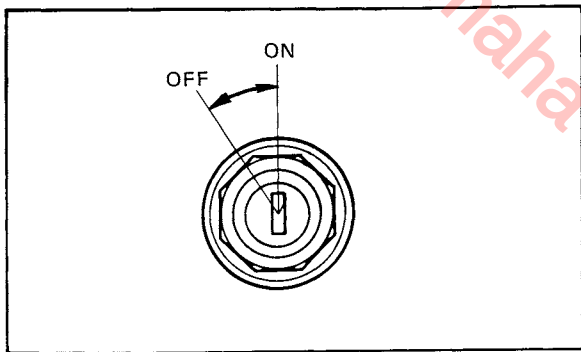
Record the date and, if necessary, the problem code:



DAILY CHECK (Procedure)

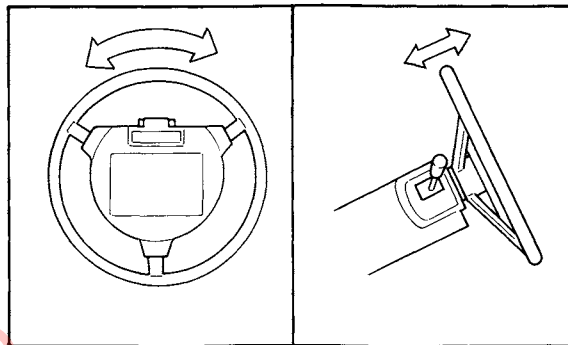
NOTE:

Before checking, turn the main switch to the OFF position.



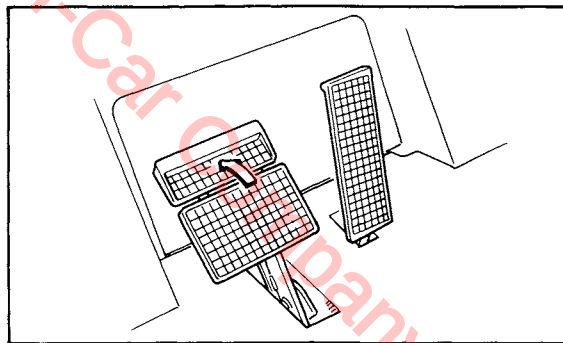
a. Check the steering mechanism free play.

b. Check the steering mechanism movement.

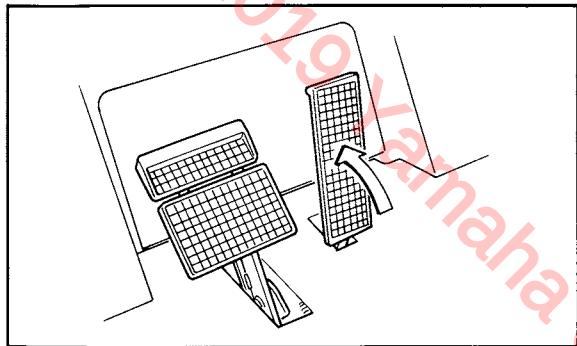


c. Check brake pedal movement.

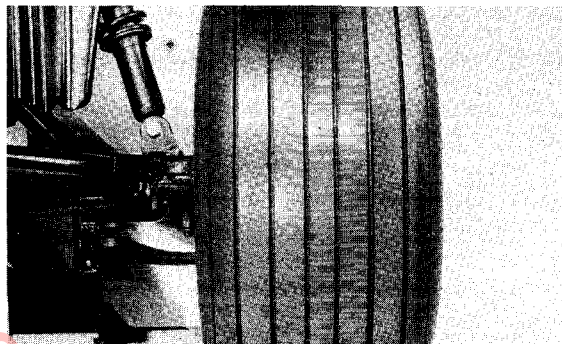
d. Check parking brake operation.



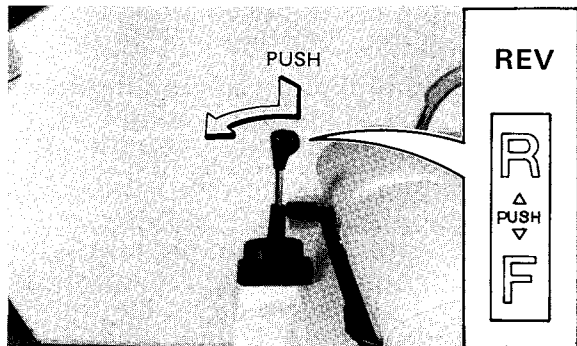
e. Check accelerator pedal operation.



g. Check the tires for cuts or low air pressure.



f. Check the back-up buzzer in the "R" position of the drive select lever.



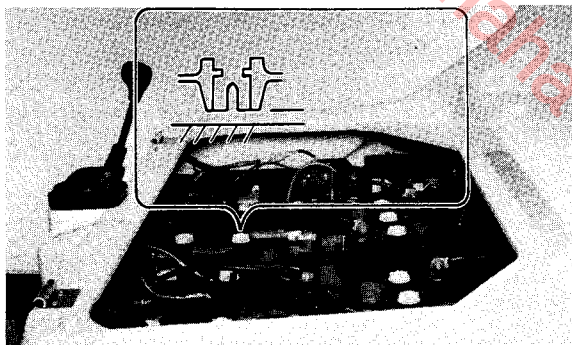
h. Check all indicator lights before operation.



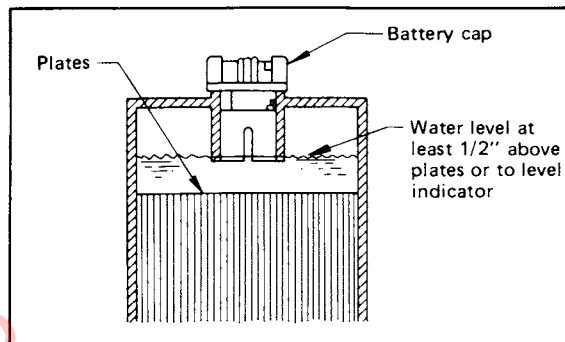
i. Open the seat for the following checks.

NOTE:

When the body cowl is opened, be sure to insert the safety lock pin into the hole as shown below.



j. Check the battery fluid level.



- k. Clean the seats and cowl if they're dirty.
- l. Check the feel of the car while driving to the line.
- m. Installation of golf bag securing device.

2) Golf car 10-point monthly check

1. Check and adjust the tire pressure.
2. Check for any tire damage.
3. Adjust the brake pedal play.
4. Check the operation of all the cables, and lubricate them.
5. Adjust the parking brake.
6. Check the battery connections and fluid level.
7. Clean the battery and its connections.
8. Check for any loose wires or connections.
9. Wash the car, if necessary.
10. Check the electrolyte specific gravity.

Record the date, and initial when all the above operations are completed.

3) Six months and yearly maintenance check list

SIX MONTHS

1. Check accelerator controller contacts.
2. Check solenoid contacts.
3. Check all wire insulation for crack and/or worn spots.
4. Check differential gear box oil level and leakage.
5. Check for wear or damage parking brake ratchet and stopper.
6. Check brake shoe lining thickness.
7. Wax the car.

YEARLY

One year

1. Lubricate all the cables.
2. Tighten all the bolts, nuts, and screws.
3. Adjust the steering gear.
4. Adjust the steering alignment.
5. Check the moving arm and contacts.
6. Adjust the contact allowance.
7. Adjust the brake pedal end play.
8. Check tire groove depth and wheel bearings.
9. Check shock absorber for oil leakage.

Two years

1. Replace differential gear oil.

Four years

1. Check brush and commutator.
2. Check gear box for grease leakage.

Record the date in a box, and initial the adjacent area when the service is completed. Keep this sheet as a permanent record.

1		2		3		4	
6 MONTHS DATE:	YEARLY DATE:	6 MONTHS DATE:	YEARLY DATE:	6 MONTHS DATE:	YEARLY DATE:	6 MONTHS DATE:	YEARLY DATE:
INITIALS	INITIALS	INITIALS	INITIALS	INITIALS	INITIALS	INITIALS	INITIALS

SPECIFICATION

ITEMS	DESCRIPTION
Motor	36 volt, DC series wound.
Drive/Transmission	Double reduction helical gear 11.97: 1, Direct drive motor/axle
Electric system	Six, 6 volts storage batteries (36 volt)
Overall length	2,736 mm (107.7 in)
Overall width	1,278 mm (50.3 in)
Overall height	1,745 mm (68.7 in)
Wheelbase	1,670 mm (65.7 in)
Brakes	Mechanical brake linkage to individual drum brakes on each rear wheel with self-adjusting brake shoe. Parking brake with automatic release.
Front suspension	Independent front wheel suspension. Coil springs with hydraulic shock absorbers.
Rear suspension	Coil springs with hydraulic shock absorbers.
Tire type	18 x 8.50 – 8.00 Tubeless – 4 ply rating
Tire pressure	137 kPa (1.4 kg/cm ² , 20 psi)
Turning radius	3,000 mm (118 in)

— MEMO —

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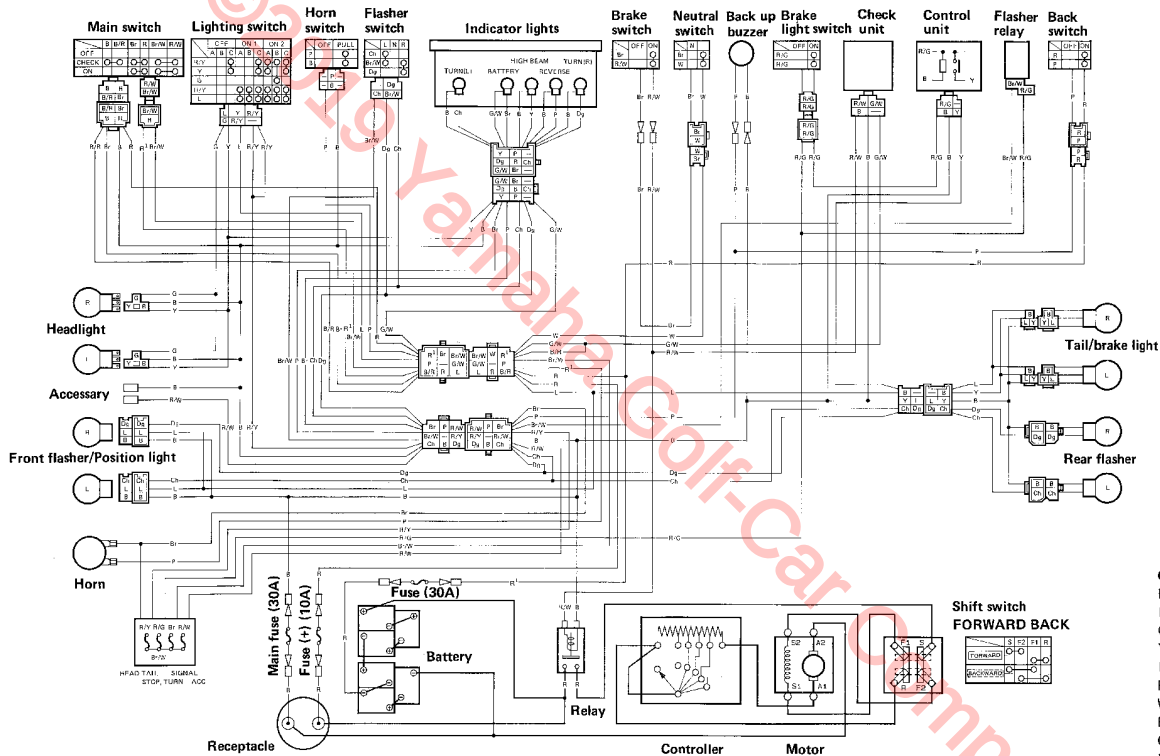
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WIRING DIAGRAM

Combination switch



COLOR CODE

- B Black
- L Blue
- G Green
- Y Yellow
- R Red
- P Pink
- W White
- Br Brown
- Ch Chocolate
- Dg Dark green
- B/R Black/Red
- G/W Green/White
- R/G Red/Green
- R/Y Red/Yellow
- R/W Red/White
- Br/W Brown/White

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