



OWNER'S / OPERATOR'S MANUAL



READ THIS MANUAL CAREFULLY!
It contains important safety information.

DR2E18 PTV

48 VOLT AC PERSONAL TRANSPORT VEHICLE

INTRODUCTION

Congratulations on your purchase of a Yamaha Personal Transport Vehicle (PTV). This manual contains information you will need for proper operation, maintenance, and care of your PTV. A thorough understanding of these simple instructions will help you to obtain maximum enjoyment from your new Yamaha.

If you have any questions about the operation or maintenance of your PTV, please consult a Yamaha dealer.

Yamaha Motor Corporation USA

**DR2E18 PTV 48 Volt AC PTV
Owner's/Operator's Manual
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USA
1st edition**
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Yamaha Motor Corporation USA
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LIT-19626-20-18**



J0E-F8199-10

IMPORTANT MANUAL INFORMATION

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



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

WARNING

A **WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.

NOTICE

A **NOTICE** indicates special precautions that must be taken to avoid damage to the PTV or other property.

TIP

A **TIP** provides key information to make procedures easier or clearer.

TIP

Yamaha continually seeks advancements in product design and quality; therefore, while this manual contains the most current product information available at the time of printing, there may be minor discrepancies between your PTV and this manual. If you have any questions concerning this manual, please consult your Yamaha dealer.

WARNING

Read and understand this manual completely before operating your PTV. This manual should be considered a permanent part of your PTV and should remain with the PTV when resold.

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WARRANTY

1

LIMITED 4-YEAR WARRANTY FOR DRIVE², PERSONAL TRANSPORTATION VEHICLES

Yamaha Golf-Car Company hereby warrants that any new Yamaha DRIVE² Gas or DRIVE² Electric Personal Transportation Vehicle (PTV) purchased from Yamaha, or an Authorized Dealer or Distributor in the United States will be free from defects in material and workmanship for FOUR years from date of purchase, subject to the stated limitations. DURING THE PERIOD OF WARRANTY, any authorized Yamaha golf car service technician, dealer, or distributor will, free of charge, repair or replace, at Yamaha's option, 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 vehicle's warranty period. All parts replaced under warranty become property of Yamaha Golf-Car Company.

Common Parts		Electric Car Specific	
Frame	3 Years	Battery - Trojan ' T875 ' <u>without</u> HydroLink Watering System	4 Years or 23,500 amp-hours whichever comes first *Detailed condition on the next page
Transaxle	4 Years		
Pedals	3 Years	Electric Motor	4 Years
Brakes (excluding shoes / pads)	4 Years	Motor Controller / Charger	4 Years
Electrical wires, switches, and relays	3 Years	Charger Cord	4 Years
Suspension / Steering components	4 Years	Charger Receptacle	4 Years
Seats	2 Years	Throttle Position Sensor	2 Years
Sun Top	4 Years	GAS Car specific	
Bumpers / Body Parts	3 Years	Exhaust / Intake / Generator	4 Years
Floor Mats	2 Years	Gas Engine	4 Years
Scorecard Holders	2 Years	Throttle Cables / Controls	3 Years
Bag Carrier	3 Years	Battery	1 Years
Common Accessories		Clutch (excluding drive belt)	4 Years
Windshield	3 Years	All Remaining Parts	
Head Light	2 Years	1 Years	
Tail Light	2 Years		

EXCLUSIONS from this Warranty shall include any failures caused by:

- Abnormal strain, neglect, or abuse, including lack of proper maintenance, and use contrary to the Owner's/Operator's 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.
- Modifications or alterations that affect the car's condition, operation, performance, or durability, or which makes the car serve a purpose other than use as a two-person, golf course vehicle.
- Damage due to improper transportation.
- Acts of God, i.e. lightning, hail damage, flooding, fire, etc.

This Limited Warranty does not cover any parts replaced due to normal wear or routine maintenance, including oil and air filter elements, brake shoes, tire wear, spark plugs, starter and clutch drive belts. Any charges incurred in transporting a golf car or charger to and from an authorized Yamaha golf car dealer for service or in performing field service are also excluded from this warranty. Gasoline powered golf car starting batteries on vehicles equipped with a golf course GPS device, or any other device with a parasitic current draw, unless the vehicle is equipped from the factory with an optional deep cycle starting battery, are also excluded from this warranty.

THE CUSTOMER'S RESPONSIBILITY under this warranty shall be to operate and maintain the golf car and charger as specified in the appropriate Owner's/Operator's Manual, and give notice to an authorized Yamaha golf car dealer of any and all apparent defects within ten (10) days after discovery, and make the vehicle or charger available at that time for inspection and repairs by the dealer's authorized representative.

WARRANTY TRANSFER: Any transfer of warranty must take place within the first three years of the original in-service date of the vehicle. The vehicle must be re-registered by an authorized Yamaha Golf-Car Dealer within 30 days of transfer. A fee may be charged for the transfer of the warranty.

Yamaha Golf-Car Company makes no other warranty of any kind, expressed or implied. All implied warranties of merchantability and fitness of merchantability and fitness for a particular purpose which exceed the obligations and time limits stated in this warranty are hereby disclaimed by Yamaha Golf-Car Company and excluded from this Warranty. Some states do not allow limitations on how long implied warranty lasts, so the above limitation may not only apply to you. Also excluded from this Warranty is 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 give you specific legal rights, and you may also have other rights, which vary, from state to state.

Yamaha Motor Corporation, USA, KENNESAW, GEORGIA 30144

EFFECTIVE DATE: 7/1/16

WARRANTY

1

YAMAHA FOUR-YEAR LIMITED WARRANTY FOR TROJAN BRAND ELECTRIC GOLF CAR AND UTILITY VEHICLE BATTERIES WHEN CHARGED WITH A YAMAHA 48-VOLT CHARGER

Yamaha Golf-Car Company (herein referred to as "YGC") hereby warrants to the Original Retail Purchaser or Lessee of a YAMAHA The Drive golf car or PTV, Adventurer utility vehicle, or YAMAHA Concierge transportation or specialty car purchased from Yamaha, or an Authorized Dealer or Distributor in the United States, that the Trojan batteries charged with a YAMAHA battery charger will be free from defects in materials and workmanship, and will provide "36-hole performance" as follows:

- 4-years or 23,500 amp-hours with T-875
- 4-years or 25,000 amp-hours with T-875 batteries & the addition of a factory-installed Trojan HydroLink Battery Watering System.

WARRANTY LIMITATIONS

Yamaha Golf-Car Company's and Trojan Battery Company's limit of liability shall be to replace a defective battery. Replacement shall mean furnishing a new battery or used battery with sufficient life to complete the remainder of the warranty term, at no cost to the purchaser during the limited warranty period, except for labor or transportation expenses.

The following conditions apply:

- Amp-hours will be determined either through the Genius controller or through other means as necessary in the event of a controller failure or replacement.
- This warranty only applies to factory installed Trojan battery sets charged with a Yamaha battery charger.
- The customer must perform (or have a contracted Yamaha Dealer perform) all periodic maintenance and discharge testing as specified in the Yamaha Service Manual Maintenance Schedule. No labor or transportation expenses are included in this limited warranty. Maintenance records must be kept.
- YGC supplied or approved replacement batteries may be of a different brand or capacity, but are warranted to provide 36-hole performance for the remainder of the original warranty term.
- "36-hole performance" is defined as 60-minutes discharge time as tested and recorded using a Lester model #17770 discharge machine at an ambient temperature of between 60 and 100 degrees F (16 and 38 degrees C). Ambient temperatures between 60 and 80 degrees F (16 and 27 degrees C) must be corrected using the formula: Adjusted Discharge Time = (Discharge Minutes) / $(1 - ((80 - \text{TEMP}) / 100) \times 0.64)$.
- The customer must notify the Dealer within 10 days that a vehicle has failed to make 36 holes per day. YGC reserves the right to test and recharge any battery in question.

ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE SHALL BE VOID AND EXCLUDED SUBSEQUENT TO ONE YEAR FROM THE DATE OF PURCHASE. THE REPLACEMENT OF THE BATTERY IS THE EXCLUSIVE REMEDY UNDER THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY. YAMAHA MAKES NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, AND NO REPRESENTATIVE, EMPLOYEE, DISTRIBUTOR OR DEALER OF YAMAHA HAS THE AUTHORITY TO MAKE OR IMPLY ANY REPRESENTATION, PROMISE OR AGREEMENT WHICH IN ANY WAY VARIES THE TERMS OF THIS LIMITED WARRANTY.

LIMITED WARRANTY EXCLUSIONS

Without limiting the generality of the foregoing in any way, and as part of its limited warranty exclusion, YAMAHA does not warrant that its battery is suitable for use in any application other than in a golf car or utility vehicle. As in the use of any battery, a prudent owner will read and study the charger owner's manual, the vehicle owner's manual, the operator's instructions, and the battery warning labels; and will exercise due care in working on or around batteries.

THE PROVISIONS OF THIS LIMITED WARRANTY SHALL NOT APPLY IF BATTERIES ARE SUBJECT TO ANY OF THE FOLLOWING CONDITIONS:

- Abuse or neglect such as improper fluid levels, loose wiring, rusted or corroded hardware.
- Lack of proper maintenance as outlined in the electric vehicle Owner's/Operator's Manual. For example, lack of regular battery watering or adding water to the battery before recharging.
- Damage caused by improper installation of the battery.
- Neglect, breakage, freezing, fire, explosion, wreckage, the addition of any chemical, or the operation of the battery in an uncharged condition (below half-charge – 1.200 specific gravity).
- Battery charged by systems other than the original equipment type battery charger.
- On fleet golf cars, the use of any non-YAMAHA supplied electrical devices that consume more than one amp-hour per round or two amp-hours per day of battery energy. Examples of these devices include, but are not limited to: heating or cooling systems; GPS (global position system) devices; information gathering devices; lights; radios or stereos; or yardage measuring devices.
- Less than one charger per car or inadequate facility electrical power to power all chargers. Examples include more than one charger on a single circuit, circuit rating of less than 15 amps, or not enough circuits for the number of cars.
- In fleet applications, less than one battery charger per vehicle. For example, using only 10 battery chargers to charge a 15 car fleet.
- The use of any system that does not allow the battery chargers to shut off automatically. For example, timer systems that are designed to switch battery charger AC power on and off during peak demand hours.
- Damage not resulting from a defect in materials or workmanship or which occurs due to abuse or neglect (including failure to provide reasonable and necessary maintenance), accident, alteration or acts of God is excluded from this limited warranty.

THIS BATTERY IS INTENDED TO BE USED BY PERSONS WITH TRAINING AND EXPERIENCE WITH BATTERIES AND ONLY IN YAMAHA ELECTRIC VEHICLES. ANY OTHER USE RENDERS THE LIMITED WARRANTIES EXPRESSED HEREIN AND ALL IMPLIED WARRANTIES NULL AND VOID AND SAME ARE HEREBY EXCLUDED.

ALSO EXCLUDED FROM THIS LIMITED WARRANTY ARE ANY AND ALL INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF USE OR REVENUE, LOSS OF TIME, INCONVENIENCE OR ANY OTHER ECONOMIC LOSS.

Some states do not allow limitation on the duration of an implied warranty, exclusions or limitations of incidental or consequential damages. Therefore, the above limitations or exclusions 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.

For further information or to submit a warranty claim, contact your local Yamaha Golf-Car Dealer or Yamaha's customer relations at (800) 962-7926.

Yamaha Motor Corporation, USA
Kennesaw, GEORGIA 30144

EFFECTIVE DATE: 07/01/16

LIT-13710-EL-14

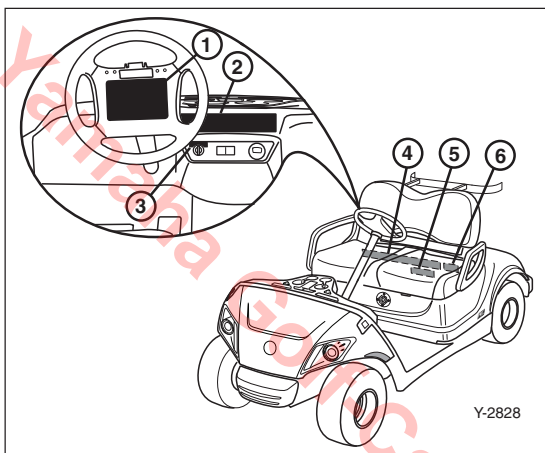
IMPORTANT LABELS

SAFETY AND INSTRUCTION LABELS

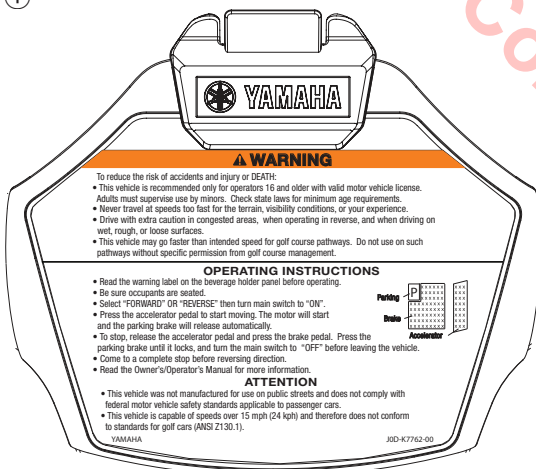
WARNING

2

Please read the following labels carefully before operating your PTV, and promptly replace any labels which become damaged or removed. Death or serious personal injury can result from failing to read and comply with the safety instruction labels.



①



IMPORTANT LABELS

⚠ WARNING

- To reduce the risk of accidents and injury or DEATH:
- Read the label located on the steering wheel before operation.
- Operate only when authorized and only in designated areas.
- Operate from driver's seat only.
- This vehicle is restricted to 2 occupants per bench seat.
- Do not start vehicle until all occupants are seated.
- Remain fully seated and hold on when in motion.
- Keep entire body inside vehicle.
- Drive slowly in turns.

YAMAHA

J08-K7768-00

③



④

BATTERY INSTALLATION AND WIRE LEAD CONNECTION 	INSTALLATION DES BATTERIES ET RACCORDEMENT DES FILS 		⚠ WARNING Explosive gases are released when batteries are charged. • Keep sparks, flames and fire away from batteries. • Keep vents ventilated.	⚠ ADVERTISSEMENT Les gaz explosifs se dégagent lors de la charge ou du décharge des batteries. • Garder bien ventilées. • Éviter étincelles, flammes et feu à proximité des batteries.		⚠ WARNING Sulfuric acid in batteries will burn skin, eyes, and clothing. • Do not tip batteries. • Keep vent caps tight. • Flush with water and call physician immediately.	⚠ ADVERTISSEMENT L'acide sulfurique des les batteries brûle la peau, les yeux, les vêtements. • Ne pas incliner les batteries. • Garder les bouchons serrés et nettoyer à grande eau et appeler le médecin immédiatement.	⚠ WARNING Electrical shorts can result in burns. • Do not make connection between positive and negative battery terminals.	⚠ ADVERTISSEMENT Les courts-circuits électriques peuvent causer des brûlures. • Ne pas relier la borne positive à la borne négative et dans l'inverse. J08-K2767-01
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IMPORTANT LABELS

⑤

NOTICE

Move switch to the "TOW" position before towing or storage. Failure to do so may lead to:

- Drive system damage when towing.
- Complete battery discharge and battery damage when storing long term.
- After moving switch from "RUN" to "TOW", wait 15 seconds minimum before switching again.

NOTIFICATION

Mettre l'interrupteur a position "TOW" avant de remorquer ou avant l'entreposage. Non-observation pourrait:

- Dommages de système d'entraînement en remorquant.
- Causer une decharge totale de la batterie et endommager la batterie pendant l'entreposage a long terme.
- Apres avoir change l'interrupteur de position "RUN" a position "TOW", attendre un minimum de 15 seconds avant de le remettre.

YAMAHA

JW2-K8298-10

⑥

DATE OF CONSTRUCTION: JAN. 2017 MY2018

YAMAHA MOTOR POWERED PRODUCTS CO., LTD

200-1 SAKAGAWA, KAKEGAWA, JAPAN



MAX. BATTERY WEIGHT: 171 kg

MODEL: DR2E18 PTV

NOMINAL SYSTEM VOLTAGE: 48V

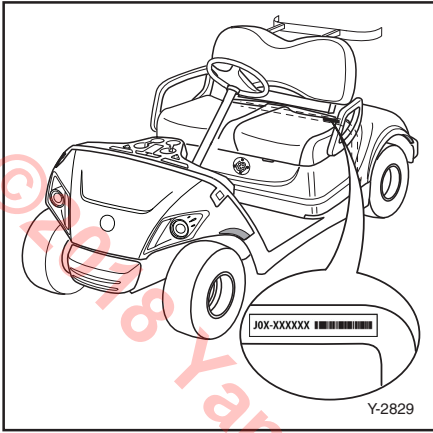
MAX.POWER: 6.7 hp (5.0 kW)

WEIGHT (NO BATT): 302 kg

VEHICLE LOAD CAPACITY: 181 kg PER SEAT, 45 kg BAGWELL

JOE-F4236-10

IMPORTANT LABELS



PTV SERIAL NUMBER

The PTV serial number is identified in the location shown.

TIP

The first three digits of the serial number are for model identification; the remaining digits are the unit production number. Keep a record of these numbers for reference when ordering parts from a Yamaha Golf-Car Company dealer.

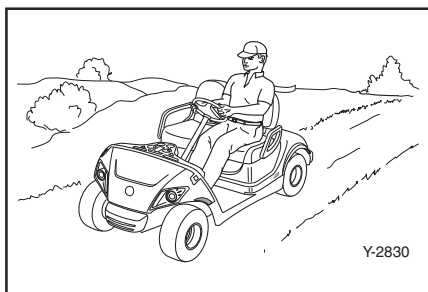


OPERATOR SAFETY

Yamaha PTVs are designed to be simple to operate. However, be sure to observe the following to reduce the risk of serious injury or death due to loss of control and other hazards:

BEFORE OPERATING THE PTV

- Read this Owner's/Operator's manual and all safety and instruction labels on the PTV before operating.
- Perform the pre-operation checks found in Section 6 of this manual.
- Only authorized people should drive the PTV, from the driver's side only, and only in designated areas.
- Do not allow more than two occupants per seat. This PTV is restricted to two occupants, unless equipped with a rear seat.
- Do not operate the PTV while under the influence of alcohol or drugs; their effect on vision and judgment make operating a PTV dangerous.
- Do not operate the PTV on public streets, roads or highways; unless allowed by law or local regulating authority.



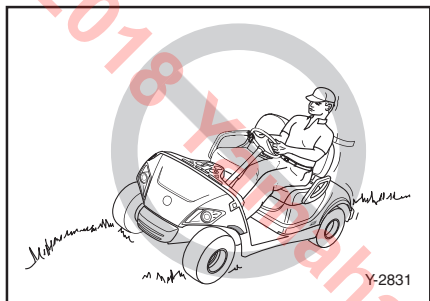
WHILE OPERATING THE PTV

- Keep your entire body inside the PTV, remain seated, and hold on when the car is in motion.
- Do not start the PTV until all occupants are seated.
- Keep your hands on the steering wheel and your eyes on the path ahead.



OPERATOR SAFETY

- Use extra care in congested areas or when backing up. Always back up slowly, and watch carefully.
- Avoid starting or stopping abruptly.
- Vary the speed of the PTV to match the terrain.
- Avoid turning the steering wheel too sharply at higher speeds to avoid tipping or rolling the vehicle.
- Always drive slowly straight up or straight down slopes – never at an angle to avoid tipping or rolling the vehicle.
- Do not make any modification or addition which affects capacity or safe operation, or make any changes not in accordance with the owner's/operator's manual.





SAFETY CONSIDERATIONS

Like all machines, PTVs can cause injury if improperly used or maintained.

Experience has shown that PTVs are safe when operated in accordance with the safety warnings affixed to every PTV.

DRIVER QUALIFICATIONS

4

Allow only authorized people to operate PTV. It is recommended that only people who possess a valid motor vehicle driver's license be allowed to operate PTV.

Do Not Operate PTVs When Under The Influence of Alcohol or Drugs



WARNING

Do not operate PTVs when under the influence of alcohol or drugs. Death or serious personal injury can result from failing to comply with the warning instructions in this manual.

HAZARD PREVENTION

Drivers should be mindful of road hazards, and avoid dangerous situations that may include the following:

Steep Grades – Where steep grades exist, restrict PTV to designated roadway or path, and descend slowly with foot on the brake.



WARNING

Descend steep grades slowly with foot on brake. Death or serious personal injury can result from failing to comply with the warning instructions in this manual.

Sharp Turns, Blind Corners and Bridge Approaches – Adhere to all warning signs and take proper precautions to avoid the hazard.

Wet Areas – Wet grass may cause a PTV to lose traction and may affect stability. Vehicle operators should reduce speed in wet areas or during periods of inclement weather.



SAFETY CONSIDERATIONS

- **Loose Terrain** – Avoid areas of loose terrain which may cause a PTV to lose traction and affect stability. Take notice of conditions and reduce speed when driving on uneven or loose terrain.
- **Pedestrian Areas** – Avoid areas with pedestrian traffic or congested areas whenever possible to prevent accidents. If it is impractical to avoid these areas, always remember that pedestrians have the right of way. When approaching pedestrian or congested area always reduce speed, drive slowly, use caution and watch for pedestrians.

MAINTENANCE REQUIRED FOR PTV SAFETY

Practice the following to help ensure the safety of PTV occupants:

- **Preventative Maintenance.** Perform all scheduled maintenance in accordance with manufacturer's recommendations to provide a safe, properly operating PTV.
- **Personnel.** Allow only qualified, trained and authorized personnel to inspect, adjust and maintain PTVs.
- **Parts and Materials.** Use only replacement parts and materials recommended by the manufacturer.

- **Ventilation.** Properly ventilate all maintenance and storage areas in accordance with applicable fire codes and ordinances to avoid fire hazards. Ventilation is required to remove hydrogen gas from electric powered car storage areas during the charging process.

For electric powered PTVs, the amount of hydrogen gas emitted during charging depends on a number of factors, such as the condition of the batteries, the output rate of the battery charger and the amount of time the batteries are on charge. Because of the highly volatile nature of hydrogen gas and its propensity to rise and accumulate at the ceiling in pockets, a minimum of five air changes per hour is recommended. Consult applicable fire and safety codes for the specific ventilation levels requirement, as well as requirements for the use of explosion proof electrical apparatus.



SAFETY CONSIDERATIONS

SAFETY PRECAUTIONS DURING MAINTENANCE

When performing maintenance, follow all safety instructions contained in the manufacturer's operation and service manuals, as well as the following safety procedures:

- Properly immobilize PTV before beginning any maintenance to avoid any unexpected vehicle movement.
- Properly block chassis before working underneath PTV to avoid any unexpected vehicle movement.
- When working on the battery, do not smoke, or allow any sparks or open flames near the vehicle, to avoid any fires or explosions.
- Before working on an electric PTV, disable the car's electrical system in accordance with the manufacturer's instructions to avoid electrical shock or damage to the electrical system.
- Use only properly insulated tools when working on electrically powered PTVs or around batteries to avoid electrical shock or damage to the electrical system.
- Maintain all safety devices including brakes, steering mechanisms, warning devices and governors, in a safe operating condition. Do not modify these safety devices as supplied by the manufacturer.
- After each maintenance or repair, the car must be driven by a qualified, trained and authorized person – in an area free of pedestrian traffic – to ensure proper operation and adjustment.

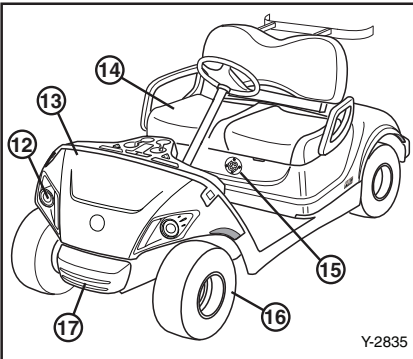
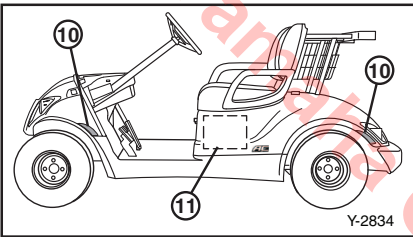
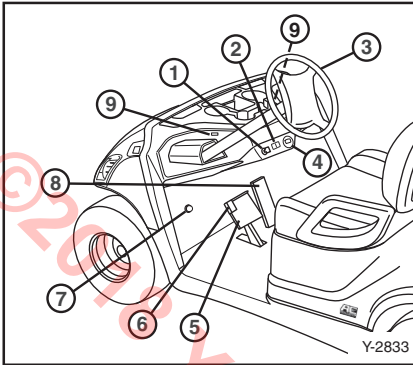
- Record all maintenance performed in a maintenance record log by date, name of person performing maintenance and type of maintenance. Periodically inspect maintenance log to ensure accurate and complete entries.
- Provide operator comment cards to assist in identifying non-periodic maintenance needs for specific PTVs.
- Maintain in a legible condition all nameplates, warnings and instructions provided by the manufacturer.
- If new nameplates, warnings or instructions are needed, contact your Yamaha dealer.

STORAGE AND BATTERY CHARGING

Take the following precautions to ensure maintenance worker safety:

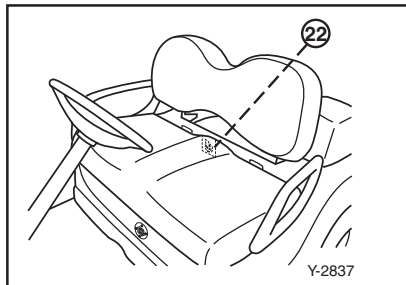
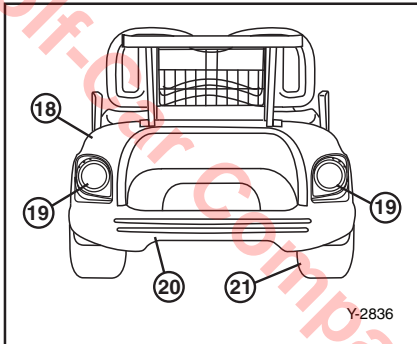
- Only use battery changing and charging facilities and procedures that are in accordance with applicable ordinances and regulations to avoid explosions, electrical shock or damage to the electrical system.
- Periodically inspect charging facilities and procedures to be certain that applicable safety codes, regulations and procedures are being followed to avoid any fires or explosions.

CONTROLS



FEATURES

- | | |
|-----------------------|-------------------------|
| ① Main/light switch | ⑪ Batteries |
| ② Drive select switch | ⑫ Headlights |
| ③ Steering wheel | ⑬ Front body |
| ④ Battery gauge | ⑭ Seat |
| ⑤ Brake pedal | ⑮ DC charger receptacle |
| ⑥ Parking brake pedal | ⑯ Front tire |
| ⑦ Horn switch | ⑰ Front bumper |
| ⑧ Accelerator pedal | ⑱ Rear body |
| ⑨ USB ports | ⑲ Taillights |
| ⑩ Reflector | ⑳ Rear bumper |
| | ㉑ Rear tire |
| | ㉒ Tow switch |



CONTROLS

MAIN SWITCH

The main switch controls the following items:

“OFF”

All electrical circuits are switched off (motor controller unit remains energized). The golf car cannot be operated. The key can be removed only in this position.

“ON”

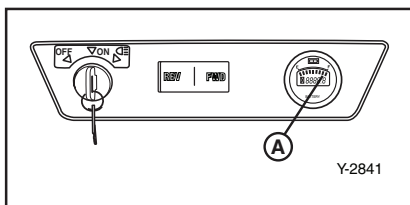
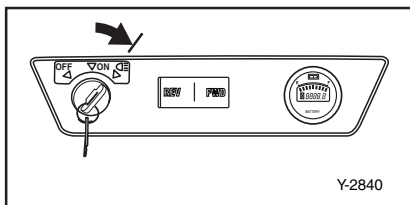
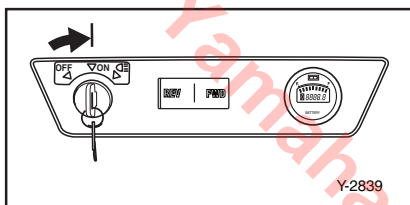
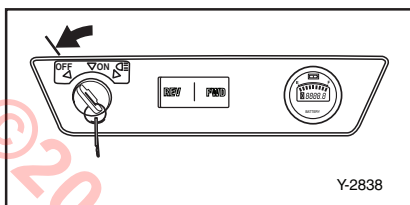
Electrical circuits are switched on. The vehicle can be driven.

“ON” WITH LIGHTS

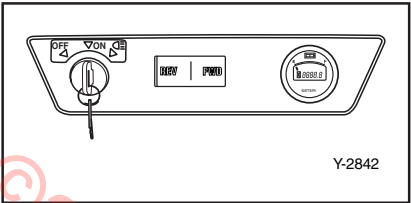
The functions for this position are the same as for the ON position; however, this position will activate the headlights and taillights.

BATTERY GAUGE

The battery gauge displays how much charge is left in the batteries. When the batteries are at full charge, all the LEDs will be lit.



CONTROLS



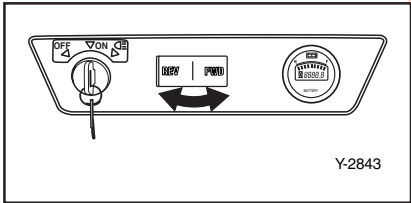
As the battery energy decreases, the LEDs will move to the left toward the “E.” When the LED light below the “E” is the only one lit, the batteries must be charged.

Use the table to determine the remaining battery capacity. For example, if 7 of the 9 LED lights are lit, batteries still have approximately 47.4 volts left. When the batteries fall to 43.4 volts or less, 1 LED will blink on and off, meaning the batteries should be charged immediately.

BAR LEVEL	9	8	7	6	5	4	3	2	1	1 BLINK
VOLT	48.95	47.8	47.4	46.9	46.4	46.0	44.8	44.0	43.5	43.4 >

5

DRIVE SELECT SWITCH

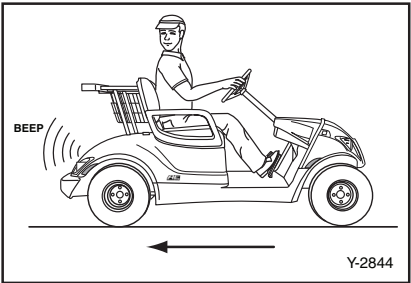


The drive select switch is used to shift the PTV into forward or reverse. After coming to a complete stop, move the switch to the desired position.

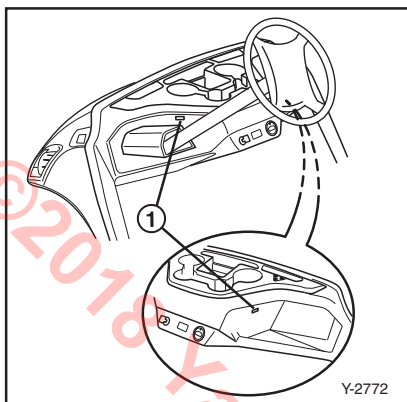
Switch Position	Car Movement
FWD	FORWARD
REV	REVERSE

TIP

The reverse alarm will sound when the drive select switch is depressed to the “REV” position.



CONTROLS



USB PORTS

A USB port is located inside the dash on the driver side and passenger side. These can be used to power or charge USB devices or accessories. The USB is only powered when the key is in the ON position.

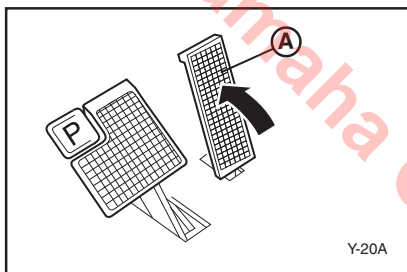
- ① USB port

ACCELERATOR PEDAL

The accelerator pedal controls the PTV's speed.

Action	Car Speed
Depress pedal	Increase
Release pedal	Decrease

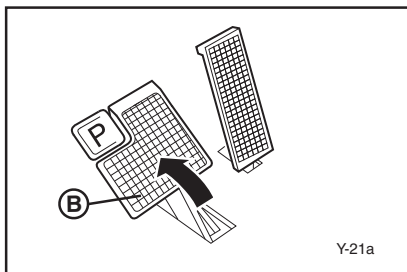
- Ⓐ Accelerator pedal



BRAKE PEDAL

Press down on the brake pedal to stop the PTV.

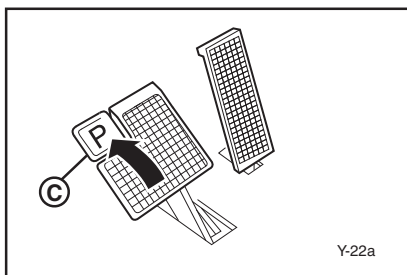
- Ⓑ Brake pedal



PARKING BRAKE PEDAL

Press down on the parking brake pedal whenever parking the PTV.

- Ⓒ Parking brake pedal



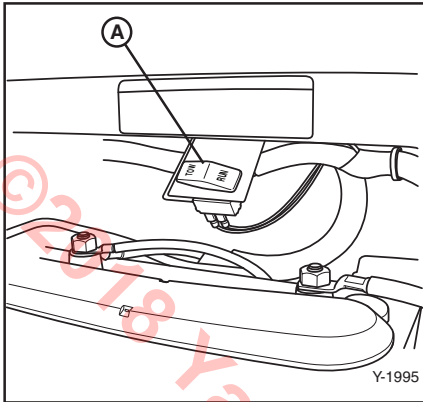
TIP

Release the parking brake by depressing the accelerator pedal.

⚠ WARNING

The parking brake will automatically release when the accelerator pedal is depressed. If the main switch is in the "ON" position, depressing the accelerator may suddenly cause the PTV to move.

CONTROLS



TOW SWITCH

Before operating the car, make sure the tow switch is in the “RUN” position.

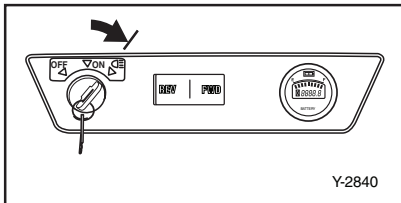
Ⓐ Tow switch

NOTICE

Ensure that the “Drive Select Switch” is in the “FWD” position and then move the “TOW Switch” to “TOW” before towing.

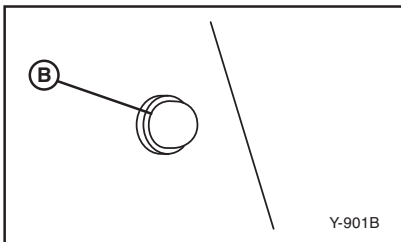
After moving switch from “RUN” to “TOW,” wait 15 seconds minimum before switching again. Failure to do so may lead to drive system damage while towing.

5



HEADLIGHT/TAILLIGHT ON POSITION

Turn the main switch all the way to the right to the second ON position. This will activate the headlights and taillights.



HORN SWITCH

The horn is located adjacent to the brake pedal, and is activated by depressing with your foot.

Ⓑ Horn Switch

TIP

It is advisable to sound the horn when approaching blind corners.

PRE-OPERATION CHECKS

Pre-operation checks should be made each time you use your PTV. Get in the habit of performing the following checks in the same way so that they become second nature.

⚠ WARNING

To keep car from moving while performing pre-operation checks:

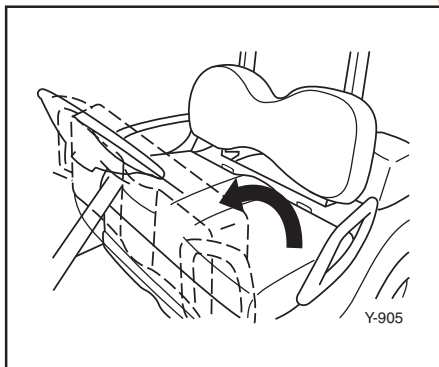
- Remove main switch key.
- Apply parking brake.

PRE-OPERATION CHECKS

Refer to the Periodic Maintenance charts on pages 8-1 and 8-2.

SEAT

Open the seat for checking and servicing.



PRE-OPERATION CHECKS

BATTERY

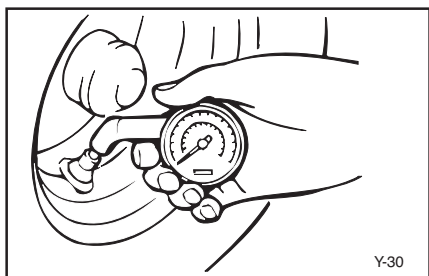
Charge batteries before each use. See charging steps in Chapter 8, *Maintenance*.

Check that the batteries are held securely in place to prevent the batteries from being damaged from vibration or jarring. Also check that no battery caps are missing to prevent battery acid from spilling from the battery. Check the battery terminals for corrosion.

WARNING

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. It contains sulfuric acid. Avoid contact with skin, eyes or clothing. Ventilate when charging or using in enclosed space. Always shield eyes when working near batteries. KEEP OUT OF REACH OF CHILDREN.

6



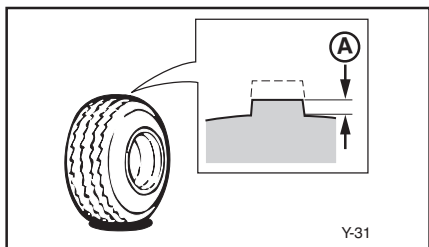
TIRE CONDITION

Tire Air Pressure

Check the tire air pressure before operating the PTV.

Tire pressure:

152 kPa, 1.5 kgf/cm²
(22 psi)

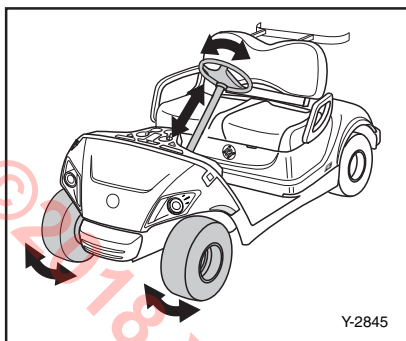


Tire Wear Limit

Check the tire surface for damage, cracks or embedded objects. When tire tread wears down to 1 mm (0.04 in.), replace the tire.

Ⓐ Wear limit

PRE-OPERATION CHECKS

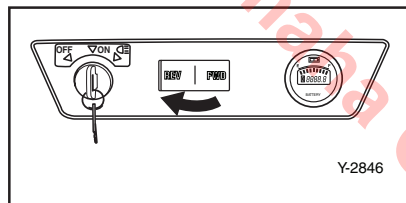


STEERING SYSTEM

Check the steering system for excessive freeplay by:

- moving the steering wheel up and down, and back and forth.
- turning the steering wheel slightly to the right and left.

If you feel excessive freeplay, or hear rattling sounds which may indicate loose steering components, consult a Yamaha dealer.



REVERSE ALARM

Check the reverse alarm by moving the drive select switch to "REV" for reverse. The alarm should sound.

PEDAL OPERATION

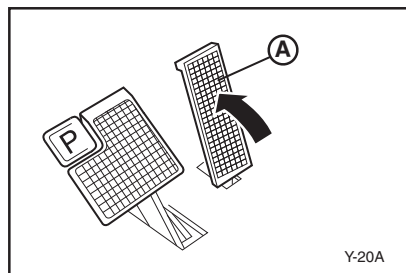
Check the following pedal controls for proper operation. If a pedal does not work properly, consult a Yamaha dealer.

Accelerator Pedal

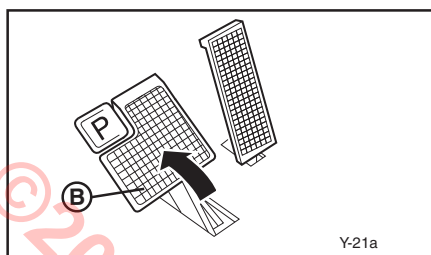
⚠ WARNING

With the main switch in the "OFF" position, make sure the accelerator pedal operates smoothly.

Ⓐ Accelerator pedal



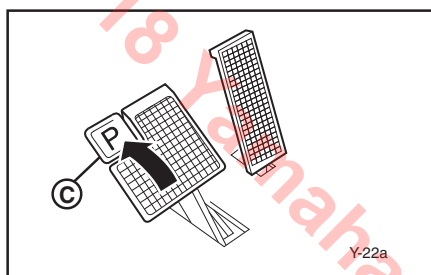
PRE-OPERATION CHECKS



Brake Pedal

Make sure the brake pedal feels firm when pressed and returns to its original position when released.

- Ⓑ Brake pedal



Parking Brake Pedal

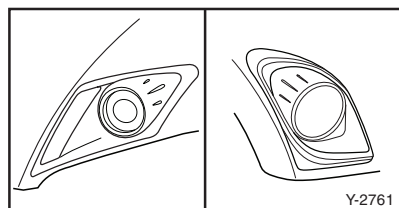
Make sure the parking brake pedal locks in place with a positive click, and releases when the accelerator pedal is pressed.

- Ⓒ Parking brake pedal

TIP

Release the parking brake by depressing the accelerator pedal.

6

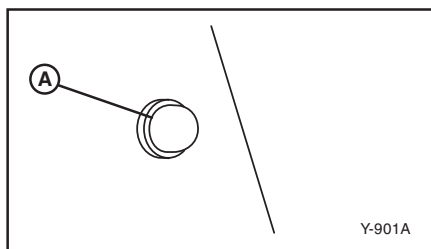


Headlights/Taillights

Ensure the headlights and taillights are operational.

⚠ WARNING

Never operate the PTV at night or during inclement weather without properly working headlights/taillights.



Horn Switch

Make sure the horn operates correctly.

- Ⓐ Horn Switch

OPERATION

BODY AND CHASSIS

Before each use, visually inspect the PTV body and chassis for damaged and/or missing parts.

STARTING

1. With the parking brake applied, turn the drive select switch to “FWD” for forward, or “REV” for reverse.

NOTICE

Do not shift from “FWD” (forward) to “REV” (reverse) while the PTV is moving. Transmission damage can result.

2. Turn the main switch to “ON.”

⚠ WARNING

Do not depress the accelerator pedal when turning on the main switch or the PTV may suddenly start moving.

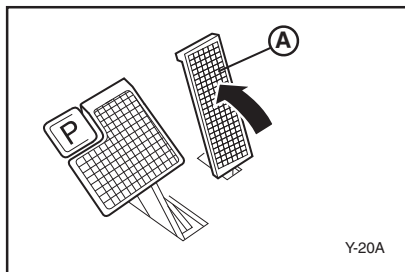
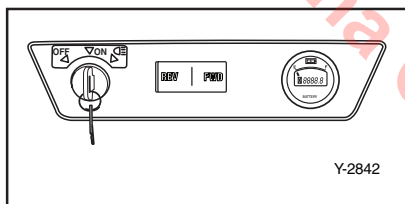
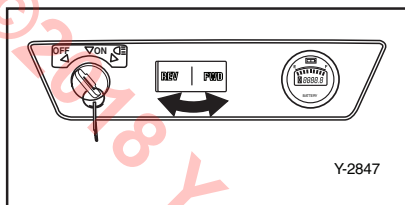
3. Check that your path is clear in the direction you plan to go, and slowly depress the accelerator pedal. The PTV will start to move.

Ⓐ Accelerator pedal

TIP

The parking brake automatically releases when the accelerator pedal is depressed.

7



OPERATION

STOPPING

To stop the PTV, gradually press down on the brake pedal.

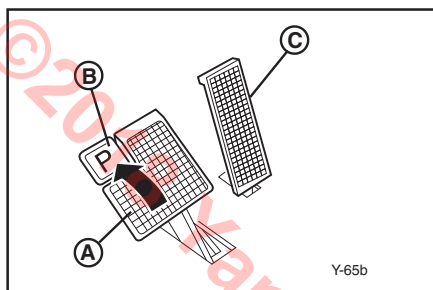
(A) Brake pedal

NOTICE

Do not hold the PTV on an incline with the accelerator – use the brake. Transmission damage can result.

When the PTV has come to a stop, apply the parking brake pedal and turn the main switch to “OFF.”

(B) Parking brake pedal



MAINTENANCE

PERIODIC MAINTENANCE CHARTS

Regular maintenance is required for the best performance and safe operation of your PTV.

⚠ WARNING

Be sure to turn off the main switch and apply the parking brake when you perform maintenance, unless otherwise specified. If the owner is not familiar with servicing the machine, death or serious personal injury can result. When in doubt the work should be done by a Yamaha dealer or other qualified mechanic.

NOTICE

Yamaha Golf-Car Company does not approve the use of high-pressure washers to clean the products they manufacture. Doing so may damage the finish on the body or result in doing other damage not covered by warranty.

CS - CHECK CA - CHECK AND ADJUST R - REPLACE S - SERVICE CL - CLEAN AND LUBRICATE L - LUBRICATE

	Remarks	Daily Pre- Operation	40 rounds 20 hours 100 miles 160 kms (Every Month)	250 rounds 125 hrs 600 mls 1000 kms (Every 6 months)	500 rounds 250 hrs 1200 mls 2000 kms (Every Year)	1000 rounds 500 hrs 2500 mls 4000 kms (Every 2 years)	2000 rounds 1000 hrs 5000 mls 8000 kms (Every 4 years)	Page
PRE-OP	Charge	S	S	S	S	S	S	4-3/8-5/ 8-6
	Clean battery tops, check for tightness of hold-down screws and terminals	S	S	S	S	S	S	8-3/ 6-2
	Check brake pedal freeplay and adjust if necessary	CS	CA	CA	CA	CA	CA	6-4/ 8-11
	Check steering operation	CS	CS	CS	CS	CS	CS	6-3
	Check tire pressure, tread depth, tire surface for damage	CS	CA	CA	CA	CA	CA	6-2
	Check body and chassis for damage	CS	CS	CS	CS	CS	CS	7-1
	Check tightness of all bolts, nuts, screws and rivets	CS	CS	CS	CS	CS	CS	*
	Check reverse alarm operation	CS	CS	CS	CS	CS	CS	6-3
EVERY MONTH	Check electrolyte level		CS	CS	CS	CS	CS	8-3/8-4
	Check for loose or broken connections		CS	CS	CS	CS	CS	*
	Check pedal operation		CS					—
EVERY 6 MONTHS	Check all wire insulation for cracks and/or worn spots			CS	CS	CS	CS	*
	Check shock absorbers for oil leaks and damaged springs			CS	CS	CS	CS	*

* Items without a page number reference should be serviced by a Yamaha dealer or other qualified mechanic. This manual does not contain these procedures. They are contained in the Service Manual.

MAINTENANCE

CS - CHECK CA - CHECK AND ADJUST R - REPLACE S - SERVICE CL - CLEAN AND LUBRICATE L - LUBRICATE

	Remarks	Daily Pre- Opera- tion	40 rounds 20 hours 100 miles 160 kms (Every Month)	250 rounds 125 hrs 600 mls 1000 kms (Every 6 months)	500 rounds 250 hrs 1200 mls 2000 kms (Every Year)	1000 rounds 500 hrs 2500 mls 4000 kms (Every 2 years)	2000 rounds 1000 hrs 5000 mls 8000 kms (Every 4 years)	Page
EVERY YEAR	Perform a discharge test				S	S	S	*
	Apply Terminal protectant				S	S	S	—
	Check rear axle bearing play for roughness or freeplay				CS	CS	CS	*
	Check steering knuckle bushing freeplay / Adjust wheel alignment				CA	CA	CA	*
	Check wheel nut tightness, front wheel bearing play				CS	CS	CS	8-10/*
	Check transaxle oil level and inspect for leakage				CS	CS	CS	8-9
	Check pedal stop operation and adjust if necessary				CA	CA	CA	*
	Adjust parking brake release				CA	CA	CA	8-12
EVERY 4 YEARS	Replace transaxle oil						R	*
	Inspect brake shoes and adjust or replace if necessary						CA	*

* Items without a page number reference should be serviced by a Yamaha dealer or other qualified mechanic. This manual does not contain these procedures. They are contained in the Service Manual.

MAINTENANCE

Battery Care

⚠ 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 an enclosed space. Always shield eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

Six 8-volt deep cycle batteries provide power for your electric PTV and must be properly maintained and recharged for maximum performance and service life.

To maintain your batteries:

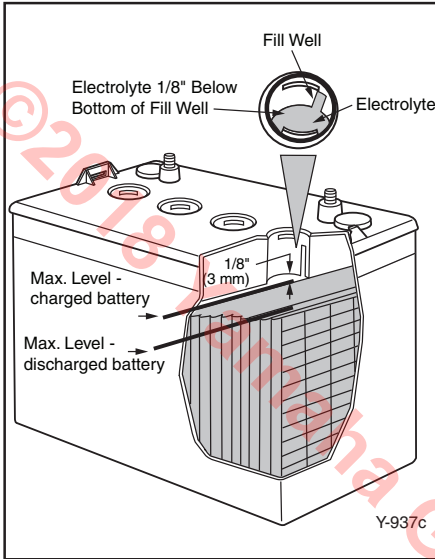
1. Clean the tops of the batteries with a solution of baking soda and water, as necessary, to remove corrosion.

NOTICE

Do not allow cleaning solution to enter battery cells. Serious battery damage can result.

2. Check the fluid level before and after charging.

MAINTENANCE



● **Before charging:** only add distilled water if fluid is below the top of the plates, and then add just enough to cover plates.

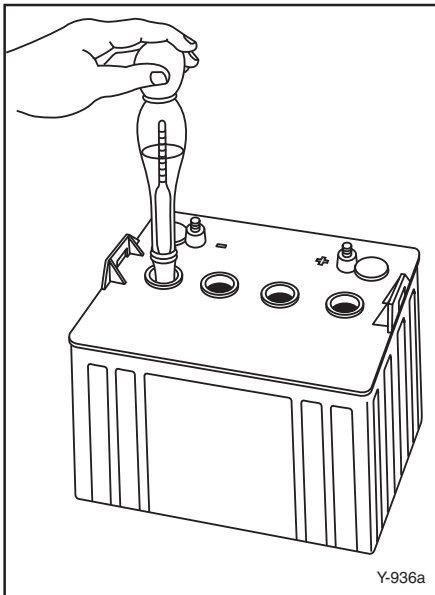
● **After charging:** open the vent caps and look inside the fill wells. Add distilled water until the electrolyte level is 3 mm (1/8") below the bottom of the fill well. A piece of rubber can be used safely as a dipstick to help determine this level. Clean, replace and tighten all vent caps.

NOTICE

Normal tap water contains minerals which are harmful to a battery; therefore, refill only with distilled water.

3. Using a hydrometer, check the specific gravity of the battery fluid in each cell against the readings on the chart below. Consult a Yamaha dealer if any low readings are found, or if readings vary more than one point between cells.

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



MAINTENANCE

Battery Charging

WARNING

Read and understand the owner's manual provided with your PTV's battery charger before charging batteries. Death or serious personal injury can result from failing to comply with the warning labels in this manual.

WARNING

Explosive hydrogen gas is produced while batteries are being charged. Only charge batteries in well-ventilated areas (a minimum of five air changes per hour is recommended). Death or serious personal injury can result from failing to comply with the warning labels in this manual.

To charge the batteries in your PTV, follow the instructions contained in your battery charger's owner's manual. The following is a summary of the charging steps.

NOTICE

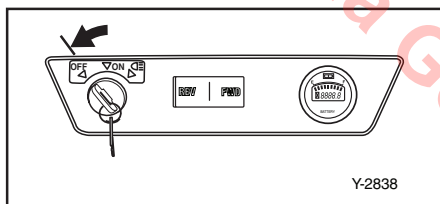
Do not attempt to recharge your PTV's batteries without thoroughly reading and understanding the owner's manual provided with your charger.

1. Turn main switch key to "OFF" position.

NOTICE

Always put the tow switch in the TOW position before charging battery or damage to the electrical system may result.

2. Lift up the seat and move the tow switch to the TOW position.

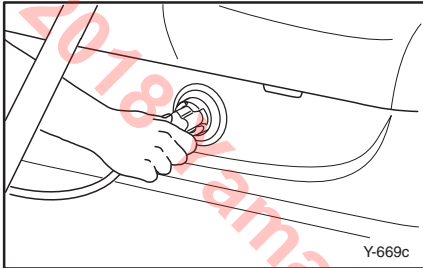


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MAINTENANCE

NOTICE

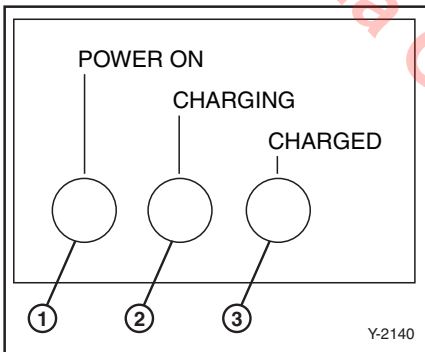
Use only battery chargers that are rated for use with 48-volt Yamaha PTVs. Serious battery damage can result. Thoroughly read and understand the user manual supplied with your 48-volt charger.



3. With the charger properly connected and grounded (see charger's owner's manual), insert the DC output into the DC charger receptacle.

⚠ WARNING

Do not disconnect the DC output cord from the DC charger receptacle when the charger is on or an arc could occur that may cause an explosion.



- ① Red Power ON LED
 - ② Yellow Charging LED
 - ③ Green Charged LED
4. When the charger is plugged into the AC power, the Power ON LED illuminates continuously.
 5. If any of the LEDs blink for several minutes after the charger is turned on, there is a problem with the batteries or the charger. Contact your Yamaha Dealer.
 6. During normal charging, the Charging LED continually illuminates.
 7. The Charged LED illuminates automatically when the batteries reach full charge.

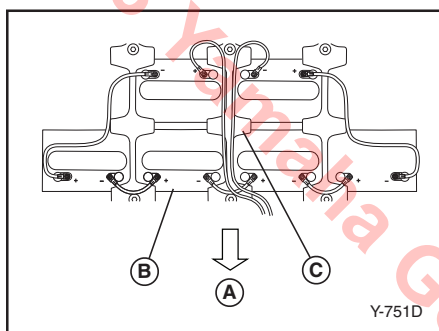
MAINTENANCE

8. After the Charged LED is illuminated, disconnect the DC output plug from the DC charger receptacle by grasping the plug body and pulling the plug straight out of the receptacle.

Battery Installation

⚠ WARNING

When working with batteries, do not put wrenches or other metal objects across the battery terminals. An arc can occur causing explosion of the battery.



1. Install the battery hold-down plates and torque to 7-9 Nm, 0.7-0.9 m•kg (62-80 in•lb) as shown.

- (A) Forward
- (B) Battery
- (C) Battery hold-down plate

2. Connect the wire leads and torque to 9-10 Nm, 0.9-1.0 m•kg (80-89 in•lb) as shown.

⚠ WARNING

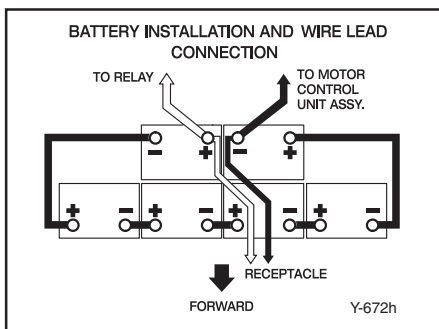
When installing batteries:

- Carefully place battery cables and hold-downs making sure that cables do not lay across vent caps.
- Always remove the negative (-) cable to the motor controller first and install it last. A spark can occur causing an explosion or fire at the battery.

NOTICE

Do not over-tighten the battery holddown nuts. Excessive force will damage the battery casing.

8



MAINTENANCE

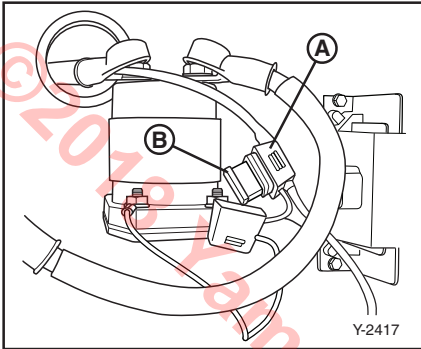
Fuse Replacement

⚠ WARNING

Be sure to use the specified fuse. Using a wrong fuse can cause electrical system damage and create a fire hazard.

NOTICE

When replacing a fuse, be sure the main switch is turned off to prevent accidental short-circuiting and electrical system damage.

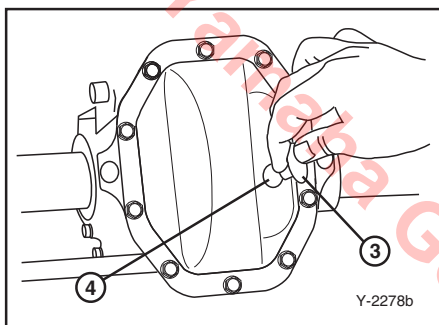
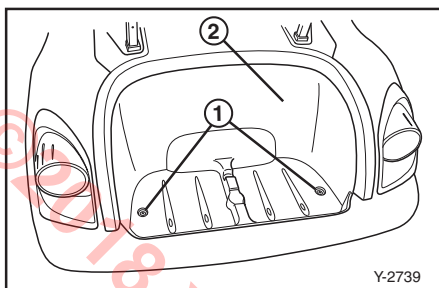


Fuse Type:
10 Amp, Blade Style

1. Locate the in-line fuse holder on the main wire harness adjacent to the tow switch.
2. Pull fuse holder cover off.
3. Pull fuse out, inspect and replace if necessary.

- Ⓐ Fuse holder
- Ⓑ Fuse

MAINTENANCE



Transaxle Oil

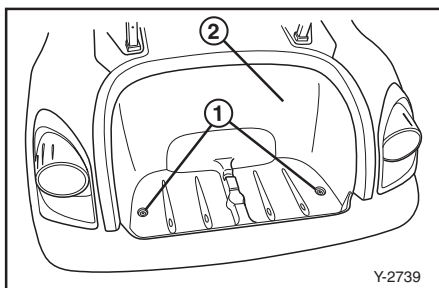
To check transaxle oil level:

1. Place the PTV on a flat, level surface.
2. Remove two bolts ①, and remove the bag holder insert ②.
3. Place an oil pan under the transaxle case.
4. Clean the area around the oil level plug ③ and then remove the plug.

NOTICE

Do not allow foreign material to enter transaxle. Serious transaxle damage can result.

5. The oil level should be right at the bottom of the oil level plug hole ④ or just starting to flow out of the hole.
6. If needed, add Yamalube SAE 90 gear oil until it starts to flow from the oil level plug hole.
7. Allow excess gear oil to flow out of the hole until it stops.
8. Install the oil level plug.
9. Install the bag holder insert ② and secure with two bolts ①.



MAINTENANCE

WARNING

Before performing wheel or brake maintenance, verify that the main switch is in the “OFF” position. Accidental starting of the vehicle could cause the vehicle to move, causing death or serious personal injury.

Wheel Replacement

To remove and install a wheel on your PTV:

1. With the wheels blocked to prevent the PTV from moving, loosen the wheel nuts.
2. Elevate the PTV with a jack and remove the wheel nuts and the wheel.
3. Reverse the removal steps when installing the wheel.

Wheel nut tightening torque:
80 Nm, 8.0 m·kg (58 ft·lb)

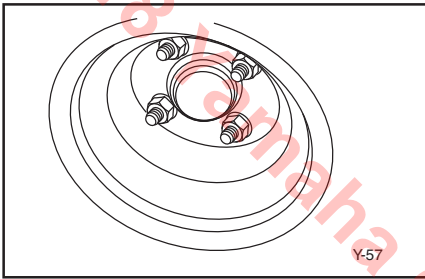
Brake Adjustment

The brakes on your PTV are self-adjusting.

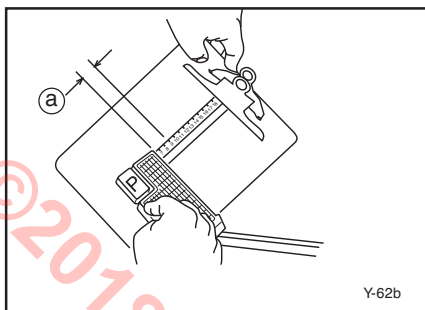
Before you operate the PTV, press down on the brake pedal several times to make sure the brakes are functioning properly.

WARNING

Consult your Yamaha dealer before using your PTV if you suspect brake problems. Brake failure could result in a serious accident. Death or serious personal injury can result from failing to comply with the warning labels in this manual.



MAINTENANCE



Brake Pedal Free Play Adjustment

Check the brake pedal free play by pressing against the pedal with two fingers (using light force) and measuring the distance the pedal travels before resistance is felt.

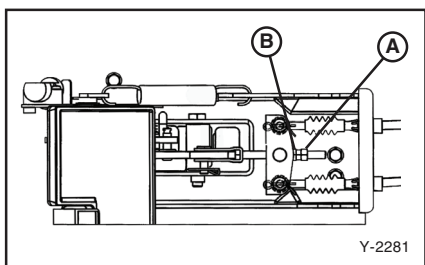
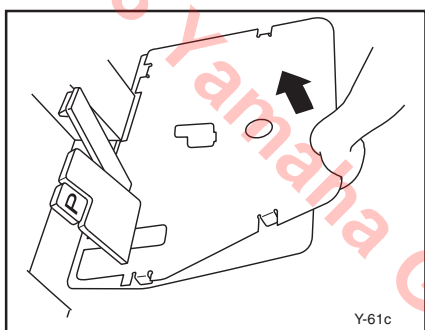
Brake pedal free play (a):
50-55 mm (1.97-2.17 in.)

To adjust the brake pedal free play:

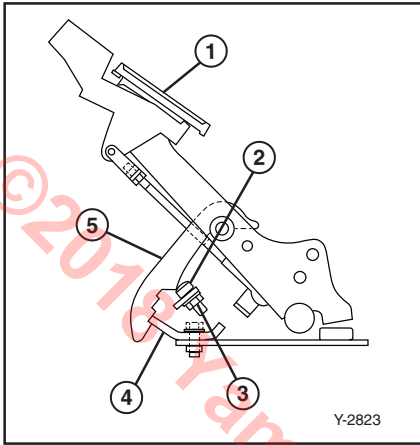
1. Remove the floor mat and service lid from the floor of the PTV.
2. If the free play distance needs adjusting, loosen the lock nut (A) and turn the adjusting nut (B) in or out until the free play specification is met. Then tighten the lock nut in place.

⚠ WARNING

Do not over-tighten the brake cables. Over-tightening will increase brake wear and affect overall performance of PTV. Premature brake wear can result. Death or serious personal injury can result from failing to comply with the warning labels in this manual.



MAINTENANCE



Parking Brake Release Adjustment

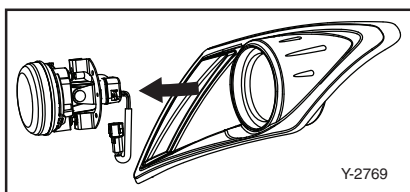
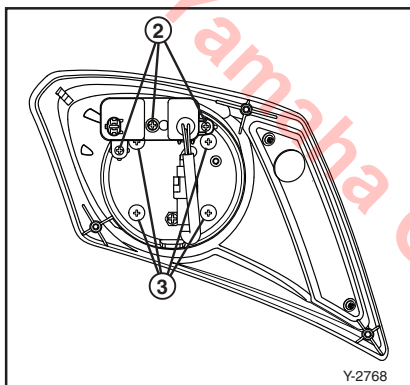
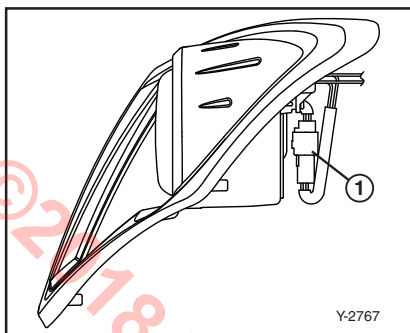
NOTICE

Before performing parking brake release adjustment, adjust brake pedal free play.

1. Apply pressure to the parking brake pedal until the brake nail catches the first latch position on the sector.
2. Loosen the locknut and turn the bolt counterclockwise until it contacts the sector.
3. Turn the bolt clockwise $\frac{3}{8}$ (120 degrees), then tighten locknut.

- ① Parking brake pedal
- ② Bolt
- ③ Locknut
- ④ Brake nail
- ⑤ Sector

MAINTENANCE



Replacing a Headlight Bulb

If the headlight burns out, replace it as follows:

1. Disconnect the wire connector ① from the headlight assembly.
2. Remove the three screws ② and remove the light control unit.
3. Remove the four screws ③ to remove the headlight assembly from the holder.
4. Remove the headlight assembly from the holder.
5. Install new headlight assembly into holder and secure with the four screws.
6. Install the light control unit and fasten with three screws.
7. Connect the wire connector to the headlight assembly.

MAINTENANCE

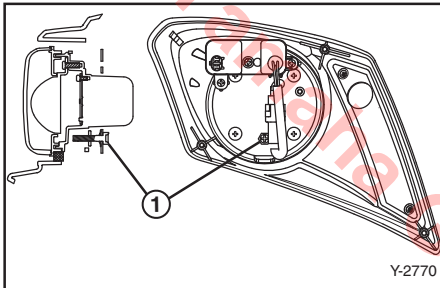
Adjusting a Headlight

NOTICE

It is recommended to have the headlight adjustment performed by a Yamaha dealer.

TIP

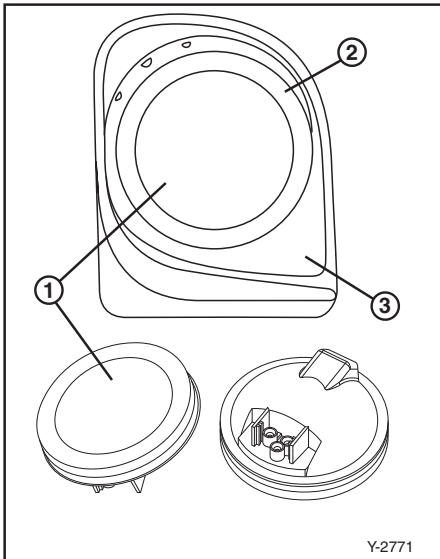
The screw can be accessed from under the fender.



1. Using a Phillips head screwdriver, turn the adjusting screw ①.
2. Turning the screw clockwise will lower the beam and turning the screw counter-clockwise will raise the beam.

Replacing a Taillight Bulb

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1. If a taillight bulb burns out, replace the bulb assembly ① by removing the rubber grommet ② from the bezel assembly ③.
2. Remove the wire connector, replace the bulb, and reinstall by fitting the rubber grommet ② over the bulb assembly ① and bezel ③.

STORAGE

Perform the following preparations when storing your PTV for extended periods of time.

NOTICE

Yamaha Golf-Car Company does not approve the use of high-pressure washers to clean the products they manufacture. Doing so may damage the finish on the body or result in doing other damage not covered by warranty.

TIP

Turn main switch key to OFF position, remove key and store key in a safe place.

CHASSIS PREPARATION

1. Verify the tire pressure is set to 152 kPa, 1.5 kgf/cm² (max 22 psi).
2. Clean exterior of the PTV and apply a rust inhibitor.
3. Cover the PTV with a breathable cover and store it in a dry, well-ventilated area.

BATTERY PREPARATION

1. Recharge the batteries and check the fluid levels at least once a month.

NOTICE

Do not allow cleaning solution to enter battery cells. Serious battery damage can result.

2. Clean the tops of the batteries with a solution of baking soda and water, as necessary, to remove corrosion.

SPECIFICATIONS

GENERAL SPECIFICATIONS

Items	DR2E18 PTV
Dimensions:	
Overall length	2395 mm (94.3 in.)
Overall width	1200 mm (47.2 in.)
Overall height (steering height)	1190 mm (46.9 in.)
Height of floor	310 mm (12.2 in.)
Wheelbase	1640 mm (64.6 in.)
Tread:	
Front	870 mm (34.3 in.)
Rear	980 mm (38.6 in.)
Min. ground clearance	110 mm (4.3 in.)
Weight:	
Dry weight (with suntop, without battery)	272 kg (600 lb)
Performance:	
Factory speed setting	19 km/h (12 mph)
Maximum speed	24 km/h (15 mph)
Optional maximum speed	31 km/h (19 mph)
Minimum turning radius	2.9 m (114 in.)
Seating capacity	2 occupants per seat

TRANSMISSION

Items	DR2E18 PTV
Differential/reduction gear	Secondary reduction system helical gear Secondary reduction ratio: Forward/Reverse 12.44:1 Differential type bevel gear Lubricant/capacity Yamalube SAE 90 gear oil/355 cc (355 mL, 0.38 US qt)

SPECIFICATIONS

BATTERIES

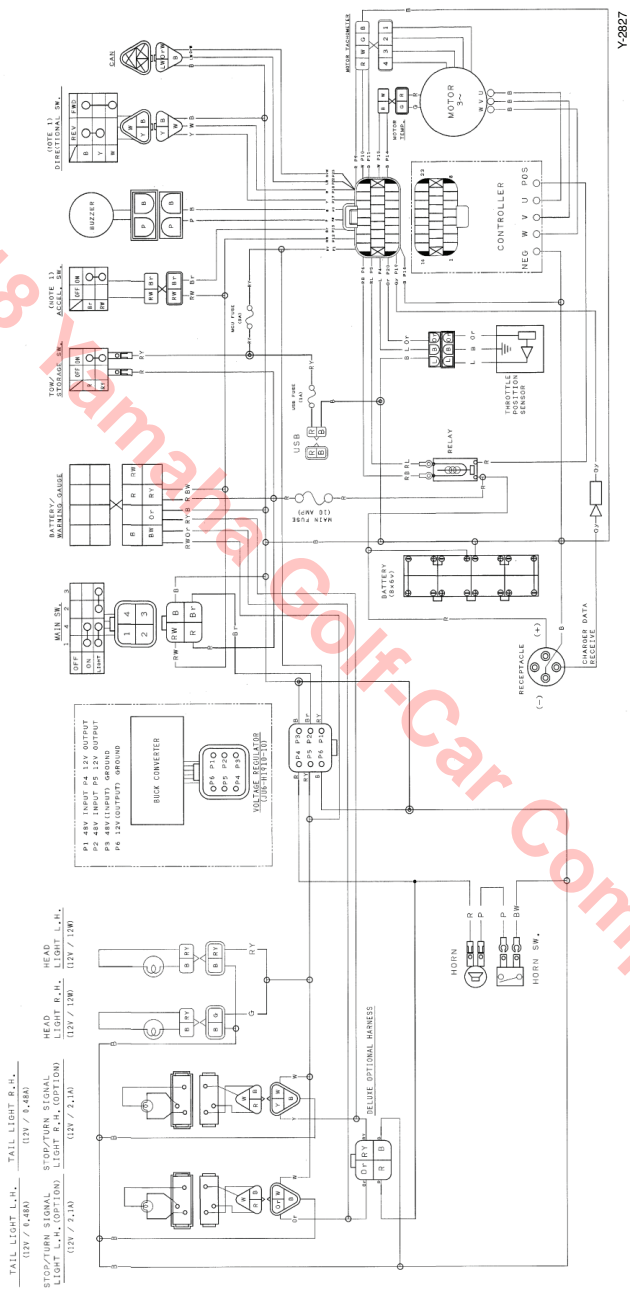
Items	DR2E18 PTV
Battery:	Trojan - Golf Car Type T-875 (6x8volt) RC: minimum 117 min

CHASSIS

Items	DR2E18 PTV
Steering system: Type Steering angle (L.H.) Steering angle (R.H.)	Rack and Pinion 1.85 turn 1.85 turn
Brakes: Brake system Type of brake Brake pedal freeplay linkage adjustment (Brake cable end play)	Mechanical drum brake on each rear wheel with self-adjusters Dual internal expanding shoe Leading/trailing shoes (self-adjusting) 50-55 mm (1.97-2.17 in.) 0.004-0.02 in. (0.1-0.5 mm)
Parking brake: Type	Foot type; parking brake with automatic release.
Wheel: Tire size: Front Rear Rim size: Tire pressure:	 20.5 x 8.0-10 4P 20.5 x 8.0-10 4P 9.00-10.00 152 kPa, 1.5 kgf/cm ² (max 22 psi)
Lights: Bulb voltage, wattage x quantity: Headlight Taillight	 12 V, 35 W x 2 12 V / 2.1 amp and .48 amp x 2

DR2E18 PTV WIRING DIAGRAM

WIRING



Y2827

NOTES

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