## G11A UTILITY CAR SERVICE MANUAL SUPPLEMENT

## FOREWORD

This Supplement Service Manual has been prepared to introduce new service and new data for the G11A utility vehicle. For complete information on service procedures, it is necessary to use this Supplement Service Manual together with following manuals:

G14A/G14E SERVICE MANUAL

G16A/G16E SERVICE MANUAL SUPPLEMENT

#### G11A

SERVICE MANUAL SUPPLEMENT 1999 by Yamaha Motor Manufacturing Corporation of America 2nd edition, June 1999 Printed in U.S.A. P/N/ LIT-19616-00-00



## INTRODUCTION

This manual has been written by Yamaha Motor Manufacturing Corporation of America for use by Authorized Yamaha dealers and their qualified mechanics. It is not possible to put an entire mechanic's education into a manual, so it is assumed that persons using this book to perform maintenance and repairs on Yamaha golf cars have a basic understanding of the mechanical concepts and procedures inherent to these products. Without such knowledge, attempted repairs or service to this golf car may render it unfit to use and/or unsafe.

Yamaha Motor Manufacturing Corporation of America is continually striving to further improve all models manufactured by the company. Modifications are therefore inevitable and will, where applicable, appear in future editions of this manual.

TECHNICAL SERVICE DEPT GOLF CAR SALES GROUP YAMAHA MOTOR MANUFACTURING CORP OF AMERICA

## HOW TO USE THIS MANUAL

## **Read This Important Information!**

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



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



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

**CAUTION** This message describes special precautions that must be taken to avoid damage to the golf car.

**NOTE:** This message provides additional key information.

#### MANUAL FORMAT

All of the procedures in this manual are organized in a sequential, step-by-step format. The information has been compiled to provide the mechanic with an easy to read, handy reference that contains comprehensive explanations of all disassembly, repair, assembly, and inspection operations.

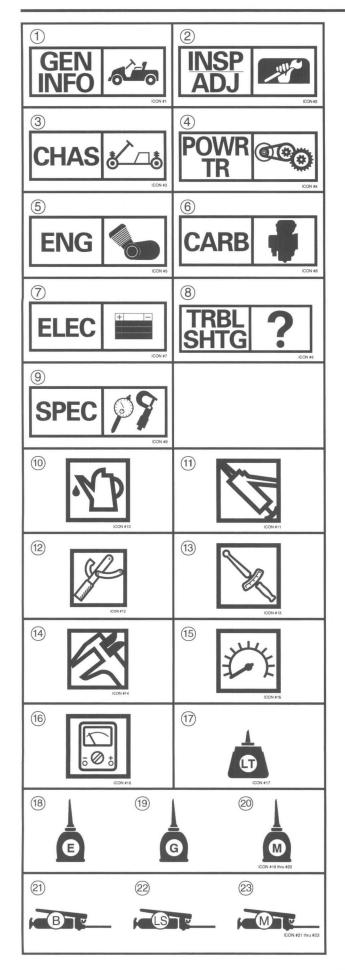
In this revised format, the condition of a faulty component will precede an arrow symbol and the course of action required will follow the symbol, e.g.,

Bearings

Pitting/Damage  $\rightarrow$  Replace.

#### **EXPLODED DIAGRAM**

Each chapter provides exploded diagrams before each disassembly section for ease of identifying correct disassembly and assembly procedures.



## Symbol Identification

Symbols 1 to 9 are designed as thumb tabs

- to indicate the contents within a chapter.
- 1 General information
- Periodic inspection and adjustment
- ③ Chassis
- ④ Power train
- (5) Engine overhaul
- 6 Carburetion
- ⑦ Electrical
- (8) Troubleshooting
- 9 Specifications

Symbols 10 to 16 are used to identify specifications within the text.

- 10 Filling fluid
- (1) Lubricant
- Special tool
- 13 Tightening torque
- (14) Wear limit, clearance
- (15) Engine speed
- 16 Ω, V, A

Symbols (7) to (23) are used in the exploded diagrams to indicate the grade and location of lubricant.

- 17 Apply locking agent
- (18) Apply engine oil
- (19) Apply gear oil
- 2 Apply molybdenum disulfide oil
- 2 Apply wheel bearing grease
- 2 Apply lightweight lithium soap base grease
- 23 Apply molybdenum disulfide grease

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## PERIODIC INSPECTION AND ADJUSTMENT

#### PERIODIC MAINTENANCE

Regular maintenance is most important for best performance and safe operation.

#### **WARNING**

Be sure to turn off the main switch and apply the parking brake when you perform maintenance unless otherwise specified.

#### FOR G11A

| <b>C</b> - CH     | ECK CA - CHECK AND ADJUST R -   | REPLACE                | S - SERVICE   | CL - CLEAN   | AND LUBRIC  | ATE L-LUE  | BRICATE   |
|-------------------|---|------------------------|---|--|---|--|---|
|                   | Remarks   | Pre-<br>Opera-<br>tion | 20 Rounds<br>20 hours<br>100 miles<br>160 kms<br>(Every<br>month) | 125 rds<br>125 hrs<br>600 mls<br>1000 kms<br>(Every 6<br>months) | 250 rds<br>250 hrs<br>1200 mls<br>2000 kms<br>(Every<br>year) | 500 rds<br>500 hrs<br>2500 mls<br>4000 kms<br>(Every<br>2 years) | 1000 rds<br>1000 hrs<br>5000mls<br>8000 kms<br>(Every<br>4 years) |
| PRE-              | Check engine oil  | С                      | С   | С  |   |  |   |
| OPER-             | Check air cooling duct  | С                      | С   | С  | С   | С  | С   |
| ATION             | Check fuel lines for leakage  | С                      | С   | С  | С   | С  | С   |
| CHECKS            | Check fuel level  | С                      | С   | С  | С   | С  | С   |
|                   | Check for looseness<br>and corrosion of battery<br>terminals and hold downs | С                      | С   | с  | С   | С  | С   |
|                   | Check brake pedal freeplay<br>and adjust if necessary                       | С                      | CA  | CA   | CA  | CA   | CA  |
|                   | Check steering operation  | С                      | С   | С  | С   | С  |   |
|                   | Check tire pressure, tread depth, tire surface for damage                   | С                      | CA  | CA   | CA  | CA   | CA  |
|                   | Check body and chassis for damage   | С                      | С   | С  | С   | С  | С   |
|                   | Check tightness of all bolts,<br>nuts, and screws                           | С                      | С   | С  | С   | С  | С   |
|                   | Check reverse buzzer operation  | С                      | С   | С  | С   | С  | С   |
| EVERY             | Check fuel filter for clogging  |                        | С   | С  | С   | С  | С   |
| MONTH             | Check wear of drive belt  |                        | С   | С  | С   | С  | С   |
|                   | Check operation of<br>Forward / Reverse shifting                            |                        | С   | С  | С   | С  | С   |
|                   | Clean / Lube pedal control area   |                        | CL  |  |   |  |   |
| EVERY 6<br>MONTHS |   |                        |   | S  | S   | S  | S   |
|                   | Check spark plug and plug cap<br>condition** / Check compression            |                        |   | С  | С   | С  | С   |
|                   | Check shock absorbers for oil leaks and damaged springs                     |                        |   | С  | С   | С  |   |

\*\*Related to emission control system.

#### PERIODIC INSPECTION AND ADJUSTMENT



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

| C - CH           | IECK CA - CHECK AND ADJUST R -  | REPLACE                | S - SERVICE   | CL - CLEAN   | AND LUBRIC  | ATE L-LUE  | BRICATE   |
|------------------|---|------------------------|---|--|---|--|---|
|                  | Remarks   | Pre-<br>Opera-<br>tion | 20 Rounds<br>20 hours<br>100 miles<br>160 kms<br>(Every<br>month) | 125 rds<br>125 hrs<br>600 mls<br>1000 kms<br>(Every 6<br>months) | 250 rds<br>250 hrs<br>1200 mls<br>2000 kms<br>(Every<br>year) | 500 rds<br>500 hrs<br>2500 mls<br>4000 kms<br>(Every<br>2 years) | 1000 rds<br>1000 hrs<br>5000mls<br>8000 kms<br>(Every<br>4 years) |
| EVERY            | Replace engine oil  |                        |   |  | R   | R  | R   |
| YEAR             | Adjust throttle cables,**<br>choke cable, check carburetor<br>throttle shaft for wear** |                        |   |  | CA  | CA   | CA  |
|                  | Check starter V-belt for<br>damage and tension  |                        |   |  | С   | С  | С   |
|                  | Check drive belt for slippage,<br>wear or scratches                                     |                        |   |  | С   | С  | С   |
|                  | Check sliding sheave and ramp shoes; Grease secondary sheave bearing.                   |                        |   |  | CL  | CL   | CL  |
|                  | Grease primary sheave   |                        |   |  | L   | L  | L   |
|                  | Check operation of speed limiter  |                        |   |  | С   | С  | С   |
|                  | Apply battery terminal protectant   |                        |   |  | S   | S  | S   |
|                  | Check wiring connections and insulation   |                        |   |  | С   | С  | С   |
|                  | Check shoe lining thickness<br>and rear axle bearing play                               | -                      |   |  | С   | С  | С   |
|                  | Check kingpin play, seal, and<br>cap / Adjust wheel alignment                           |                        |   |  | CA  | CA   | CA  |
|                  | Check wheel nut tightness, front wheel bearing play                                     |                        |   |  | С   | С  | С   |
|                  | Check gear box oil level and leakage  |                        |   |  | С   | С  | С   |
|                  | Check operation and adjust pedal stop if necessary                                      |                        |   |  | CA  | CA   | CA  |
| EVERY<br>2 YEARS | Check brushes for wear and<br>commutator for dirt                                       |                        |   |  |   | С  | S   |
| EVERY<br>4 YEARS | Replace fuel filter and fuel hoses  |                        |   |  |   |  | R   |
|                  | Check tightness of cylinder<br>head / Adjust valves                                     |                        |   |  |   |  | CA  |
|                  | Replace gear box oil  |                        |   |  |   |  | R   |
|                  | Check for grease leakage;<br>adjust gearbox if necessary                                |                        |   |  |   |  | CA  |

\*\*Related to emission control system.



## **SPECIFICATIONS**

#### **GENERAL SPECIFICATIONS**

| Model                            | G11A                   |  |  |
|----------------------------------|------------------------|--|--|
| Model Code:                      | JR31                   |  |  |
| Frame Serial Number              | JR3-000101 ~           |  |  |
| Dimensions:                      |                        |  |  |
| Overall Length                   | 3050 mm (120.08 in)    |  |  |
| Overall Width                    | 1280 mm (50.4 in)      |  |  |
| Overall Height (Steering height) | 1200 mm (47.2 in)      |  |  |
| Height of Floor                  | 300 mm (11.8 in)       |  |  |
| Wheelbase                        | 1900 mm (74.8 in)      |  |  |
| Tread:                           |                        |  |  |
| Front                            | 870 mm (34.3 in)       |  |  |
| Rear                             | 980 mm (38.6 in)       |  |  |
| Min. Ground Clearance            | 115 mm (4.5 in)        |  |  |
| Weight:                          |                        |  |  |
| Dry Weight (without battery)     | 380 kg (837.8 lb)      |  |  |
| Performance:                     |                        |  |  |
| Maximum Speed                    | 19-24 km/h (12-15 mph) |  |  |
| Minimum Turning Radius           | 3.5 m (137.8 in)       |  |  |
| Seating Capacity                 | 2 persons              |  |  |
| Hill Climbing Ability            | 27° on pavement        |  |  |



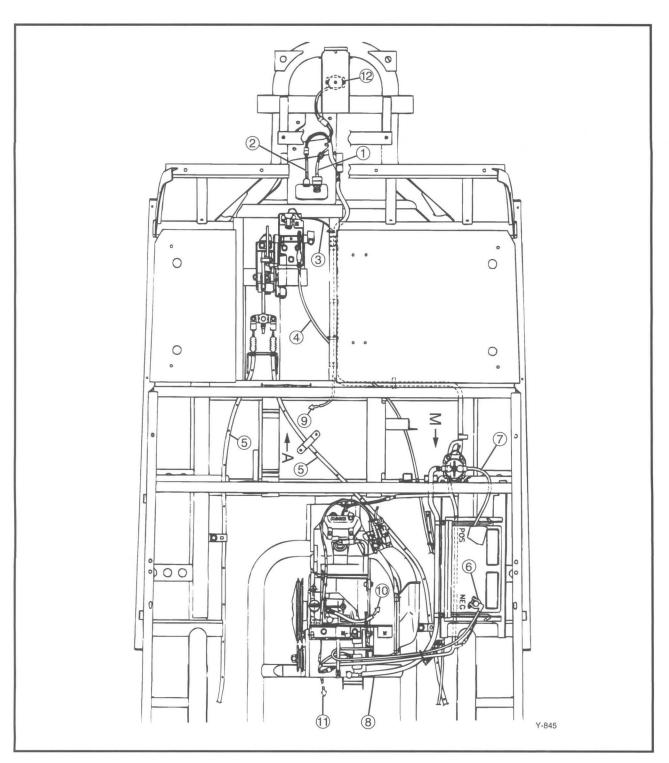
CABLE/WIRE ROUTING



# CABLE/WIRE ROUTING FOR G11A

- ① Main switch wire
- 2 Pilot lamp (oil warning) wire
- ③ Stop switch wire
- 4 Accelerator cable
- 5 Brake cables
- 6 Negative cable

- $\bigcirc$  Positive cable
- 8 Plus lead to starter generator
- $( 9 ) \mbox{To reverse buzzer switch}$
- 10 Pulse hose to fuel pump
- 1 Throttle cable Z to transmission
- (12) Reverse buzzer

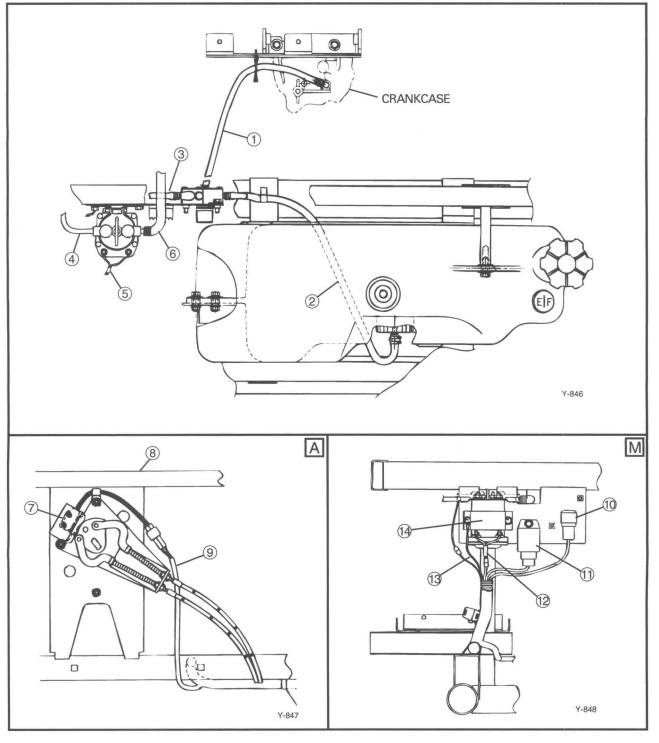


CABLE ROUTING



- ① Fuel pump pulse hose
- ② Fuel pump delivery hose
- ③ Fuel hose to carburetor
- ④ Relay positive cable
- (5) Relay lead wires
- 6 Relay negative cable
- $\bigcirc$  Reverse buzzer switch

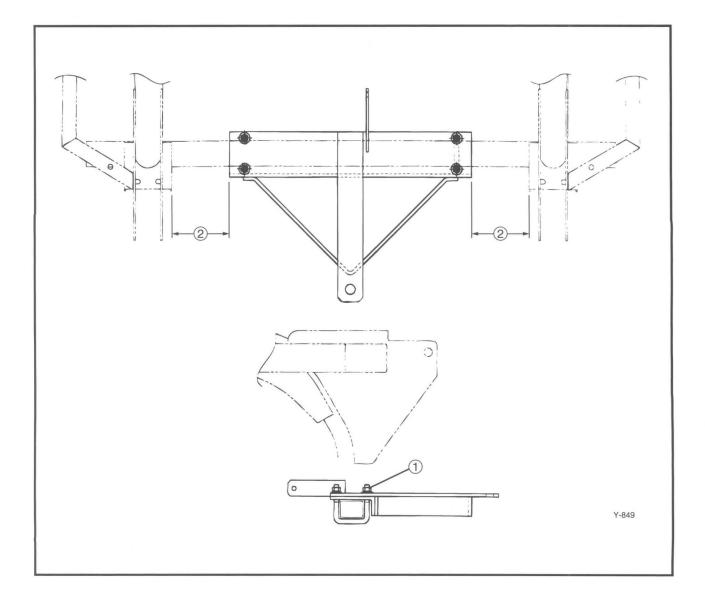
- 8 Frame
- (9) Wire harness lead
- 10 Engine stop relay
- (1) Voltage regulator
- 12 Relay wire haness
- (13) Ground lead
- 14 Solenoid relay



TOWBAR SPEC

① Towbar U-bolt torque: 23 ft lb (315 kgf.cm, 3.1 Nm)

(2) Centering distance =  $114.5 \pm 2.0 \text{ mm}$ 





### **EMISSION CONTROL SYSTEM COMPONENTS**

- 1 Air cleaner
- (2) Crankcase breather hose
- ③ Engine
- (4) Carburetor
- (5) TCI Magneto
- 6 Exhaust

