EZGO TEXTRON

2 CYCLE ENGINE GASOLINE POWERED VEHICLES

OWNER'S OPERATION AND SERVICE MANUAL

MODEL YEAR 1989/1990/1991/1992/1993 MANUAL NO. 24750–G1 REVISED 4/1/92

The model, serial, and manufacturing numbers are stamped on a plate on the right side of the dash housing of the vehicle. (FIG. A–1).

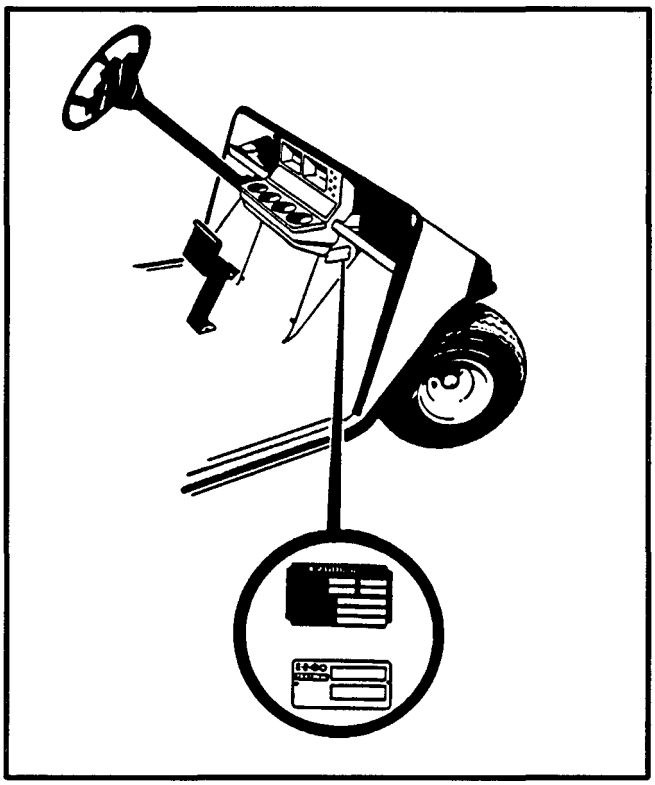


FIG. A–1 SERIAL NO. PLATE LOCATION

Always provide these numbers to the dealer when ordering parts for the vehicle.

CONTROLS

The controls of the vehicle consist of a Key Switch, Forward–Neutral–Reverse Lever, Choke, Accelerator Pedal and Combination Service Brake and Hill Brake Pedal.

KEY SWITCH (FIG. A–2)

Located on the seat support panel (FIG. A–2), this switch enables the basic electrical system of the vehicle to be turned off by turning the key to the "OFF" position.

For added security, when the vehicle is left unattended, the key may be removed from the "OFF" position preventing inadvertent operation of the vehicle.

NOTE

If the vehicle is equipped with E–Z–GO installed custom accessories, some accessories remain operational with the ignition switch in the "OFF" position, e.g., radio, clock, cigarette lighter.

FORWARD–NEUTRAL–REVERSE LEVER (FIG. A–2)

Located on the seat support panel adjacent to the Key Switch (FIG. A–2), this lever permits the selection of forward, neutral or reverse.

CAUTION

WHEN SELECTING DIRECTION DESIRED, BOTH THE VEHICLE AND THE ENGINE MUST BE *COMPLETELY* STOPPED BEFORE MOVING THE LEVER.

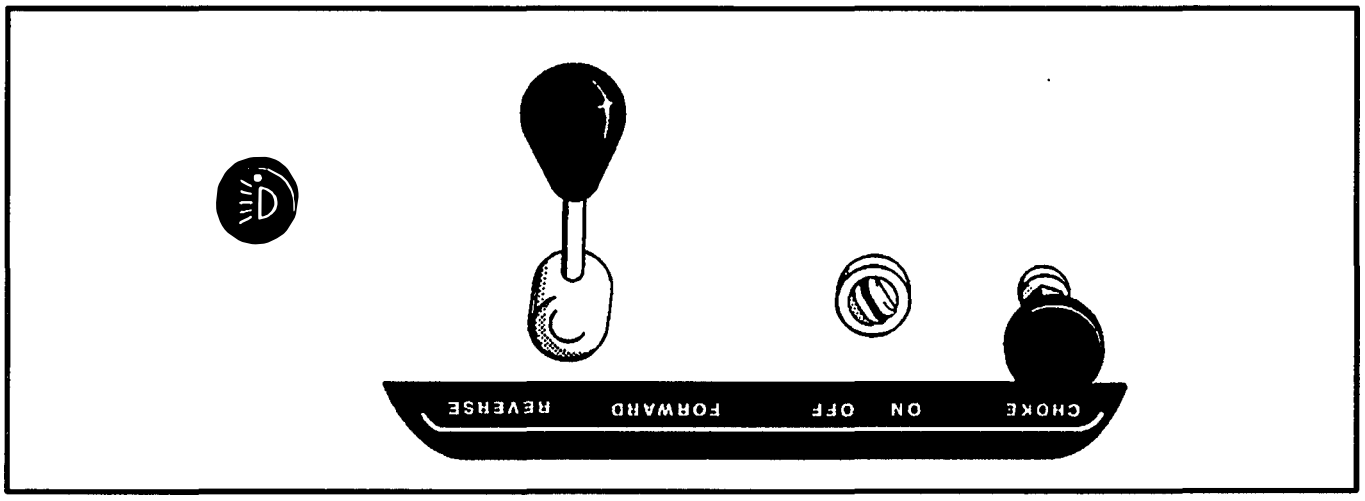


FIG. A–2 CONTROLS (PANEL MOUNTED)

SYSTEM	DAILY	WEEKLY	MONTH 20 HOURS	3 MONTH 50 HOURS	SEMIANNUAL 125 HOURS	ANNUAL 250 HOURS
PARKING (HILL) BRAKE					W Check for bent / binding linkage rod and damage or wear to latch arm or catch bracket. r Lubricate bushings, use light oil. Do not lubricate cables or brake latch	
REAR SHOCK ABSORBERS					W Check for oil leakage and loose mounting hardware	
THROTTLE / GOVERNOR LINKAGE					W Check operation and governed speed (300 feet in 17 – 18 seconds)	
BODY				r Clean body components and wax all painted surfaces		
F–N–R SWITCH				W Check for wear and smooth movement (lubricate shaft if required)		
KING PINS				W Check for excessive play and tightness of retaining nuts r Lubricate, use Shell Alvania EP–2		
SERVICE BRAKES				r Clean, lubricate and adjust per Service Manual		
STEERING ASSEMBLY				r Lubricate linkage, use Shell Alvania EP–2		
TIE RODS / LINKAGES				r Lubricate, use Shell Alvania EP–2		
TRANSAXLE				W Check for abnormal noise and mounting hardware		
AIR CLEANER			s Wash filter element Replace if req'd			
ENGINE			W Check Cylinder head bolt torque, compression			
FRONT WHEEL BEARINGS				r Adjust see Service Manual r Pack, use Shell Alvania EP–2 multi–purpose grease		
FUEL FILTERS			s Replace			
MUFFLER / EXHAUST			W Check mounting hardware and for leaks at head and muffler pipes			
SPARK PLUG			s Gap (replace if req'd) .030			
TRANSAXLE			W Check lubricant if oil seepage is evident, add rear axle lubricant as required s Replace after 5 years			

W Check s Replace r Clean, adjust etc.

2–CYCLE VEHICLE PERIODIC SERVICE SCHEDULE (CONTINUED)

GENERAL

The steering unit is a rack and pinion type.

Tools Required:	Qty.
Screwdriver, Phillips	1
Socket, 1/2" drive, 15/16"	1
Ratchet, 1/2" drive	1
Hammer, ball pein, 2 lb.	1
Torque wrench, 1/2" drive	1
Ball joint pulling tool	1
Pliers	1
Mallet	1

STEERING ASSEMBLY REMOVAL
(FIG. D-2)

Turn the steering wheel full travel to the right to position rack end ball joint. (On four wheel vehicles it is necessary to remove the shield to provide access to the steering arm area. See section E, Suspension.)

Remove cotter pin (1) from slotted nut (2) and back nut off until it protects ball joint stud threads. Using a ball joint pulling tool as a lever, apply pressure to ball joint and tap nut with a hammer to release ball stud. Remove nut and lift stud from arm. Remove three bolts (3) and lock washers (4) securing steering box to floorboard and lift assembly out of vehicle. (FIG. D-2)

Reinstall in the reverse order of disassembly. Tighten ball joint stud slotted nut (2) to 40 ft. lbs. torque. Insert new cotter pin. (FIG. D-2)

DISASSEMBLY

STEERING WHEEL REMOVAL (FIG. D-1)

Remove two screws (1) holding the scorecard assembly (2) located on the back of the steering wheel (3). Loosen steering wheel retaining nut (4) two to three turns. Apply upwards pressure to the steering wheel (3). Place a mallet against the steering wheel nut (4) and strike mallet sharply with a hammer. The combination of upwards pressure and striking the mallet will cause the steering wheel to separate from the steering shaft.

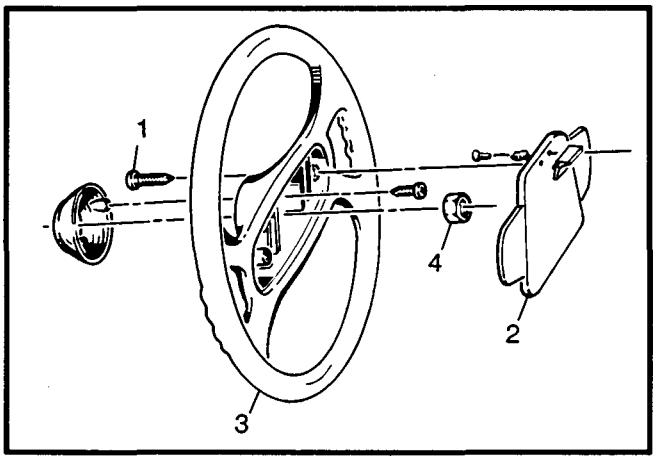


FIG. D-1 STEERING WHEEL AND SCORECARD HOLDER

CAUTION

DO NOT STRIKE THE STEERING NUT OR THE END OF THE STEERING SHAFT DIRECTLY WITH A HAMMER.

Reinstall steering wheel as follows:
Slide steering wheel onto steering shaft splines. Install steering nut and tighten to 10-15 ft. lbs. torque. Reinstall scorecard holder in the reverse order of disassembly.

NOTE

With the wheels in the straight ahead position, center the steering wheel before installing the steering nut and scorecard holder.

CAUTION

TIGHTEN SCORECARD ASSEMBLY SCREWS TO 6 IN. LBS. TORQUE MAXIMUM.

STEERING SHAFT REMOVAL (FIG. D-2)

Remove bolts (5) and lock washers (6) securing the column. Remove column (7) and gasket (14) and slide the shaft (9) out through flanged end of column.

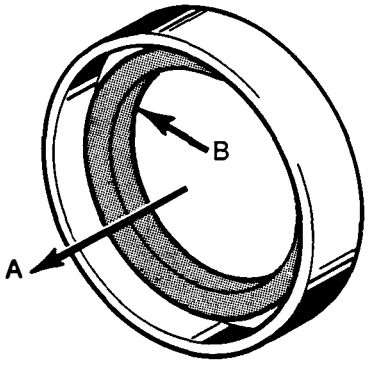
CAUTION

BE SURE THAT THE SEAL RETAINING SURFACE OF THE HUB IS CLEAN AND FREE OF GREASE. REINSTALL IN THE REVERSE ORDER OF DISASSEMBLY.

NOTE

When installing grease seals into hubs, insert the grease seals, flange side inward (FIG. E-6), and tap lightly and evenly around the seal until the seal is flush with the outer side of the hub assembly. Lubricate the seal surface with oil.

The hub assembly is reassembled to the axle assembly using the reverse procedure. When reinstalling the jam nut (9) on the axle shaft, position the inside jam nut against the spacer, tighten the nut until the hub becomes difficult to turn on the axle shaft and back off the jam nut until the hub turns freely. While holding the inner jam nut, tighten the outside jam nut to 70 - 90 ft. lbs. torque. Reinstall the tire and rim assembly on the hub and tighten the lug nuts to 50 - 60 ft. lb. torque. Install axle in fork assembly using reverse order of disassembly. Tighten outside lock nuts to 90 - 110 ft. lbs. torque.



A INSTALL THIS SIDE OF SEAL INTO HOUSING.

B LUBRICATE SEAL SURFACE.

FIG. E-6 INSTALLING GREASE SEAL

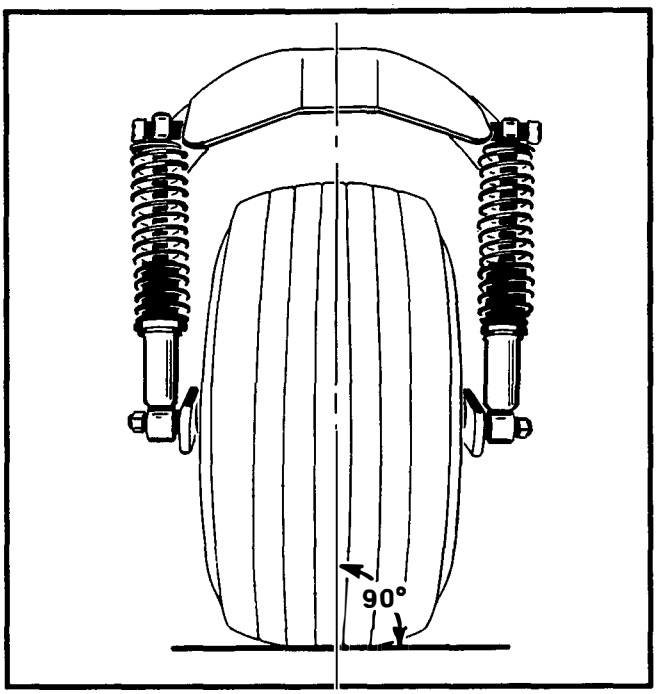


FIG. E-7 VERTICAL ALIGNMENT

FRONT WHEEL ALIGNMENT

Tools Required: Qty.

Wrench, open end, 11/16" 1
Square 1
Wrench, adjustable, 6" 1

THREE WHEEL VEHICLE (FIG. E-7), (FIG. E-5)

Should the steering tend to pull to one side, the front wheel should be aligned as follows: Position the vehicle on a flat, level surface and set the wheel in a straight ahead position. Loosen the shock absorber nut (1) four to five turns. Remove the axle retainers (2) from the axle nuts on both sides of the fork. Loosen the nut (3) at both ends of the axle (FIG. E-5).

⚠ WARNING ⚠

WHEN ADJUSTING THE FORK, ENSURE THAT A MINIMUM OF ONE FULL AXLE DIAMETER REMAINS IN THE FORK ARM SLOT.

Using a square, check the vertical alignment of the wheel/tire. Loosen the jam nuts (14) on the axle set screws (15). Adjust the set screws to position the

GOVERNOR BELLCRANK (FIG. F–3), (FIG. F–4), (FIG. F–5)

CAUTION

WHEN REMOVING/INSTALLING THE LINKAGES TO THE GOVERNOR ARM, USE EXTREME CARE NOT TO DAMAGE OR BEND THE ARM. SUPPORT THE GOVERNOR ARM AND SQUEEZE THE BALL JOINT COMPONENTS TOGETHER (FIG. F–4). FAILURE TO OBSERVE THIS CAUTION MAY RESULT IN SERIOUS DAMAGE TO THE GOVERNOR AND RESULT IN THE NEED FOR A COMPLETE REAR AXLE REMOVAL AND DISASSEMBLY.

Service tip: To remove the female portion of the ball joint, insert a thin straight blade screwdriver in the slot adjacent to the joint and gently pry apart. (FIG. F–3)

At the governor ball joint, remove the solid linkage (1). Move the bellcrank and check for smooth operation against the torsion spring. Any rough motion may indicate poor bearing condition, and they should be replaced. (FIG. F–5)

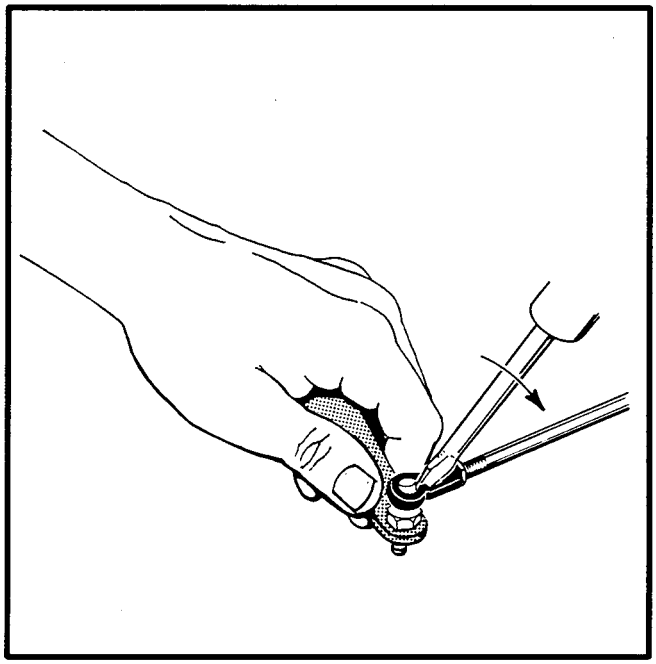


FIG. F–3 BALL JOINT REMOVAL

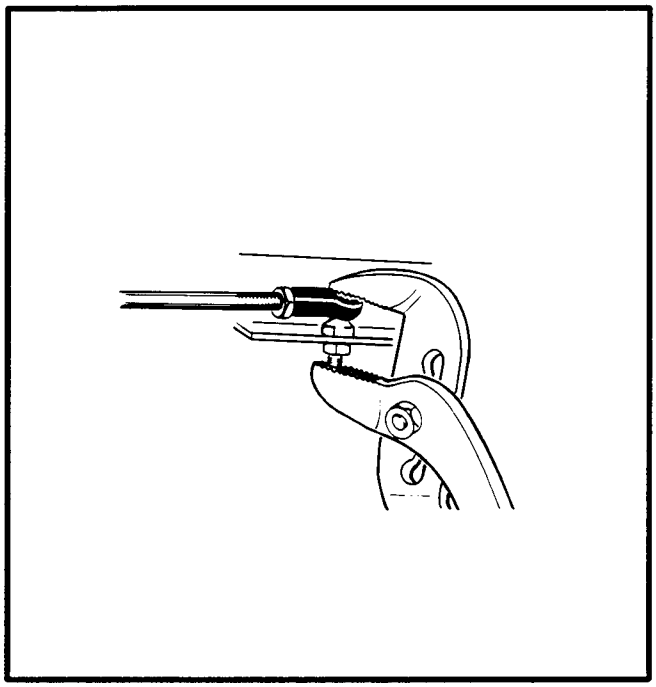


FIG. F–4 BALL JOINT RE–ATTACHMENT

CARBURETOR

CAUTION

WHEN REMOVING/INSTALLING THE LINKAGES TO THE CARBURETOR ARM USE EXTREME CARE NOT TO DAMAGE OR BEND THE ARM. SUPPORT THE CARBURETOR ARM AND SQUEEZE THE BALL JOINT COMPONENTS TOGETHER (FIG. F–4). FAILURE TO OBSERVE THIS CAUTION MAY RESULT IN SERIOUS DAMAGE TO THE CARBURETOR AND RESULT IN THE REPLACEMENT OR REBUILDING OF THE CARBURETOR.

At the carburetor to oil pump linkage, remove the solid linkage (2) at the carburetor end. Move the throttle lever (3) and check for smooth action and that carburetor torsion spring closes the carburetor.

OIL PUMP BELLCRANK (FIG. F–5)

At the oil pump (5), remove the solid linkage (4). Move the bellcrank and check for smooth motion. If the motion is stiff or rough, loosen the lock nut (6) and tighten until the bellcrank wave washer is compressed; loosen the nut 1 1/2 turns (1-1/16"). If the motion is not satisfactory repeat the adjustment and check the condition of the bearings if smooth motion cannot be achieved.

DISASSEMBLY OF BRAKE PEDAL (FIG. G-4)

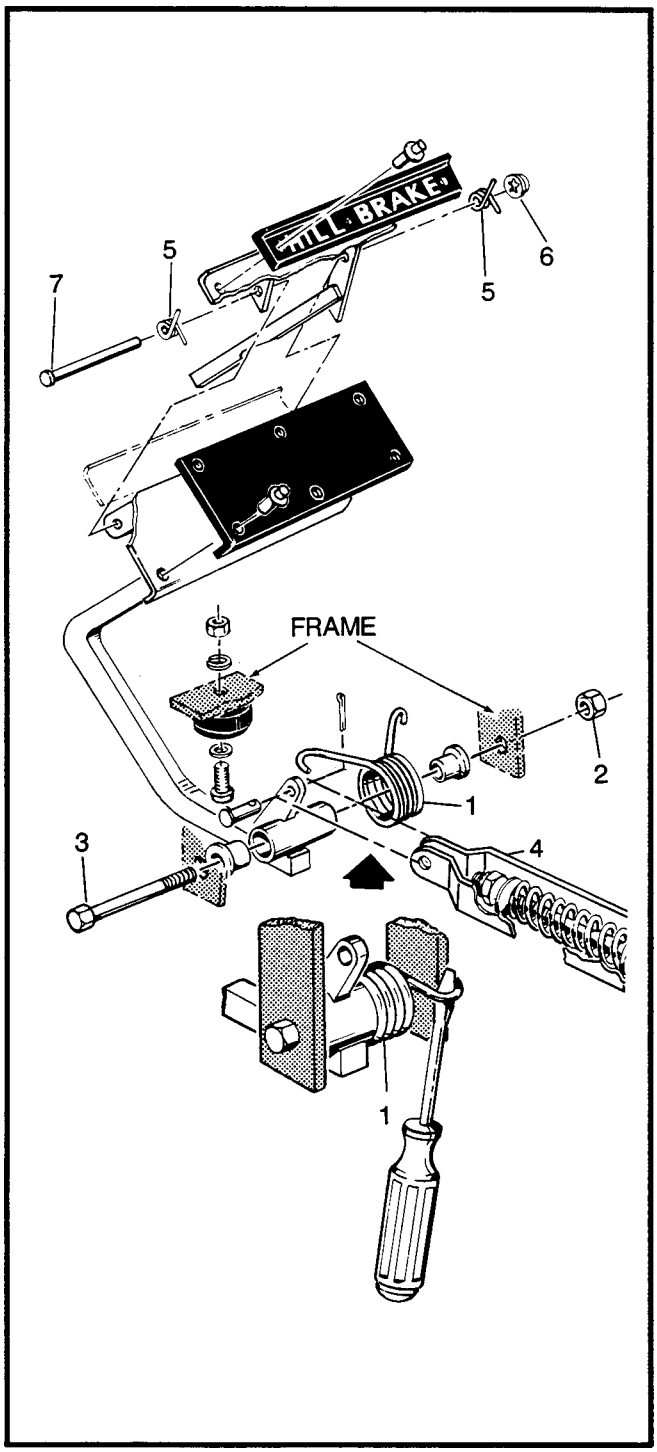


FIG. G-4 BRAKE PEDAL SPRING REMOVAL

Tools Required: Qty.

Screwdriver, straight blade 1

Pliers 1

Hammer, ball pein 1

Unhook the pedal return spring (1). (Insert a thin blade screwdriver between the small hook end and the pedal bracket, move spring back and away from the bracket.)

Remove the lock nut (2) from the pivot bolt (3) and remove the bolt. Remove the spring, disconnect the cable clevis (4) and lift the pedal out through the floorboard.

To remove the parking (hill) brake pedal, note the position of the two springs (5). Remove the "push on" retainer nut (6) (new nut required for assembly), and remove the hinge pin (7). Reassemble in the reverse order of disassembly.

REMOVAL OF PARKING (HILL) BRAKE RELEASE LINKAGE (FIG. G-5)

Tools Required: Qty.

Pliers 1

Jack, Hydraulic Trolley 1

Jack stands 1

Wrench, open end, 1/4" 1

To remove the parking (hill) brake release linkage, raise the front of vehicle (see procedure in Section B) to allow access to underside.

To remove the linkage rod (1), remove the cotter pin (2) and washers (3) and (12) from lever arm (4).

Loosen the two setscrews (5) in cam (6), and remove the pivot arm shaft (4). The cam (6) and nylon spacer (9) will come out when the pivot arm shaft is removed.

If the spacer (9) or bearings (10 and 11) are worn, replace them with new spacers or bearings.

Reassemble by reverse procedure.

NOTE

It may be necessary to remove the indentures on the shaft (4) caused by the setscrews (5).

NOTE

To assure proper braking performance, **all** periodic maintenance inspections and procedures should be performed as indicated in the schedule (Section A) i.e. Daily, Weekly, Monthly, Semi-Annually, and Annually.

GENERAL

The overall brake system consists of:

(a) self-adjusting wheel brake units which normally do not require adjustment until internal components have worn to a point of needing replacement.

(b) actuating linkages requiring periodic adjustment to compensate for normal wear of system components and/or their replacement.

NOTE

A **complete** brake system adjustment procedure **must** be performed whenever **any part of the brake system** has been replaced. (FIG. G-20)

DAILY BRAKING PERFORMANCE TEST

To determine the adequacy of the vehicles brake system, the following test should be performed daily:

⚠ WARNING ⚠

ALL DRIVING BRAKE TESTS MUST BE DONE IN A SAFE LOCATION WITH REGARD FOR THE SAFETY OF ALL PERSONNEL

The recommended way of performing the daily brake test and determining any vehicles that have unacceptable braking performance is to have personnel handling the vehicles latch the hill brake at a **common point** on a paved surface while traveling at maximum governed speed. The vehicle stopping location must be observed and vehicles that stop in a significantly greater distance than other acceptable vehicles should **immediately** be removed from service and inspected by a qualified mechanic.

The mechanic should perform a "panic" stop on the suspect vehicle(s) by applying maximum force and travel to the brake pedal while traveling at full speed. He should observe if either of the rear wheels fails to "lock up". If one wheel fails to lock, it is reasonable to expect that a problem exists with the service brake system and the **6 Month Brake Maintenance** must be performed in its entirety. If both wheels lock, the parking (hill) brake must be adjusted and the vehicle re-tested per the **Daily Brake Test.**

6 MONTH BRAKE MAINTENANCE

Raise the entire vehicle as specified in Safety Procedures Section B of the operation and service manual.

Rotate each rear wheel by hand, and feel for a dragging brake shoe that prevents smooth movement of the wheel and brake drum.

Remove the clevis pin from both cables where they attach to the wheel brake levers.

Again rotate each wheel by hand and feel for a dragging brake shoe that prevents smooth movement of the wheel and brake drum. If the wheel rotates more smoothly than with the brake cables attached, a worn or damaged brake cable is indicated and **MUST** be replaced.

Inspect the cables for abrasion to the cable housing. A kinked cable or a cable housing that has worn to the point of exposing the metal jacket will result in the cable dragging. Any worn or kinked cables **MUST** be replaced. Operate the brake pedal and observe the movement of the cables. Both should move the same amount and return fully when the brake pedal is released. If the brake pedal does not return to the full up position, excess pedal bushing friction is indicated. The bushing must be removed and lubricated or replaced. Observe the equalizer bar to see if it pivots during operation of the brake pedal. A pivoting equalizer bar, uneven movement or failure of the brake cables to return fully indicates a dragging brake cable which **MUST** be replaced.

Remove each brake drum and shoes according to procedures indicated in **BRAKE DRUM, SHOE AND BRAKE ASSEMBLY REMOVAL** section. Clean and inspect all brake parts. If there is evidence of rust or if the adjuster does not move smoothly in the backing plate, the surfaces must be cleaned and smoothed using an emery cloth. The backing plate **MUST** be replaced if excessive wear such as gouges or galling are in evidence on the backing plate.

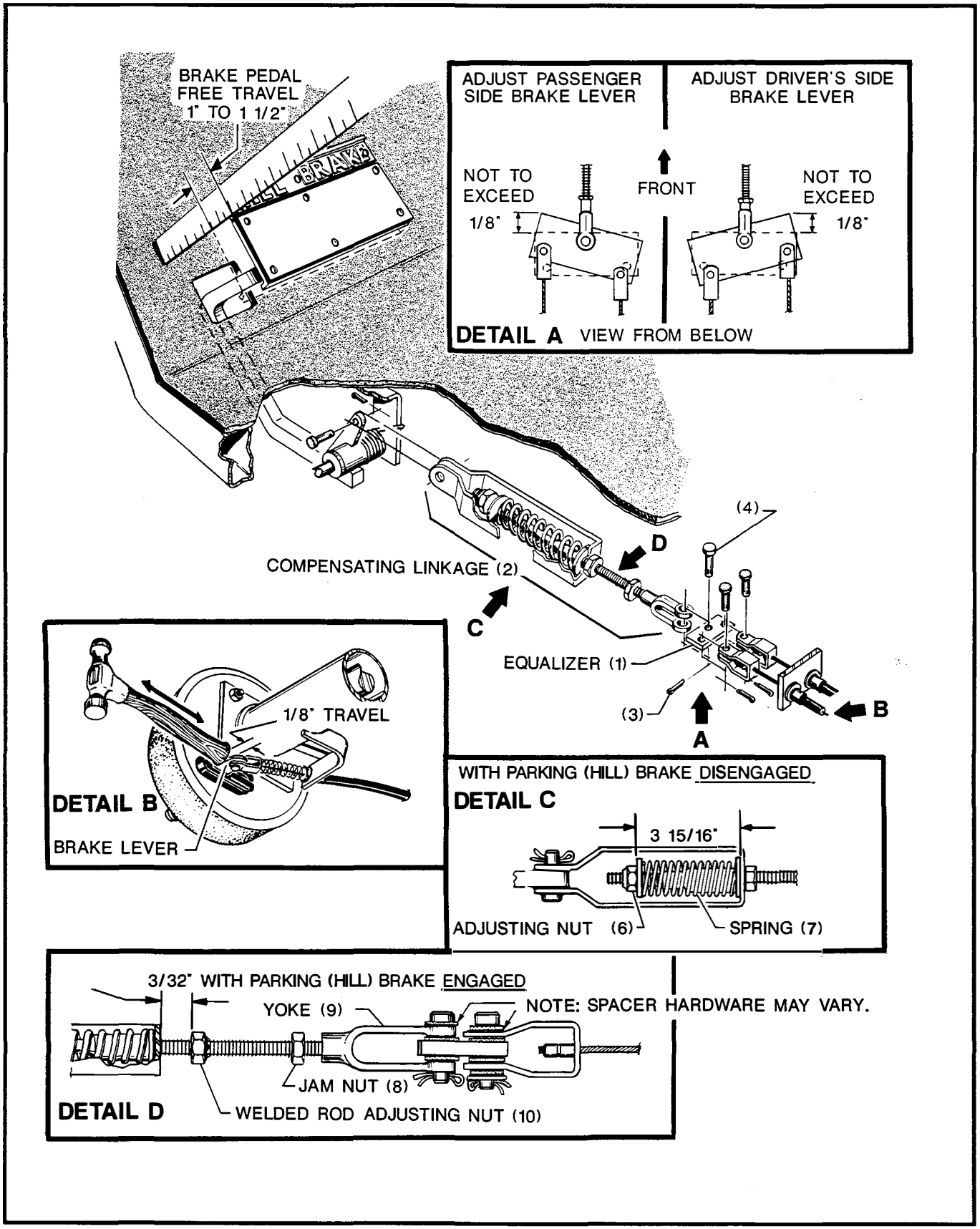


FIG. G-20 BRAKE LINKAGE ADJUSTMENT

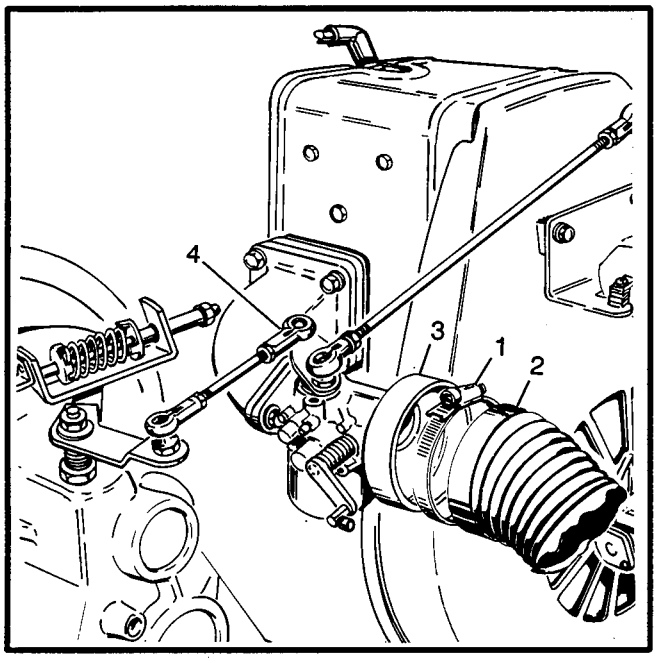


FIG. H–8 SOLID LINKAGE REMOVAL

CHOKE (FIG. H–9)

Remove the nut (1) and lock washer(2) that secures the choke cable housing (3) to the intake manifold mounted bracket (4). Remove the bullet (5) that secures the choke cable to the carburetor choke lever swivel and remove the cable from the swivel.

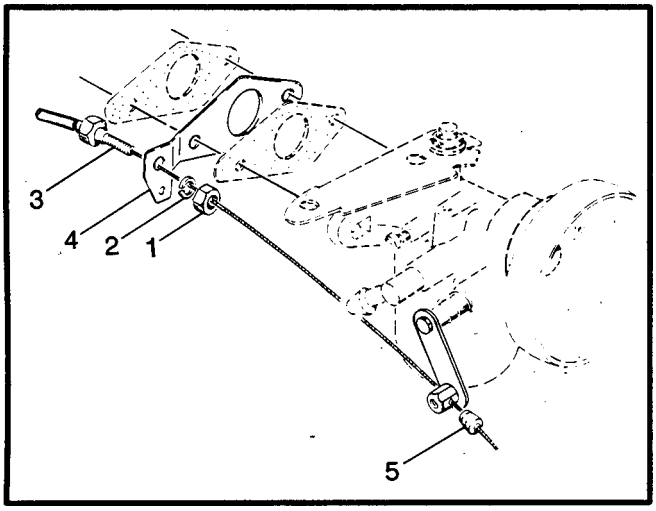


FIG. H–9 CHOKE CABLE

FUEL/OIL CONNECTIONS

At the fuel pump, disconnect the rubber fuel line from the gas tank by squeezing the clamp and removing the rubber hose.

NOTE

To prevent fuel spillage or siphoning, do not allow the fuel line to fall below the level of the fuel in the tank before plugging the line with a 1/4" bolt. Plug the rubber hose by inserting a 1/4" bolt into the free end, and fastening it to a point above the level of the fuel tank. Secure with a hose clamp.

Remove the oil line from the oil tank and plug with a suitable size bolt. To prevent oil loss fasten the hose to a point above the level of the oil tank such as the frame rail.

CAUTION

TO PREVENT SERIOUS ENGINE DAMAGE. ANY TIME THAT THE OIL INJECTION SYSTEM IS DISTURBED THE SYSTEM MUST BE BLED.

ENGINE REMOVAL (FIG. H–10)

Raise the vehicle and support on jack stands per instructions in section B.

⚠ WARNING ⚠

TO PREVENT INJURY CAUSED BY INADVERTENT MOVEMENT OF THE ENGINE, A SECOND PERSON IS REQUIRED TO SUPPORT AND ASSIST IN REMOVING THE ENGINE.

Remove the four engine mounting bolts (1), lock washers (2) and flat washers (3) from the underside of the vehicle.

Remove the engine and place on a clean surface that is free from dirt that could enter the carburetor or exhaust. Support or cushion the engine to prevent damage to the carburetor levers.

NOTE

It is not necessary to remove the engine to remove or install the drive clutch.

DRIVE CLUTCH REMOVAL AND INSTALLATION

Tools Required: Qty.

Impact wrench, 1/2" drive (air or electric) 1
Socket, impact,1 1/8, 1/2" drive 1
Screwdriver, flat blade 1
Clutch removal tool, E–Z–GO P/N 19779–G2 1
Sealant, Locktite 262 ..... AR

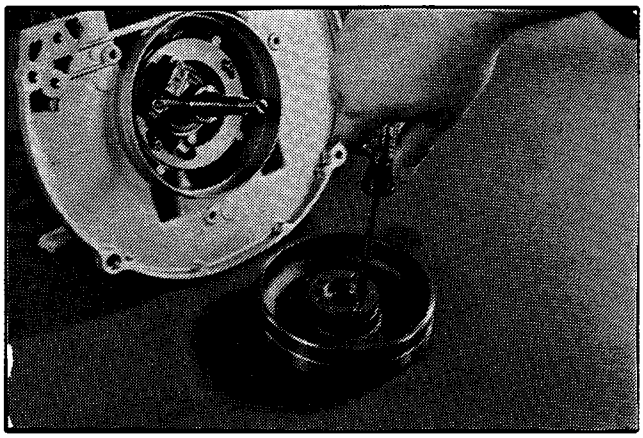


FIG. H–33

PULSER ASSEMBLY REMOVAL

Remove the two screws securing the pulser assembly to the crankcase. (FIG. H–34)

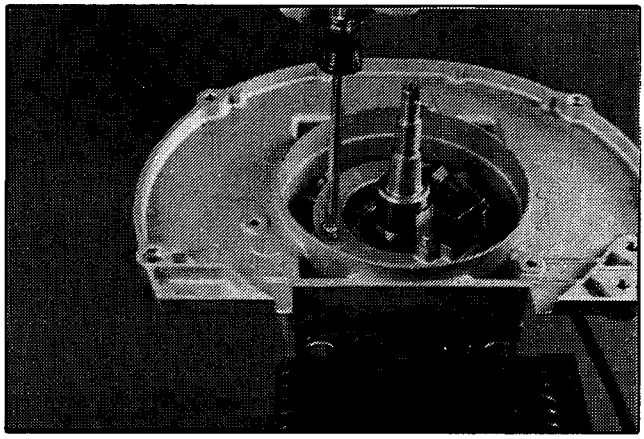


FIG. H–34

PULSAR COIL REMOVAL

Pull the pulser coil wire and grommet from the crankcase casting and remove the pulser coil from the coil plate. (FIG. H–35)

NOTE

To replace the pulser coil, or remove the wiring from the crankcase requires that the wiring be de–soldered from the coil.

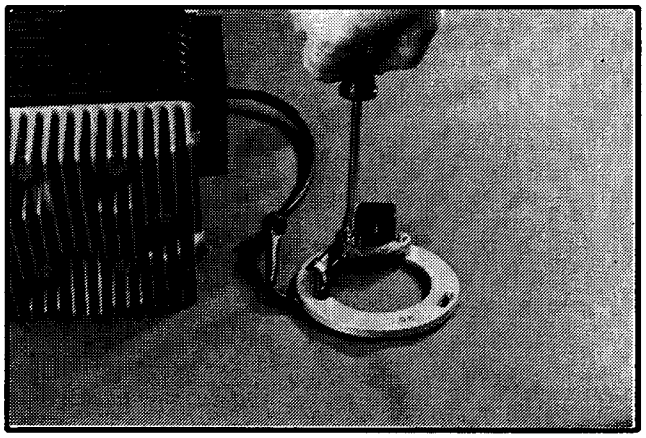


FIG. H–35

CYLINDER HEAD AND CYLINDER REMOVAL

Tools Required: Qty.

Socket, 12 mm, 3/8" drive 1

Ratchet, 3/8" drive 1

Wrench, 12 mm, box end 1

Remove the six cylinder head bolts and separate the cylinder head and gasket from the cylinder. (FIG. H–36), (FIG. H–37)

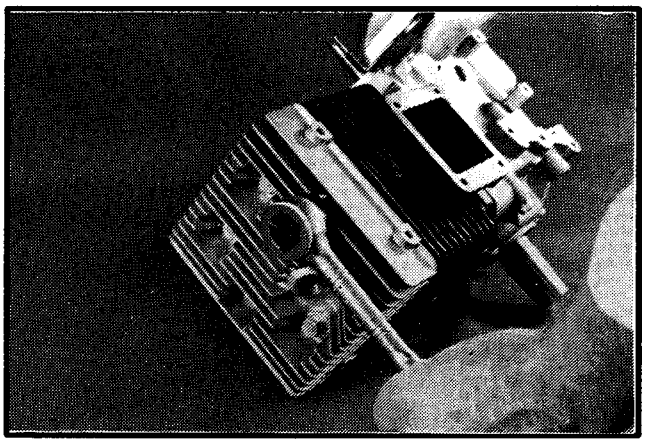


FIG. H–36

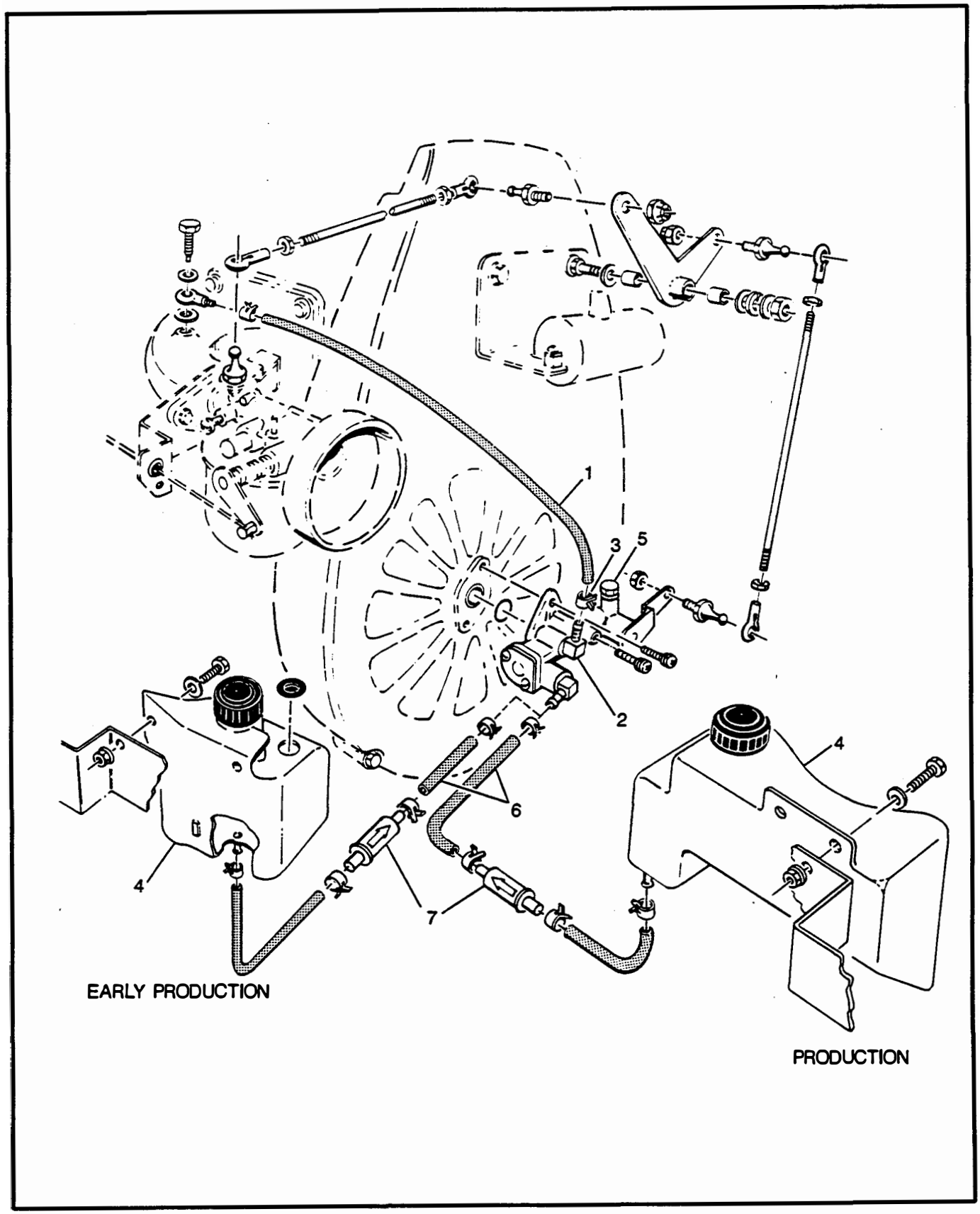


FIG. J–2 OIL INJECTION

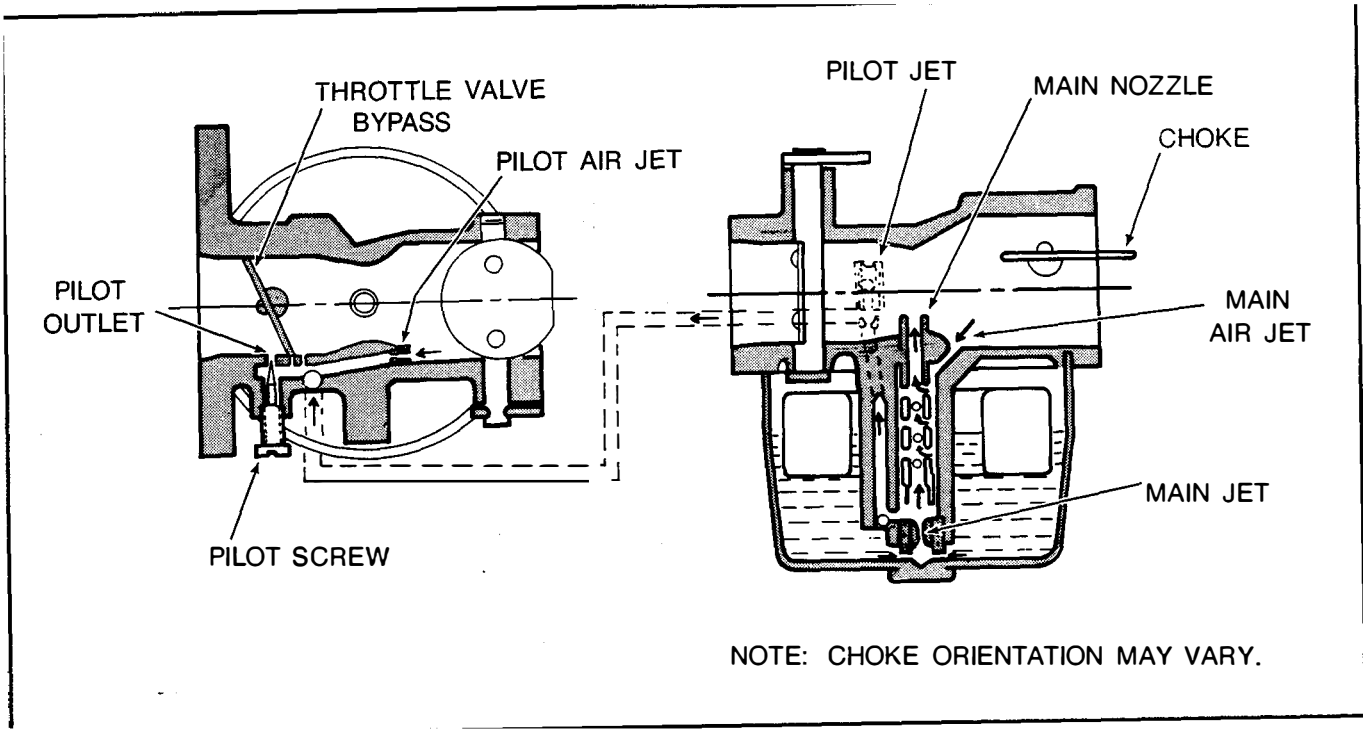


FIG. J–9 AIR AND FUEL FLOW

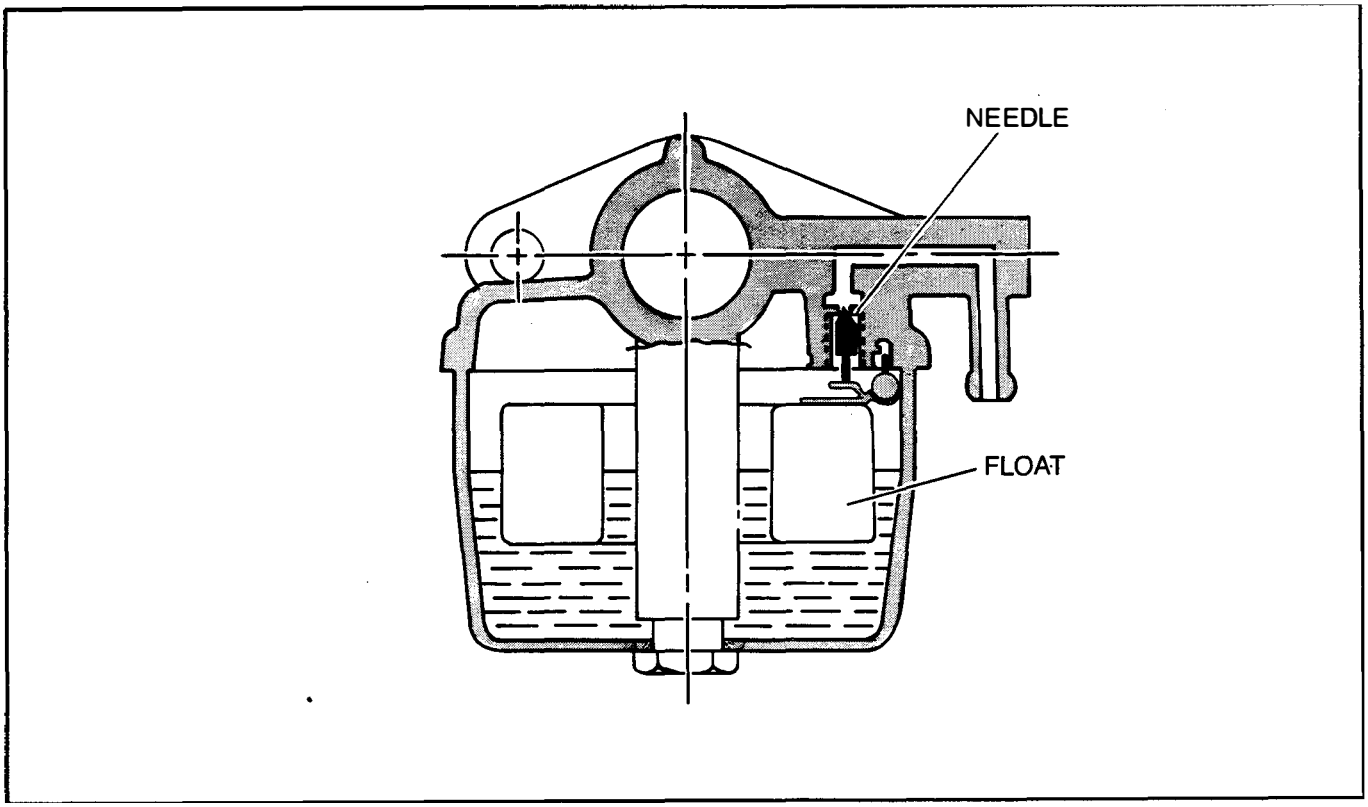


FIG. J–10 FUEL LEVEL CONTROL

TESTING IGNITION CIRCUIT

Tools Required: Qty.

V.O.M. 1

If the engine will *NOT* run but the starter will turn the engine.

1. Check for loose wires at the terminals and connections.

⚠ WARNING ⚠

NEVER OPERATE THE STARTER UNLESS THE SPARK PLUG IS INSTALLED OR THE IGNITION SYSTEM IS DISABLED. FUEL DRAWN INTO THE CYLINDER WILL BE EXPELLED THROUGH THE SPARK PLUG HOLE AND COULD BE IGNITED BY THE IGNITION SYSTEM, RESULTING IN A FIRE.

CAUTION

DO NOT ARC SPARK PLUG WIRE TO GROUND. CONNECT TO A KNOWN–TO–BE–GOOD SPARK PLUG AND GROUND PLUG TO A METAL SURFACE (MUFFLER, CYLINDER, ETC.). PERMANENT IRREPARABLE DAMAGE MAY BE CAUSED TO THE IGNITOR IF PLUG IS NOT GROUNDED.

2. Check for an electrical discharge through the spark plug ignition wire as follows: Using a spark plug that is known to be good, place on a metal surface (muffler, cylinder, etc.), connect the spark plug wire and turn over the engine with the starter. Look for a blue electrical arc at the spark plug electrodes.
3. Replace the plug if necessary. Gap the spark plug .028" to .030".
4. If there is either a weak arc or no arc in Step 2, try a new spark plug, then check the spark plug ignition wire for loose terminals. Check the ignition wire by substituting it on another engine or using one that is known to be good.
5. Check the ignition coil by temporarily attaching another one that is known to be good.

NOTE

It is not necessary to place the coil in the mounting bracket; just attach the wires. If the engine then operates, replace the old coil.

6. Check the ignitor by temporarily attaching another one that is known to be good.

NOTE

It is not necessary to mount the ignitor; just attach the wires.

If the engine then operates, replace the old ignitor.

7. Check the engine timing per the Timing Procedure.

TESTING STARTING CIRCUIT

⚠ WARNING ⚠

DISCONNECT BATTERY FOR STEPS 1 THROUGH 8 (SEE PROCEDURE IN SECTION B).

If the engine will not turn over in either forward or reverse, check the following:

1. Check the battery for a voltage reading which should be between 12.4 and 14.0 volts. Inspect for loose or dirty battery post connections.
2. Check for a blown fuse and replace if necessary with a Buss AGC 25 amp fuse.
3. Check for loose wires at all terminal connections.
4. Check the complete electrical system for correct circuitry (FIG. L–2).
5. Inspect for worn insulation and bare wires touching the frame. Bare wires will cause a short circuit.
6. Check for continuity through the key switch. Set volt–ohm meter on XI scale, place positive (+) probe on the terminal with the blue wire attached and negative (–) probe to the terminal with the black wire. The reading on the meter should be "0" ohms with the switch key in the "*ON*" position. If the meter does not register, replace the switch.
7. Check continuity through the 'neutral' limit switch. Place a probe on terminal "E" of the ignition switch and the solenoid terminal with the red wires attached. Place the forward–neutral–reverse switch in forward. If the ohmmeter shows "0" ohms, the switch is good. If the meter does not register, check the wires from the key switch to the limit switch. If wires and connections are good, the forward–neutral–reverse switch should be removed to check the engagement of the limit switch's actuating lever with the cam. If all checks are good, replace the neutral limit switch.
8. Check for continuity through the accelerator limit switch. Place a probe on terminal "E" (FIG. L–2) of key switch and the other probe on the positive (+) terminal of the coil and depress the accelerator pedal. If the ohm meter shows "0" ohms, the switch is good. If the meter does not register, check the wires from the ignition switch to the accelerator

Clean a fouled plug and regap to .028–.030 inch. Use a wire type gauge for checking the electrode gap. Install and tighten to 18 – 21 ft. lbs. torque.

If new plug is required, use either an NGK–BP5HS or a Champion L92–YC.

SOLID STATE IGNITION (FIG. L–11), (FIG. L–12), (FIG. L–13)

Remove the cooling fan/flywheel using the procedure noted under Cooling Fan/Flywheel Removal.

Remove the two ignition mounting screws (5). Pull the wiring grommet through the existing hole and remove the pulser. Installation is in the reverse order of removal. Adjust using the procedure listed under Solid State Ignition or Timing.

REASSEMBLY PROCEDURE (FIG. L–12), (FIG. L–13)

1. Install the pulser coil with the terminal on the left side.
2. Fasten the coil tightening screws (M4 x 0.7 P).

   (Fastening should be in accordance with (FIG. L–12) to maintain an air–gap of .016–.022 in. between the coil and the rotor.)

   (Fastening torque: 5.2–13 lb.–in.)
3. Solder the blue wire to the A terminal and the red wire to the B terminal.
4. Use continuity tests as shown in "Trouble–Shooting".

NOTE

Assure that the connections of the blue and red wires are correct; a misconnection will permit the coil to function but will cause the timing to have a 40_ error.

CAUTION

USE ONLY AN INDUCTION TYPE TIMING LIGHT.

1. Ignition Timing (Standard) (FIG. L–14), (FIG. L–17)

   Forward: 18_ 3_/1,500 R.P.M. (B.T.D.C)

   Reverse: 21_ 3_/1,500 R.P.M. (B.T.D.C)

   Reassembly procedures for the pulser assembly:

   Fasten the pulser mounting plate with the center of the screws in alignment with the timing mark line at the plate.

2. Ignition Timing Check (forward rotation only).

   Due to the function of the S.S.I. system, the timing checks may be made only when engine is running.

NOTE

If the ignition timing in the forward rotation is correct, the timing in reverse rotation will also be correct. Therefore, timing checks are only required in the forward rotation.

   a) Remove the dust plate from the cooling fan shroud.

   b) Set the engine R.P.M. at 1,500 R.P.M. 200 in forward rotation.

   c) Illuminate the slit line on the cooling fan shroud using a timing light and check if the slit line and the embossed mark on the cooling fan (FIG. L–14) are in alignment.

   d) The timing is correct when the marks are in alignment. (FIG. L–16).

1. Ignition Timing Adjustment (Forward rotation)

   If the ignition timing is incorrect, adjust it in accordance with the following procedures.

   a) Remove the cooling fan shroud and cooling fan, and loosen the plate mounting screws.

   b) Adjust the timing by rotating the plate – left or right. (Fasten screws to 52 in. lb.) (FIG. L–16).

   c) Check the timing in accordance with the ignition timing check 1 and 2.

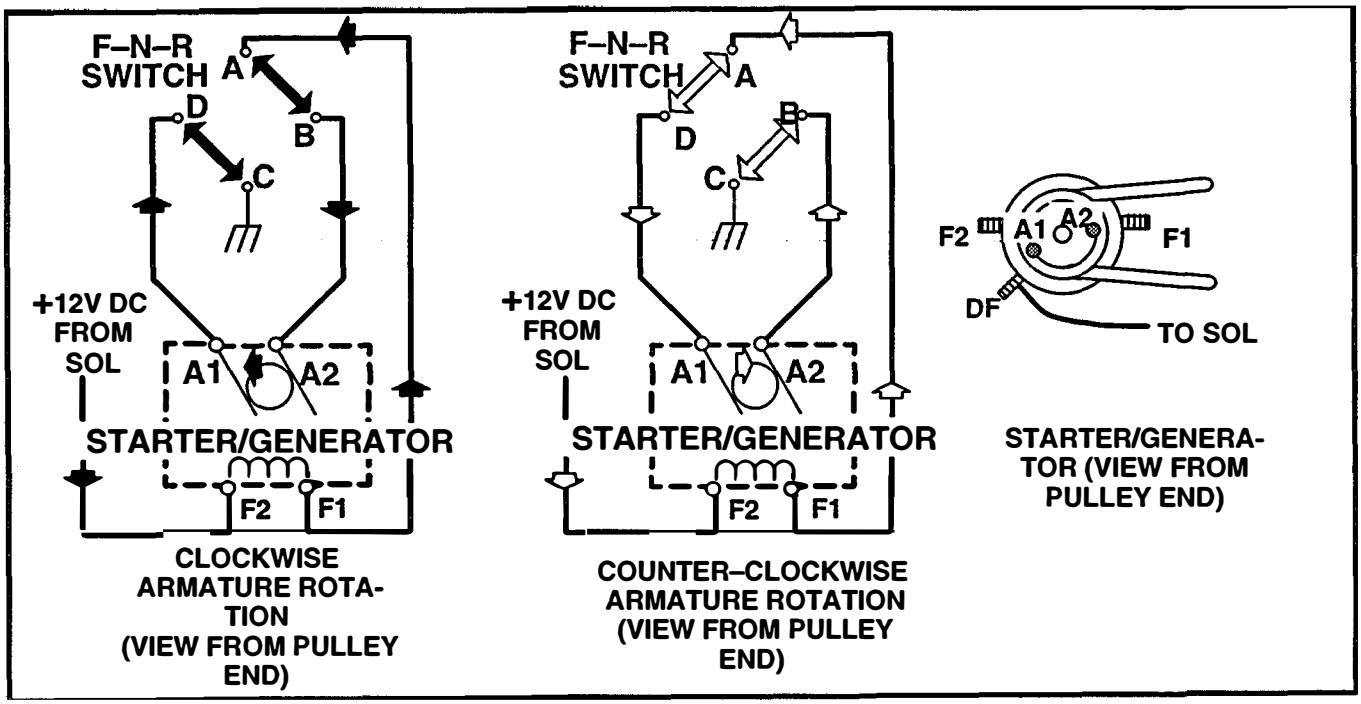


FIG. L–3 CIRCUIT DIAGRAM, STARTER/GENERATOR DIRECTION – LATER 1990

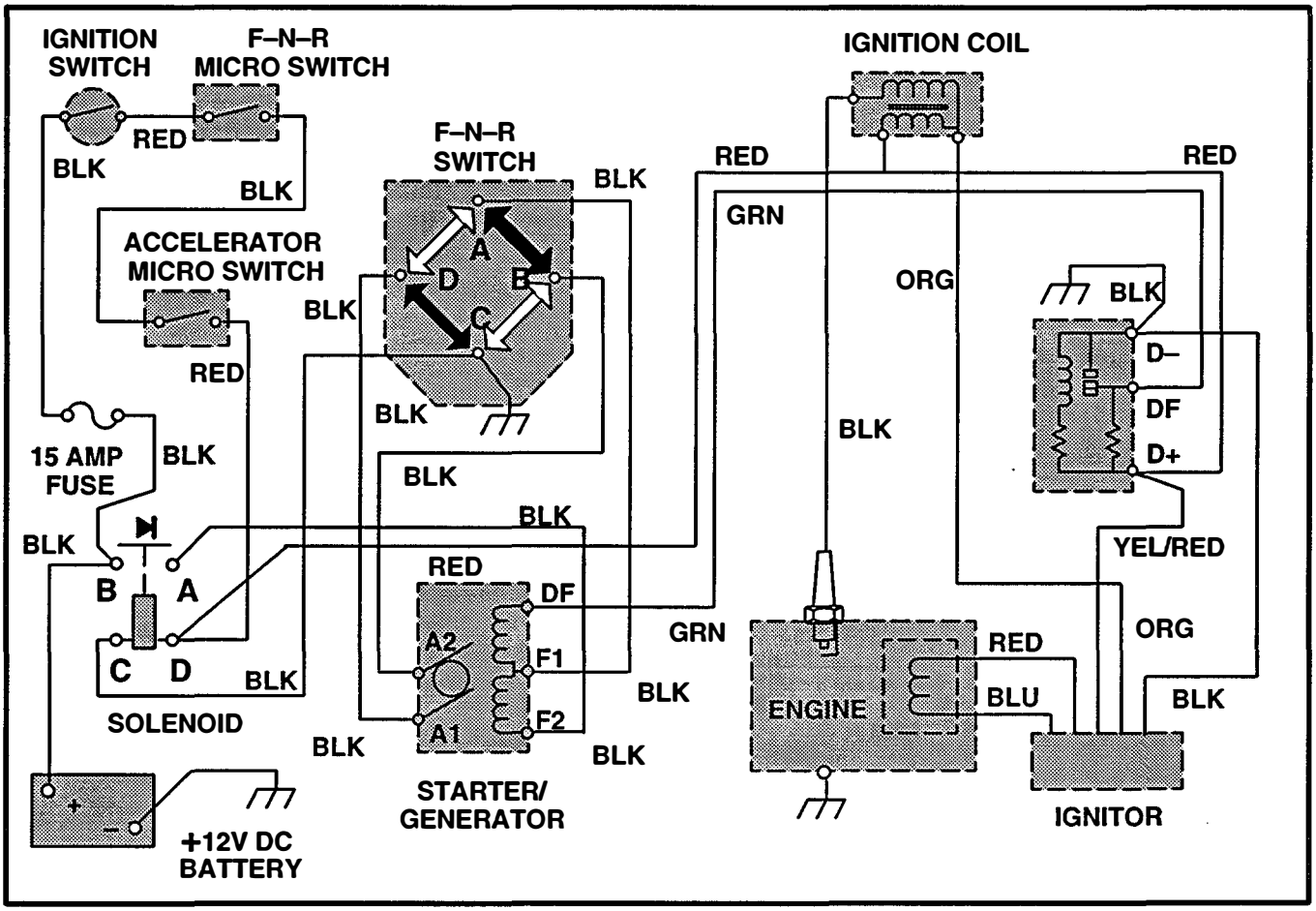


FIG. L–4 SOLID STATE IGNITION SYSTEM WIRING DIAGRAM – LATER 1990

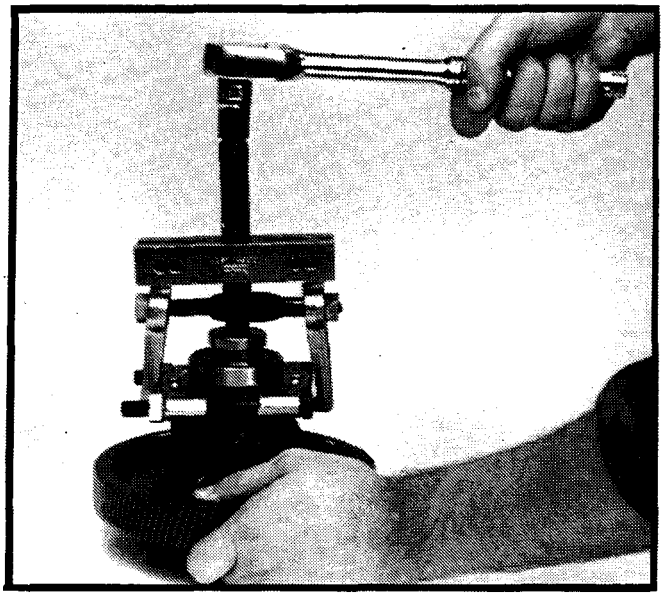


FIG. M-16

Do not remove the bearing from the differential case unless a bearing failure is evident. If a bearing failure has occurred, remove it using a bearing puller and replace with new bearings. (FIG. M-16)

DIFFERENTIAL INSTALLATION

Installation is in the reverse order of removal. Use Permatex sealant as required between the housing and the cover plate.

GOVERNOR ACTUATOR FORK REMOVAL

Remove the differential.

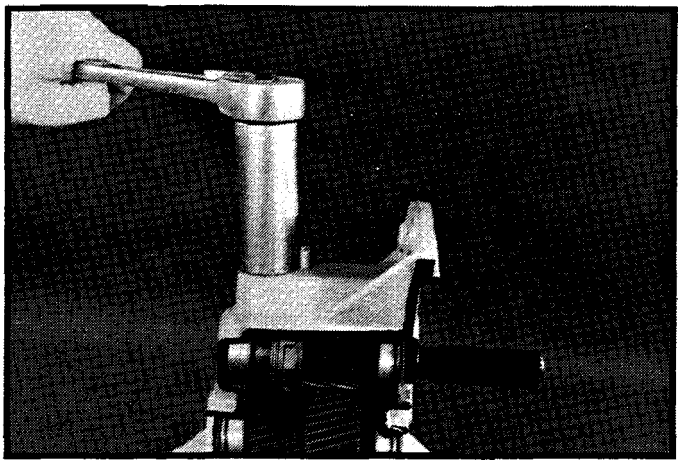


FIG. M-17

Remove the snap ring from the governor shaft and remove the threaded bushing from the housing. (FIG. M-17)

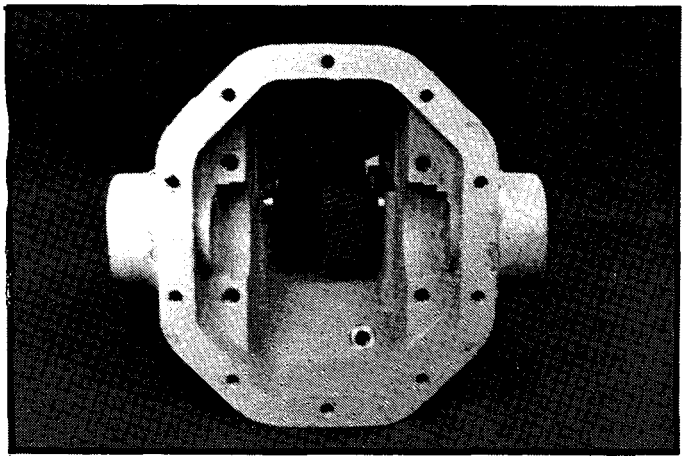


FIG. M-18

The governor actuator fork can be rotated away from the governor and removed from the inside of the housing. (FIG. M-18)

INTERMEDIATE GEAR REMOVAL

Tools Required:	Qty.
Pliers, snap ring, internal	1
Drift, brass	1
Puller, bearing, inner diameter	1
Puller, bearing, jaw type	1
Screwdriver, Phillips	1
Drill, 3/8", electric or air	1
Drill bit, 1/8"	1
Punch, center	1
Hammer, ball pein	1

CAUTION

HANDLE ALL GEARS WITH EXTREME CARE SINCE EACH IS PART OF A MATCHED SET. DAMAGE TO ONE WILL REQUIRE REPLACEMENT OF THE ENTIRE SET OR RESULT IN AN UNACCEPTABLY HIGH NOISE LEVEL.

probes and the battery terminals; (b) a defective VOM. A voltage reading below 11 volts indicates poor battery condition and the vehicle should be recharged before proceeding with the test.

NOTE

Due to the resistance of the wires involved within the harness, voltage readings may be somewhat lower than battery voltage. A reading of 1 volt below battery voltage is acceptable.

3. Firmly attach the black probe (–) to the battery post with the black wire attached to perform Steps 3 through 4 and the red probe (+) to the green terminal at the fuse block. A reading of battery voltage indicates that the green wire is in good condition.

NOTE

This wire supplies power to the entire fuse block.

4. Place the red probe (+) to the blue/white wire terminal on the fuse block. A reading of battery voltage indicates that the fuse is in good condition. No reading indicates a defective fuse, replace with a good 15 amp fuse.

5. Place the red probe (+) to the blue/white connection at the light switch. A reading of battery voltage indicates that the orange/white wire is in good condition.

6. Disconnect both wires from the light switch. Select ohms x 1 (continuity) position on the VOM. Place the red probe (+) to one terminal and the black probe (–) to the other. Pull out switch button. A reading of .00 on a digital VOM or less than 5 ohms on a needle type meter indicates that the switch is in good condition. A reading of infinity indicates a defective switch. Replace with a good switch and reconnect the wiring.

7. *IF ONE OR MORE LIGHTS ARE OPERATIONAL*, check for defective wiring or a defective bulb or module (rear light). Check for voltage to headlights. Pull out light switch and disconnect blue/white wire at the defective headlight. Set the VOM to 12 VDC range, place the red probe (+) to the blue/white wire terminal and the black probe (–) to the ring terminal with the black wire that is attached to the headlight mounting bolts. A reading of battery voltage indicates that either the socket is corroded or defective, or that the bulb is defective. Replace the bulb after inspecting the socket and reconnect the wiring.

8. At taillights, repeat the process except that the black harness wire should be disconnected from the black light module wire and the black probe (–) should be placed on the black wire terminal.

TWO TAILLIGHTS SYSTEMS ARE IN USE

1. Multiple taillights are made up of individual lamp modules. To replace a rear lamp module, gently pry the lamp module from its retaining bezel using a straight blade screwdriver. (Use caution to prevent breakage). Unplug the lamp module from the plug and replace by snapping into the bezel. Replace all wires disconnected in the test.

2. The single taillight is a conventional single bulb, two filament type that may be accessed by removing the two screws in the lens.

NOTE

If any VOM readings indicate a defective wire, it is recommended that the condition of the terminals and wire junction be examined. A defective wire should be replaced with one of the same gauge and color and wired between the correct components and wire tied to the harness bundle. The defective wire should be cut back close to the harness and the ends protected with vinyl electrical tape.

BRAKE LIGHT CIRCUIT (IF EQUIPPED) (FIG. O–1, FIG. O–6, FIG. O–7)

The brake circuit is a 12 volt system and consists of a brake pedal operated micro switch, a fuse block, fuse, brake lights, and a central wiring harness.

When the service brake pedal is depressed, a micro switch is closed which completes the brake light circuit which permits current to flow to the brake lights. The brake lights will operate if the vehicle is in either the *ON* or *OFF* position.

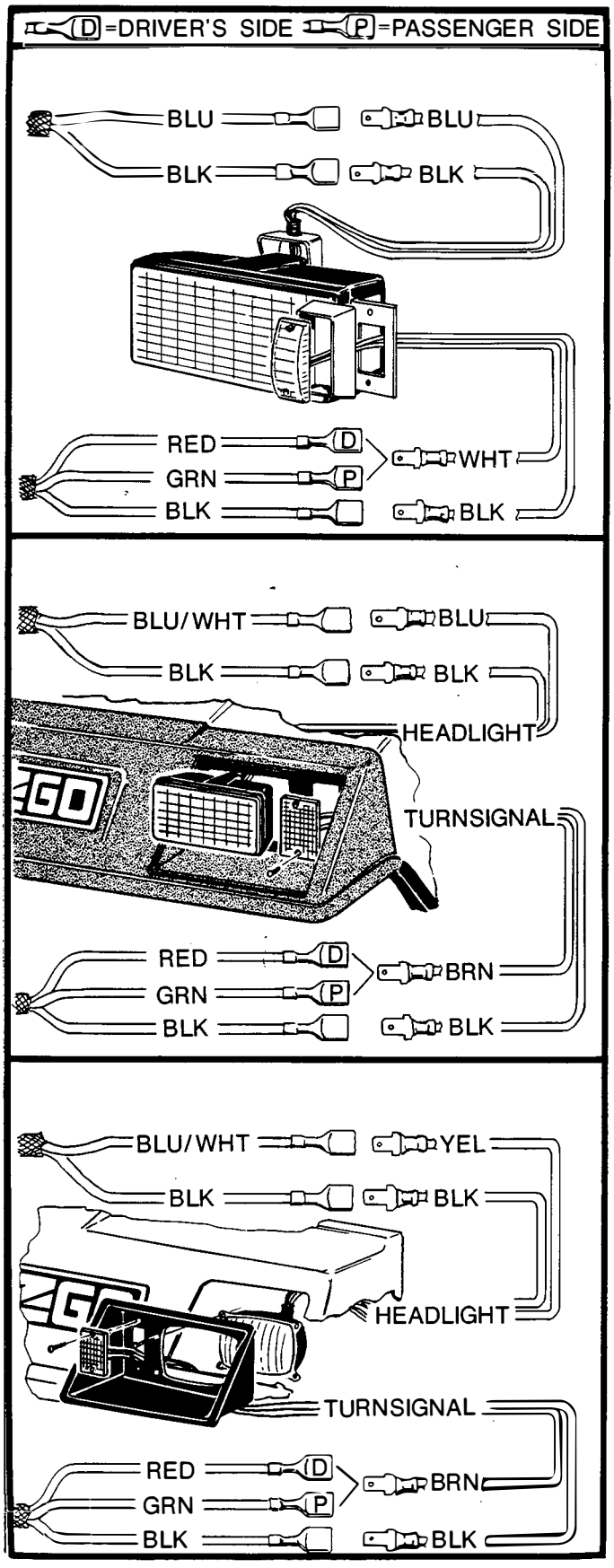


FIG. O-10 HEADLIGHT INSTALLATION WITH TURNSIGNAL SWITCH

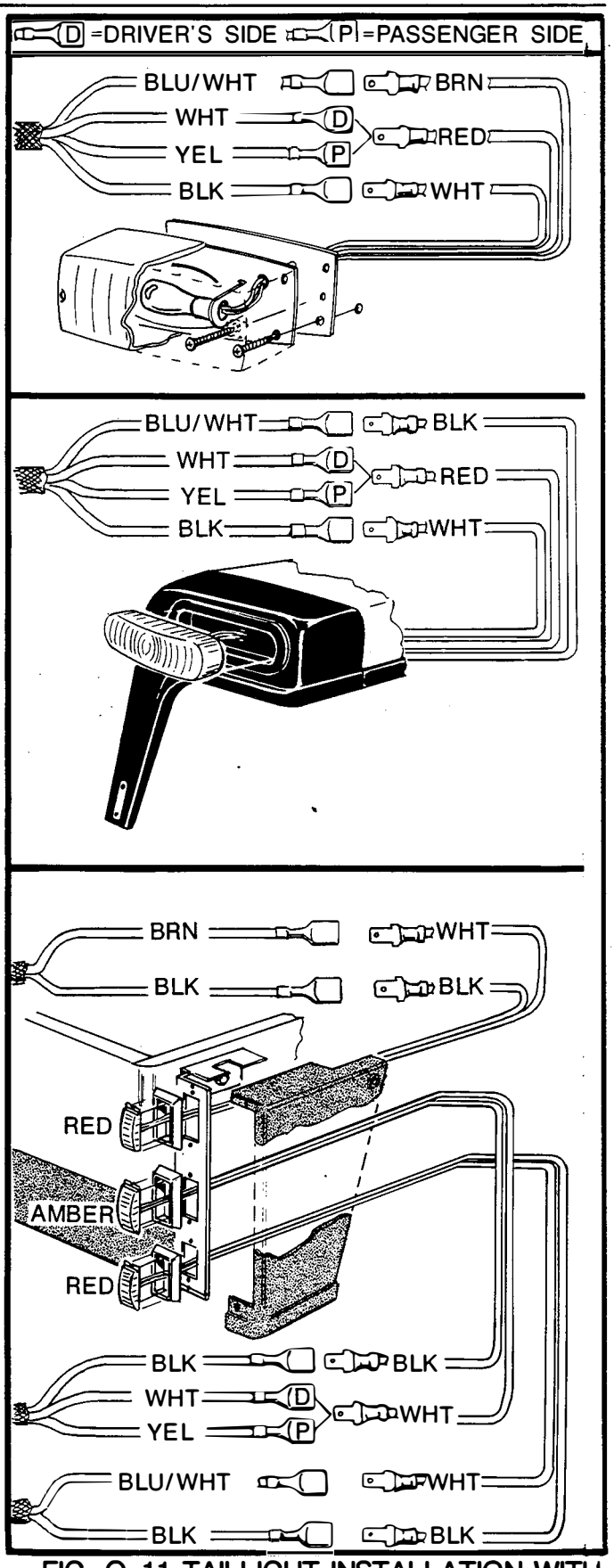


FIG. O-11 TAILLIGHT INSTALLATION WITH TURNSIGNAL SWITCH

Self-drilling and tapping screws can be removed with a suitably sized Phillips screwdriver; however, due to the self-tapping feature this is frequently impractical. Removal of these screws is best accomplished with the use of an impact driver with a suitably sized Phillips bit.

Installation requires an electric or air powered hand drill and a suitably sized Phillips bit. The screw will drill and tap its own hole.

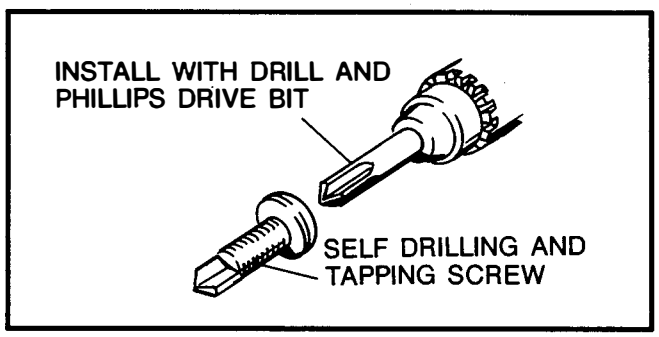


FIG. P-11 SELF-DRILLING AND TAPPING SCREW INSTALLATION

WELD STUDS (FIG. P-12)

Weld studs are attached to many production and service parts that are attached to frame members with lock nuts.

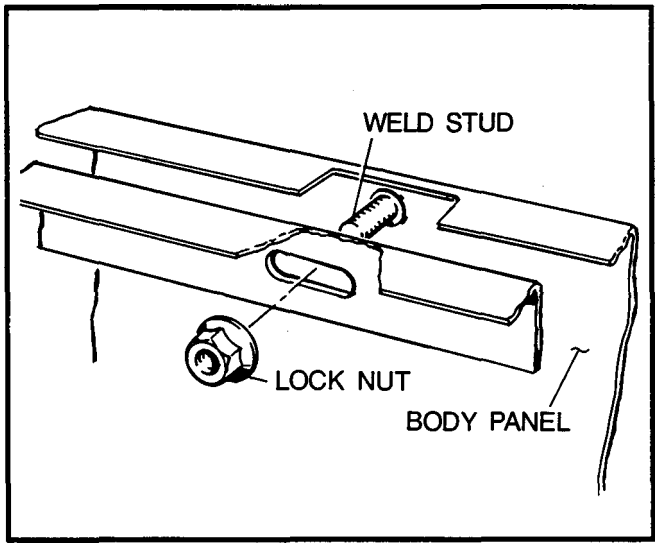


FIG. P-12 WELD STUDS

"U" NUTS (FIG. P-13)

Several types of "U" nuts are used in the vehicle and may be removed from body panels by spreading gently with a flat bladed screwdriver and sliding from the panel. Unless the nut is distorted or otherwise damaged, it may be reused on new panels.

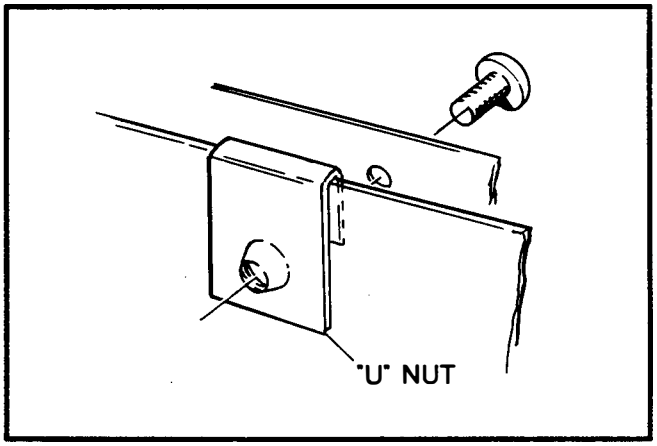


FIG. P-13 REMOVAL OF "U" NUTS

- Poor brush to commutator contact. Repair or replace.
- Short in armature windings. Replace.
- Open circuit in armature winding. Replace.
- Short in field coils. Replace.
- Open circuit in field coils. Replace
- Grounded field coils. Replace
- Grounded terminal. Repair or replace.

VOLTAGE REGULATOR

- Incorrect output. Replace.
- Poor ground connection. Repair.
- Worn points. Replace.
- Dirty points. Replace.
- Open or short circuit. Replace.

SECTION 'D' (ENGINE HARD TO START)

SPARK PLUG

- Remove the spark plug and check the condition and gap. Clean fouled plug or replace with a clean, correctly gapped one.

INTAKE AIR SYSTEM

- Check that the air intake louvers are not deformed or blocked with foreign matter.
- Check for restricted air flow at convoluted hose between the seat wrap air intake and the funnel.
- Check for restricted air flow at convoluted hose between the air cleaner and the carburetor.
- Check condition of filter element. Remove the entire canister as an assembly and disassemble outside of the vehicle. Clean or replace as required.

FUEL SYSTEM

- Fuel pump has a ruptured diaphragm. Replace.
- Loose fuel line clamp permitting air to enter fuel line. Tighten or replace clamp.
- Partially clogged fuel filter(s). Check and replace both primary and secondary filters if required.
- Fuel line restricted. Clean or replace.
- Water and or dirt in the fuel system. Drain tank and fuel lines, replace both fuel filters.

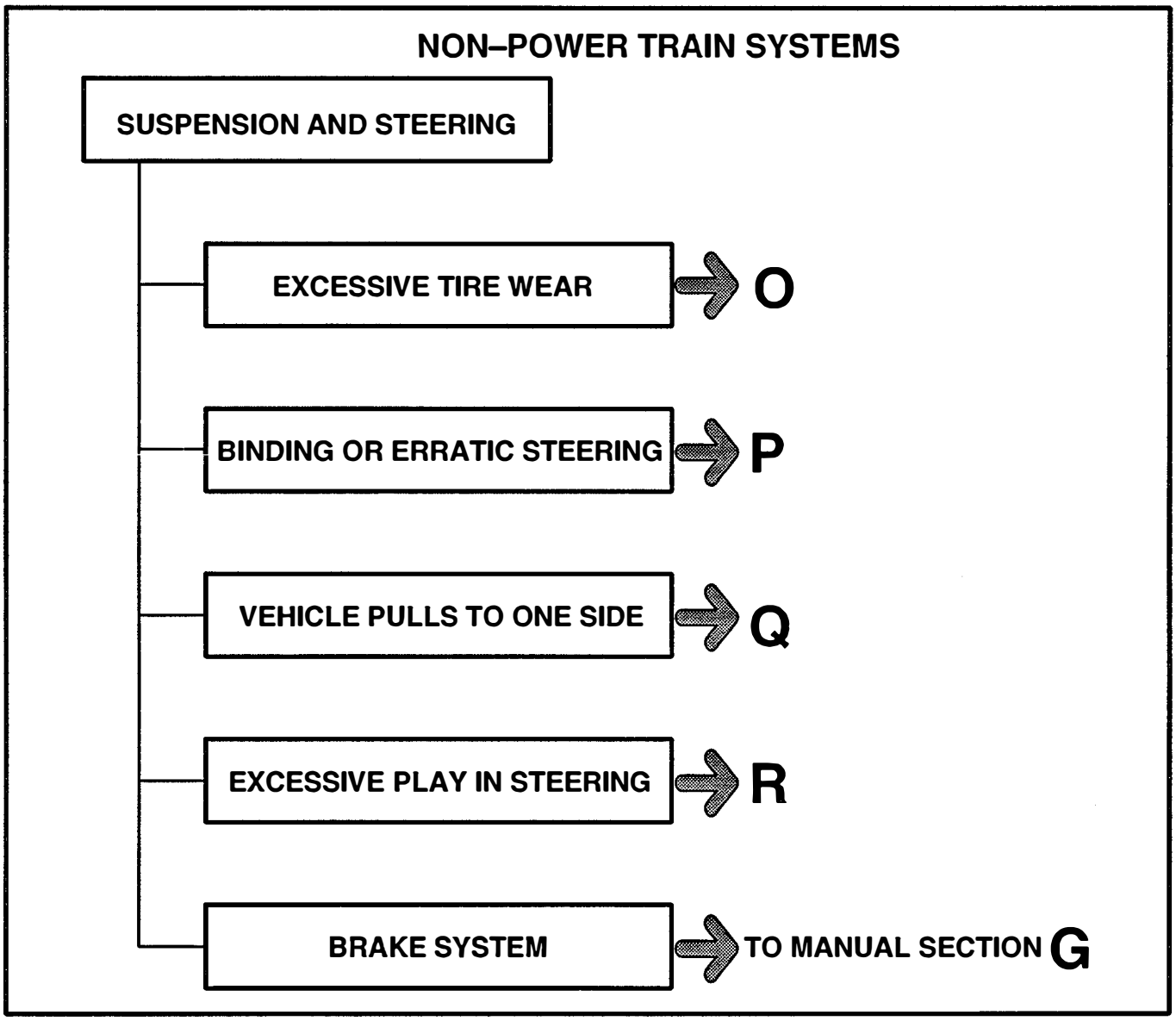
CYLINDER

- Check compression. Check cylinder head tightness and tighten if required. Overhaul engine if compression is less than 100 psi.

CRANKSHAFT SEALS

- Check for leaking seals. Replace.

TIMING



FRONT FORK

- Fork bent. Replace.

SECTION 'Q' (BINDING OR ERRATIC STEERING)

TIRES

- Incorrect tire pressure. Inflate to specified pressure.

WHEEL ALIGNMENT

- Check alignment. Adjust.
- Spring and suspension component deterioration. Repair.

SUSPENSION AND STEERING COMPONENTS

- Dry lubrication joints. Lubricate or replace and lubricate joints.

STEERING BOX

- Damaged steering box components. Repair or replace.

PERSONNEL CARRIER (PC4GX)

WEIGHT (DRY)	835 POUNDS
LENGTH (INCLUDING FOOT REST)	106 INCHES
WIDTH (AT REAR WHEELS)	48 INCHES
TREAD (REAR WHEELS)	39 INCHES
WHEEL BASE	66 INCHES
HEIGHT (AT STEERING WHEEL)	48 5/8 INCHES
HEIGHT (AT FLOOR)	11 INCHES
GROUND CLEARANCE (AT DIFFERENTIAL)	5 INCHES
SEAT HEIGHT	29 INCHES
CLEARANCE CIRCLE	19 FEET 6 INCHES
LOAD CAPACITY (INCLUDING OPERATOR, PASSENGER(S) AND ACCESSORIES	800 POUNDS
INTERSECTING AISLE CLEARANCE	75 INCHES
BRAKES	DRUM, MECHANICAL, AUTO-ADJUSTING (REAR WHEELS)
PARKING (HILL) BRAKE	MECHANICAL, AUTOMATIC RELEASE, SELF-COMPENSATING
TIRES	18.5 X 8.50 X 8, 6 PLY RATED
TIRE PRESSURE	12-18 PSI
BATTERY	12V GROUP 26 - MAINTENANCE FREE
ELECTRICAL SYSTEM	12V NEGATIVE GROUND
ENGINE	244 C.C. AIR COOLED, SOLID STATE IGNITION, FIXED JET CARBURETION
STARTER/GENERATOR	EXTERNAL, BELT DRIVE, 55 AMP CAPACITY
FUEL TANK CAPACITY	6 U.S. GALLONS (22.7 LITERS)
FUEL	87 TO 100 OCTANE
DIFFERENTIAL LUBRICATION	SAE-30, 8-10 OZ.
OIL INJECTION	TANK CAPACITY - 1.5 QUARTS (1.7 LITERS)
OIL	E-Z-GO 2-CYCLE OIL
SPARK PLUG TYPE	NGK - BP5HS OR CHAMPION L92-YC
SPARK PLUG GAP	.028-.030 INCHES