



# 1986 Suzuki Technical Seminar



GV1400GD  
Calvacade LX

99923-01861





## 1986 TABLE OF CONTENTS

Topic	Page
Special Tools .....	1
Sealants and Bonding Agents.....	1
GV1400GD Photos .....	2
GV1400GD Features .....	4
GV1400GD AND GV1200 Comparison.....	6
GV1400GD Performance Curve.....	10
GV1400GD Engine .....	11
GV1400GD Auto Cruise Control.....	14
GV1400GD Auto Leveling System.....	22
GV1400GD Air Cushion Seat.....	28
GV1400GD Charging System .....	29
GV1400GD Ignition System.....	30
GV1400GD Fuel System.....	31
GV1400GD Service tips.....	32
GV1400GD Comfort Features.....	35
GV1400GD Radio/Tape Player Operation .....	36
GV1400GD Audio System Wiring Schematic	38



## Special Tools

<b>GV1400GD/GT Tools</b>	<b>Part Number</b>
Secondary Bevel Gear Holder	09924-52420
Secondary Bevel Gear Holder (41mm)	09924-52410
Compression Gauge Adaptor	09918-02410
Valve Cutter Pilot (5.0mm)	(Neway N-140-5)
Auto Level Suspension Checker	
Auto Cruise Control Checker	

## Sealants and Bonding Agents

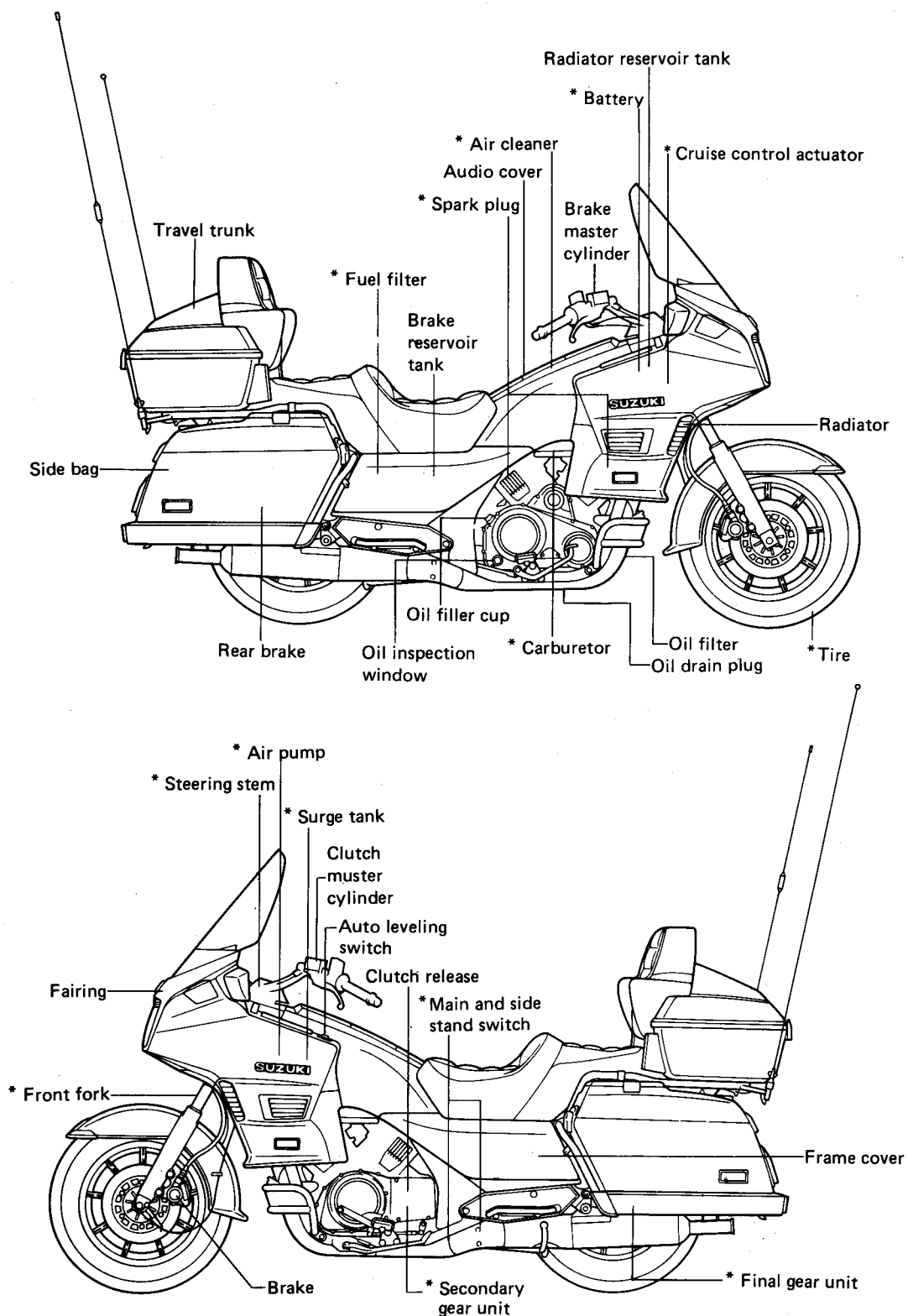
<b>Description</b>	<b>Part Number</b>	<b>Special Notes/ Comments</b>
Thread Lock 1303	99000-32030	High Torque
Thread Lock 1333B	99000-32020	Medium Torque (Thin Visc)
Thread Lock 1360	99000-32130	Medium Torque (High Temp)
Thread Lock 1342	99000-32050	Light Torque
Thread Lock Cement	99000-32040	Light Torque
Case Sealant 1207B	99104-31140	Black
Cam Cover Sealant 1216	99104-31160	Grey (High Press.)



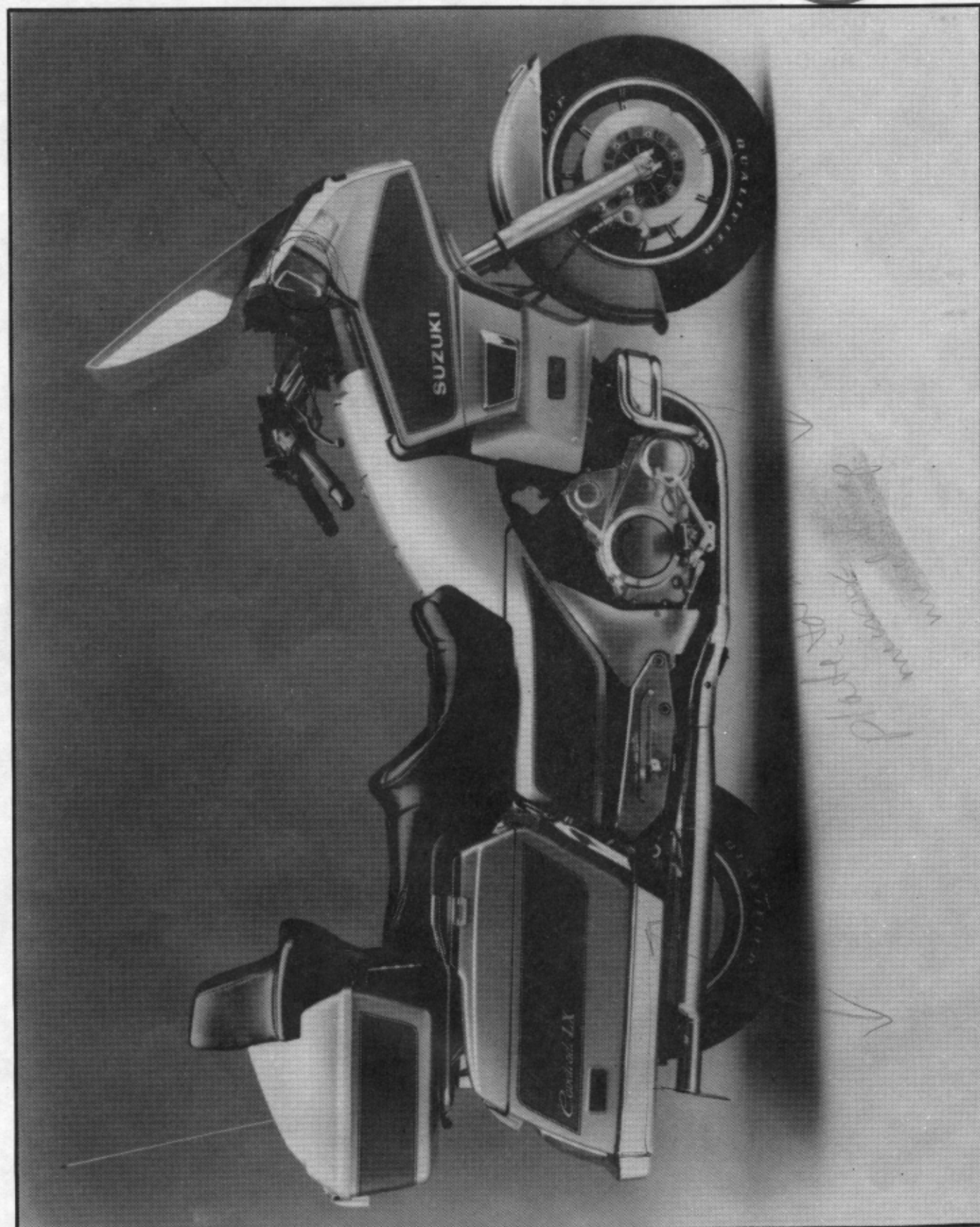
# Suzuki Technical Seminar

GV1400

## PERIODIC MAINTENANCE ITEM (\*)



# Suzuki Technical Seminar



U.S. SUZUKI MOTOR CORPORATION



## GV1400 FEATURES

- The largest displacement in the class, powerful, reliable liquid-cooled, four-stroke, 1,360 cc, 82° V-four, DOHC, 16-valve engine with Twin Swirl Combustion Chambers (TSCC) produces strong torque and power at all rev ranges.
- 180° crankshaft design provides smooth operation.
- Four, 33mm constant velocity carburetors provide quick response.
- Quiet, large capacity mufflers.
- Hydraulic valve adjusters require no adjustment.
- Low-maintenance shaft drive with built-in damper for smooth, lash-free performance.
- Low seat height. (29.9 inches)
- Large, 6.1 gallon fuel tank for long touring range.
- Orthopedically shaped rider's and co-rider's seats feature high quality seat cover material and comfortable foam cushions.
- Suzuki's exclusive, pneumatically inflatable "Suzuki Air Seat and Backrest" for co-rider.
- 4-way adjustable backrest for co-rider.
- Comfortable co-rider armrests.
- Pneumatically controlled "Auto-leveling System" provides automatic adjustment of vehicle's level to meet rider's and co-rider's weight and loads with the push of a button.
- Computerized cruise control features resume function, motorized actuator for precise speed control, five independent cancel commands and the ability to accelerate and decelerate using the system's control functions
- High quality audio system features the following:
  - FM/AM stereo
  - Auto reverse stereo cassette deck
  - Program change
  - Metal tape compatibility
  - Digital audio displays
  - Intercom function (head set and junction wires optional)
  - CB compatability (optional)
  - Automatic volume control
  - Mute system
  - Handlebar mounted controls: station scan selector and muting (optional CB channel selector and CB talk)
  - Separate co-rider controls: AM/FM stereo tuning and volume (optional CB channel selector and CB talk)
- Highly efficient alternator produces 500 watts.
- Travel trunk and saddlebags feature the largest combined storage capacity of any production touring machine.
- Convenient soft luggage liners for travel trunk and saddlebags.
- Easily accessible saddlebag top storage compartment.
- Handy light and vanity mirror in travel trunk.
- Handy storage in fairing.



- Hydraulic clutch eliminates adjustment maintenance.
- Maintenance free transistorized ignition.
- Silent operation cam chains with automatic tensioners never need adjustment.
- Wind-tunnel designed fairing and windshield for maximum all-weather comfort.
- Adjustable windshield height.
- Fairing design allows rider to use engine heat (warm air) in cold weather.
- Spacious rider legroom.
- Comfortable variable-position footboards for co-rider.
- Adjustable handlebar mount.
- 3-way adjustable rider's footpeg mount.
- Special high quality tool kit.
- Triple hydraulic disc brakes.
- Engine guards.
- Wide-tread, tubeless touring tires.
- Mag type wheels.
- Long handlebar grips.
- 41mm diameter front forks with thick outer tubes and rigid fork brace.
- Deep-contoured front fender.
- Large, bright, rectangular headlight.
- Large, dual taillights.
- Convenient spin-on type oil filter.
- Check panel displays state of headlight, taillights, battery fluid and side stand.
- Self-cancelling turn signals.
- Electric tachometer.
- Fuel gauge.
- Water temperature gauge.
- Oil pressure warning light.
- Digital clock.
- Accessory terminal.
- Headlight adjustment knob.
- Gear position indicator.
- Dual horns.

## NOTES

---

---

---

---

---

---

---

---



## GV1400 AND GV1200 COMPARISON

The GV1400 and GV1200 engines are similar in design and share the benefits of a liquid cooled, V-4 configuration. Those familiar with the GV1200 Madura, recognize the excellent torque and smooth power it's V-4 engine produces. The GV1400 engine delivers even more performance because of additional features that make it an excellent engine for a touring bike.

A 180° crankshaft and different firing order help produce smoother power and further reduce vibration. Cam timing has been changed and smaller carburetors installed to further broaden the power band and provide even more torque. In addition, a 5 speed transmission is used to take advantage of the engines high torque.

The charging system now utilizes a "Delta" wound stator and larger diameter rotor. The large diameter rotor also helps increase torque and smoothness of the engine. This system produces nearly 500 watts of power and will provide ample reserve power for any additional accessories an owner might wish to add to his motorcycle.

These and other features are covered in more detail elsewhere in this manual.

## NOTES

---

---

---

---

---

---

---

---

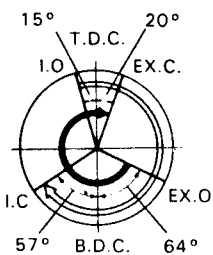
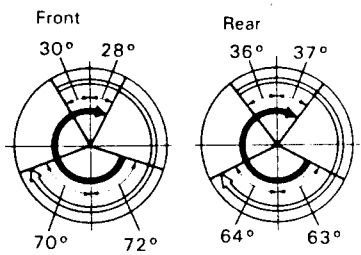
---

---





## COMPARISON BETWEEN GV1400 AND GV1200

	GV1400	GV1200
CAMSHAFT IDENTIFICATION	J, K, L, M	A, B, C, D
VALVE GUIDE	5.0mm	5.5mm
VALVE TIMING		
VALVE SPRING	SINGLE (White paint)	DOUBLE (Yellow paint)
VALVE LIFT	IN. 7.0 mm EX. 6.0 mm	7.75 mm
PISTON DISPLACEMENT	1,360 cc	1,165 cc
BORE X STROKE	81.0 x 66.0 mm	78.0 x 61.0 mm
COMPRESSION RATIO	9.5: 1	10.5 : 1
CRANKSHAFT	180°	360°
FIRING ORDER	1.3.2.4	1.4.3.2



# Suzuki Technical Seminar

CLUTCH	Cork	11 pcs	10 pcs
	Steel	10 pcs	9 pcs
TRANSMISSION			
	Primary	1.756 (72/41)	1.756 (72/41)
	Secondary	1.000 (16/16)	1.066 (16/15)
	Final	2.666 (32/12)	2.909 (32/11)
	Low	2.750 (33/12)	2.500 (35/14)
	2nd	1.684 (32/19)	1.777 (32/18)
	3rd	1.250 (25/20)	1.380 (29/21)
	4th	1.000 (25/25)	1.125 (27/24)
	5th	0.851 (23/27)	0.923 (24/26)
	6th	_____	0.750 (21/28)
CARBURETOR		BDS33SS	BDS36SS
SPARK PLUG		X22EPR-G	D8EA or X24ES-U
IGNITION TIMING		7° B.T.D.C./1500rpm 35° B.T.D.C./3000rpm	10° B.T.D.C./1500rpm 35° B.T.D.C./3800rpm
GENERATOR		500 W/5,000rpm	350 W/5,000rpm
ENGINE OIL		3,200 ml	3,200 ml
WATER PUMP		3,3 <i>qTs</i>	
	Capacity	110L/min. at 5,000rpm	110L/min. at 5,000rpm
	Reduction ratio	2.403 (74/39x38/30)	2.005 (74/39x37/35)

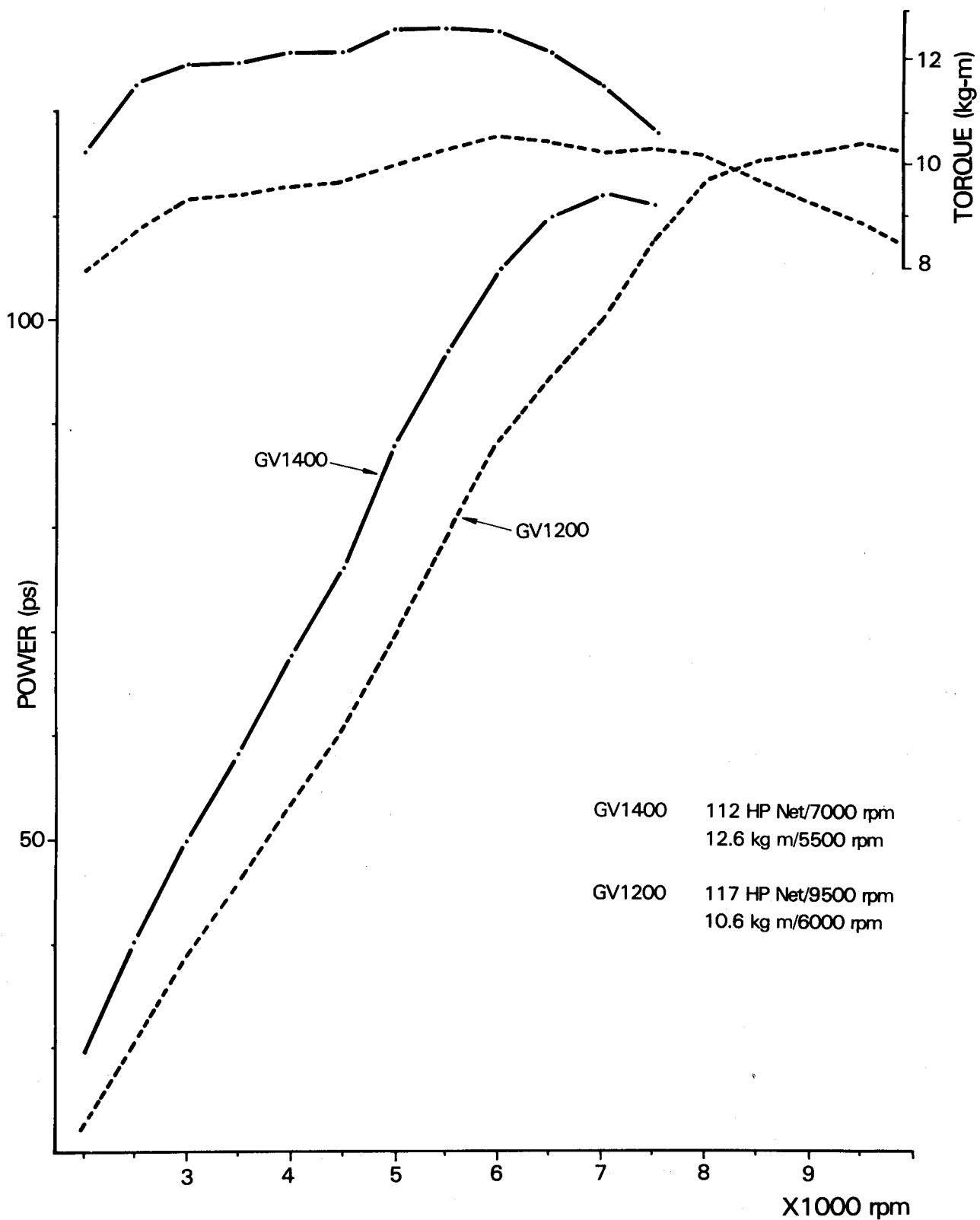


## CHASSIS

		GV1400	GV1200
Length		2,575mm	2,225mm
Width		960mm	870mm
Height		1,565mm	1,215mm
Wheel Base		1,675mm	1,575mm
Ground Clearance		140mm	145mm
Seat Height		780mm	735mm
Dry Mass		342 kg (GD)	245 kg
		331 kg (GT)	540 lbs.
		754 lbs. (GD)	
		730 lbs. (GT)	
Tire <i>32 Front</i> <i>40 Rear</i>	Front	130/90-16 67H	110/80-19 59H
	Rear	150/90-15 74H tubeless	140/80-16 68H with tube
Front Fork			
	Stroke	150mm	160mm
Rear Wheel Travel		100mm	115mm
Battery		12V 20Ah/10HR	12V 14Ah/10HR
Fuel Tank		23 Ltr.	13 Ltr.
		6.1 Gal.	3.4 Gal.
Rear Shock Absorber		Pneumatic	Full floater
		auto leveling system	



## GV1400 PERFORMANCE CURVE





## GV1400 ENGINE

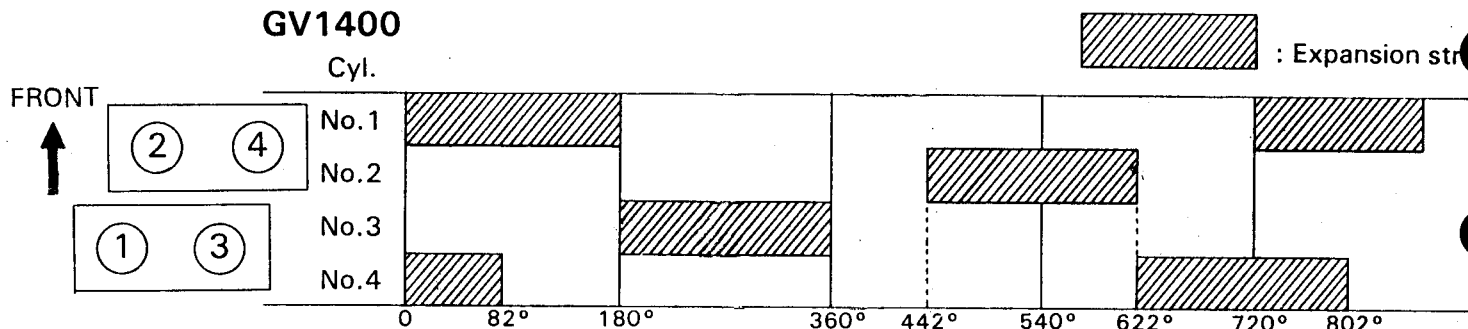
The GV1400 engine is very similar in design to the GV1200 Madura which was introduced last year. There are however, a number of differences that go far beyond the increase in displacement.

The GV1400 engine uses a 180° crankshaft (#1 and #2 connecting rod journals are offset 180° from #3 and #4) to help provide the smooth, high torque power, required in a touring machine. The compression ratio, camshafts, and exhaust system have also been specifically designed for this motorcycle to ensure its optimum performance.

Due to the engines extremely high torque, a 5 speed transmission is used to transfer the engines power to the driveshaft. As with the GV1200 engine, hydraulic valve adjusters, automatic camchain adjusters, hydraulic clutch release, shaftdrive, and liquid cooling all help to provide the highest reliability, with a minimum of maintenance.

### Firing Order:

The cylinder numbering system starts with the left rear cylinder as shown below. The actual firing order of the GV1400 engine is 1-3-2-4. After the #1 cylinder fires the #3 cylinder will fire 180° later. Then there will be 262° of crankshaft rotation before the #2 cylinder is in position to fire. Once the #2 cylinder has fired, the crankshaft will rotate 180° and the #4 cylinder will fire. At this point the crankshaft will rotate 98° and the whole cycle will begin again with the power stroke of the #1 cylinder. The combination of a 180° crankshaft and this 1-3-2-4 firing order, creates an 82° pause between the power strokes of cylinders #3 and #2, and an 82° overlap of cylinders #4 and #1.





## **Secondary Drive System:**

The secondary and final drive systems are similar to those used in the GV1200, but with one difference. The cush drive system has been moved from the propeller shaft to the secondary drive unit. The secondary unit is still bolted externally to the left rear side of the engine.

## **Cooling System:**

An aluminum tube-and-fin type radiator dissipates the engine heat and is aided by an electric fan when the engine is at high operating temperatures. There are two coolant reservoirs. The main reservoir is located directly behind the radiator and above the front cylinder bank. It is connected by a hose to a smaller reservoir located in the battery compartment of the fairing. Coolant is added through this small reservoir. A low level indicator is located on the right rear corner of the large reservoir. This level line can be seen by looking behind the lower right hand portion of the fairing with a flashlight.

## **Coolant Selection:**

It is very important to use only distilled water and an approved, glycol based coolant. We strongly recommend that Suzuki's "Golden Cruiser" Anti-Freeze/Summer Coolant be used to protect the engine. This coolant has been especially formulated for use in Suzuki aluminum engines and ensures the maximum amount of protection.

The 50-50 mixture of distilled water and coolant is necessary to ensure adequate heat transfer to the radiator and to prevent the build up of deposits and to minimize the effect of electrolysis within the engine.

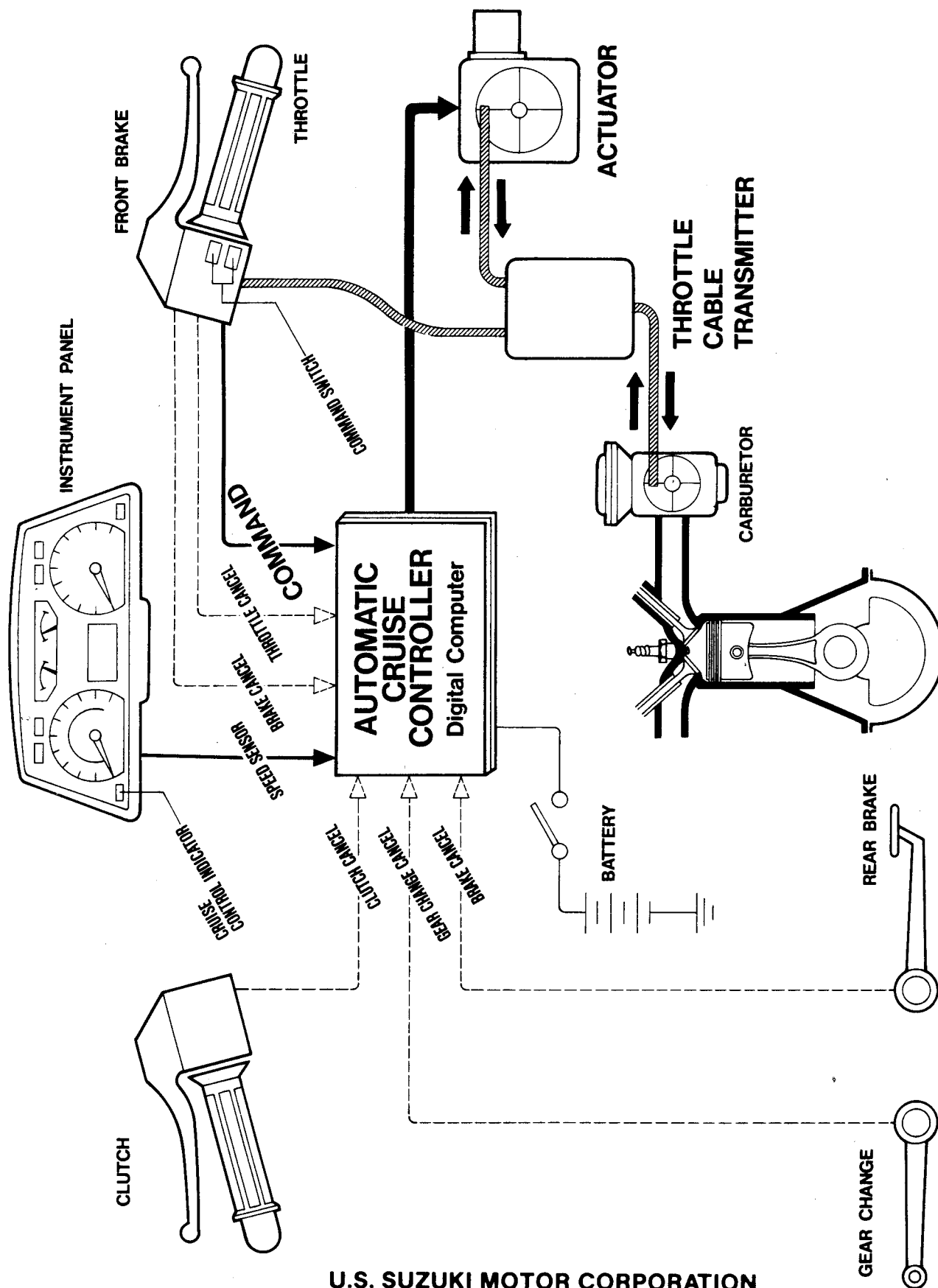
Suzuki Golden Cruiser Anti-Freeze/Summer Coolant PN:99000-24120

## **Cam Timing:**

A major factor in the GV1400's wide powerband is the cam timing. The engine has been designed for low RPM operation and high torque output. The cams help provide this low RPM power by using less lift and duration time than those of the GV1200. The exhaust system and tune of the engine allow the same cam timing for both the front and rear cylinders. Each camshaft is identified by a letter stamped on the outer righthand side. When the camshafts are properly installed in the engine, the identification codes will read J,K,L,M from front to rear.



## AUTO CRUISE CONTROL SYSTEM



U.S. SUZUKI MOTOR CORPORATION



## AUTO CRUISE CONTROL

To help eliminate the fatigue of long distance riding, the GV1400GD is equipped with a cruise control. When the cruise control is in operation, it will maintain the speed selected by the rider to within 1 mph of the selected speed, thereby eliminating the need for the rider to hold constant pressure on the throttle grip.

### Operation:

To operate the cruise control system, the motorcycle must be traveling between 35 to 85 MPH and in 5th gear. If the motorcycle is being operated out of that speed range, the auto cruise control system will not engage, or it will automatically disengage.

To engage the cruise control, turn the main power switch on, (located on the right-hand control console), and bring the motorcycle to the desired speed. Next, depress the "set" button just below the cruise control power switch and the cruise control system will engage, thus holding the desired speed. When the cruise control is in operation, the light on the left side of the instrument panel will light up to show engagement.

### Resume Function:

If the cruise control has been disengaged by one of the control switch's, or for example, the brake's were applied, but the main switch and the ignition switch have remained on, the computer will maintain the set speed in its memory.

At this point, the rider has complete control of the throttle. When the rider is again ready to engage the cruise control, all he has to do is to bring the motorcycle back up to at least 35 MPH in 5th gear, and press the resume button. The computer will then pick-up control of the throttle and bring the vehicle back up to the previously set speed.

### Speed Increase:

To increase the speed already set into the cruise control computer, the "resume" button should be depressed and held down until the desired speed is reached. During this phase of operation, the throttle will automatically be opened until the "resume" button is released. When the button is released, the speed will then be maintained at the new higher level. During the speed increase operation, the cruise control light on the instrument panel will flash at approximately 120 times per minute. The speed can also be increased by manually overriding the cruise control with the throttle, and then depressing the set button. The computer will then have only the new "set" speed in its memory.





## **Speed Decrease:**

To decrease speed while using the cruise control, depress the "set" button and the speed will decrease as long as the button is held down. Then, when the new lower speed is reached, release the set button, and the new speed will be held constant. During the speed decrease operation, the cruise control light will flash at approximately 60 times per minute.

## **Cruise Control Disengagement:**

The cruise control can be disengaged in a number of ways. The most common method is by operating either the front or rear brake levers, which will immediately disengage the cruise control system. Other ways to cancel the cruise control are as follows:

- \* Turn cruise control switch off
- \* Turn ignition switch off
- \* Gear position changed from 5th (top gear)
- \* Throttle grip turned to the fully closed position
- \* The vehicle speed drops 9.4 MPH or more below the set (memorized) speed
- \* The vehicle speed drops below 32.5 MPH
- \* The clutch lever is squeezed fully closed.

NOTE: The system will also disengage if the fuse for the brake lamp is blown.

If the ignition switch, or the cruise control power switch is turned off, the memorized speed in the computer will be erased. To reengage the cruise control, the operation sequence must be repeated.

## **System Components and Locations:**

The cruise control system consists of four major sections; switches, speed sensor, computer, and the actuator. There is also a large junction box where the throttle cable from the twist grip is inter-connected with the throttle cable from the actuator. From the actuator, a single cable goes to the carburetors.



## Switches:

As previously noted, the various switches must be in the proper position, or the computer will not engage the actuator to provide auto cruise control. Listed below are the switches which must be in the closed, or on position for the system to function.

- \* Ignition switch - on
- \* Engine kill switch - on
- \* Cruise control power switch - on
- \* Gear position switch - on (5th gear)
- \* Speed sensor switch - on (above 35 MPH)

In addition, the following switches must be in the open, or off position for the system to operate.

- \* Front and rear brake light switch - off
- \* Throttle grip switch - off (throttle not completely closed)
- \* Clutch switch - off

Note: The throttle switch is located in the throttle grip assembly and is activated when the throttle is twisted to the fully closed position.

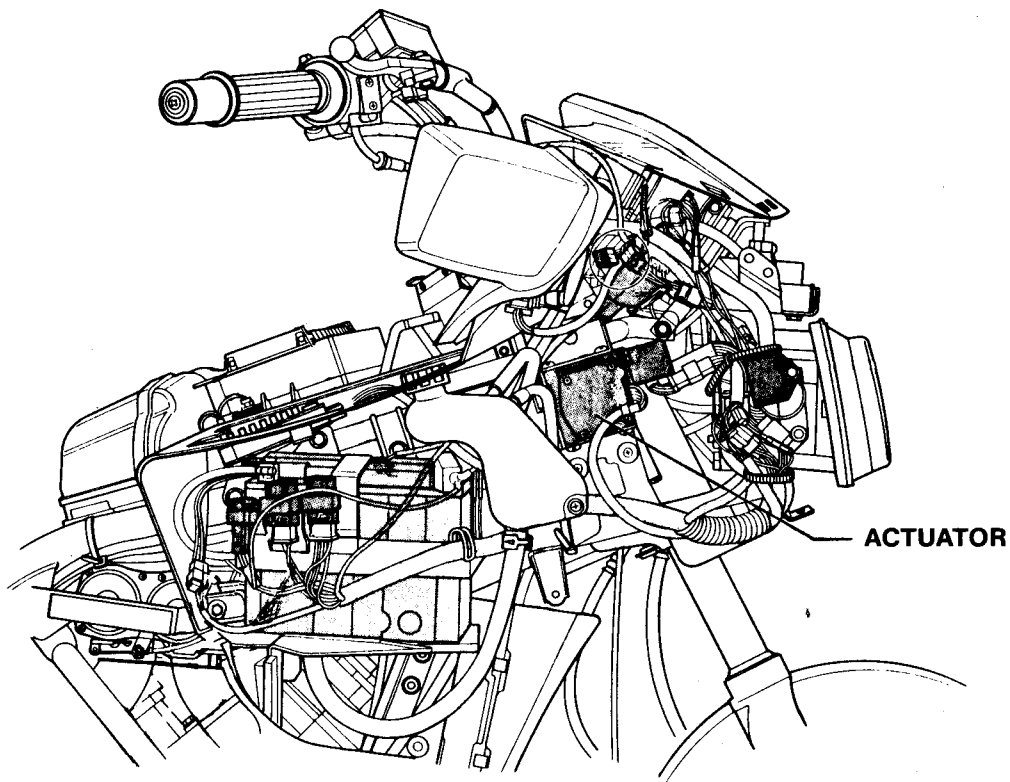
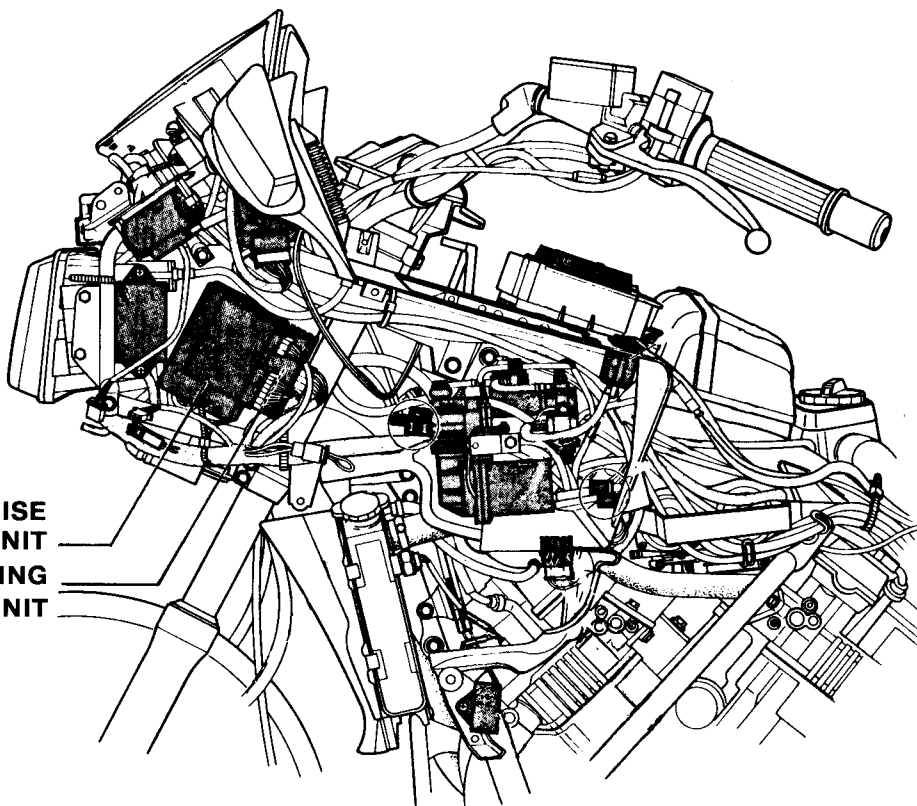
## Speed Sensor:

The speed sensor is a very small magnetically controlled switch located in the speedometer unit. The sensor is comprised of a reed type switch which is pulled closed as the magnets turn past the reed. When the reed closes, the circuit is completed and an impulse is sent back to the computer. In actual operation, there are four magnets that rotate when the speedometer cable is turning. This provides four impulses per revolution to allow the computer to precisely monitor the motorcycle's speed. The current flowing in this circuit is very small (milliamp's) and is used only as a sensing device for the computer.



## AUTO CRUISE CONTROL

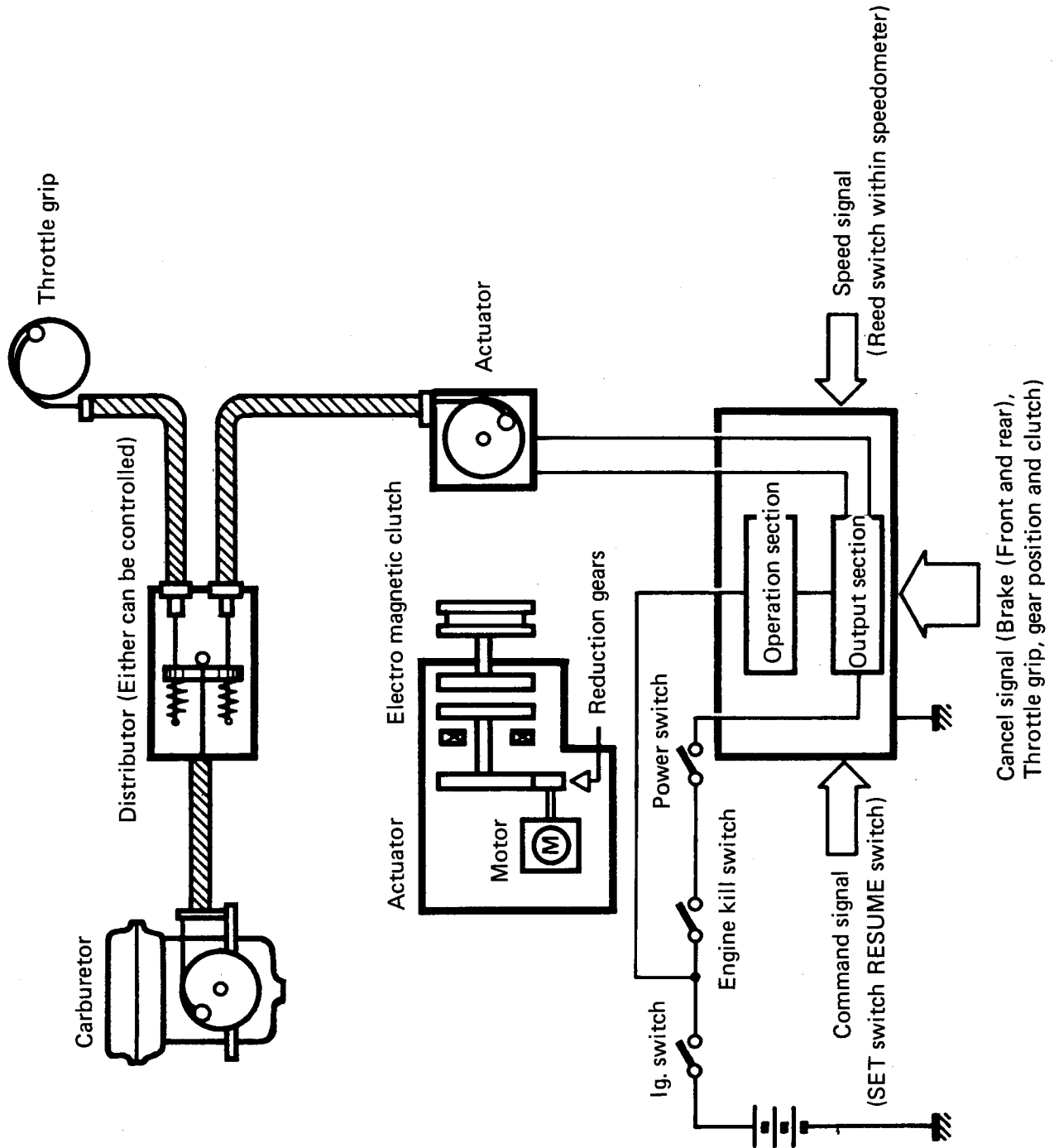
AUTO CRUISE  
CONTROL UNIT  
AUTO LEVELING  
CONTROL UNIT







## GV1400GD AUTO CRUISE CONTROL SYSTEM







## GV1400 AUTO LEVELING SYSTEM





## AUTO LEVELING SYSTEM

The auto leveling system developed by Suzuki utilizes an on-board computer and air compressor to ensure proper motorcycle height. Whether loaded to the maximum payload, with the rider and co-rider, or ridden solo, the auto leveling system will increase or decrease the air pressure in the rear shock absorbers to provide a smooth, stable ride.

To activate the auto level system, simply place the motorcycle on level ground with both the sidestand and center stand retracted. With all the payload in place, including the rider, co-rider, and baggage, turn the ignition switch on and place the transmission in neutral. Next, push the auto level control switch located on the left side of the fairing. When the system is activated, a sensor located on the swingarm will send information to the computer, telling it what position the swingarm and chassis are in. The computer will then calculate this information and if necessary, turn on the compressor to increase the motorcycle's height. If the motorcycle is too high, due to weight being removed after the last adjustment, it will open an air control valve to allow air to be released from the system, thereby lowering it to the proper level. The system will not operate unless the motorcycle is in neutral, and the center and sidestand are retracted.

## AUTO LEVEL COMPONENT LOCATION AND OPERATION

The auto level system is really quite simple and can be broken down into four basic systems.

### **Compressor:**

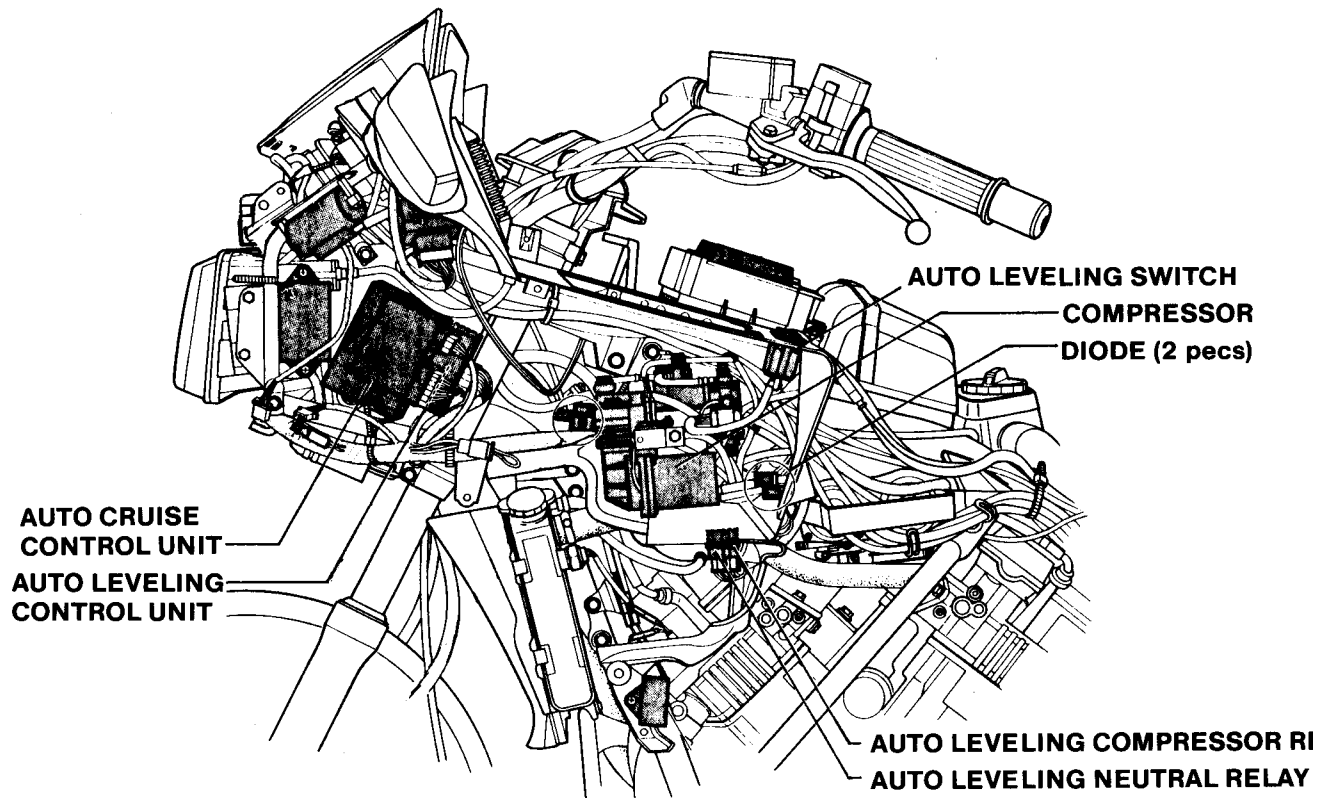
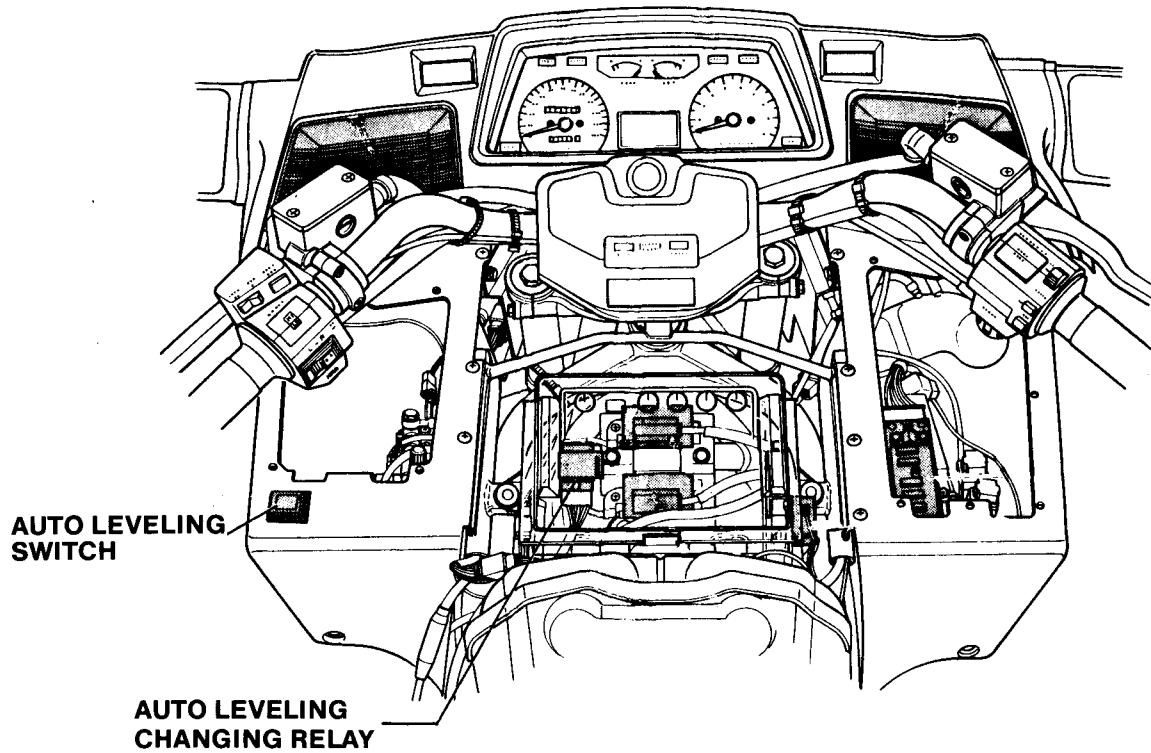
The compressor is located in the left side of the fairing below the storage compartment. Attached to the compressor assembly is the surge tank which serves as a storage tank. Also attached to the compressor assembly are the solenoid valves which control the air movement to and from the rear shock absorbers and the air cushion seat.

The compressor is a piston type unit and is assembled with dry lubricants and requires only periodic filter service. If, however, the compressor ever needs to be replaced, it can be replaced separately.





## AUTO LEVELING SYSTEM





## **Surge Tank:**

The surge tank is connected directly to the compressor pressure outlet. To help ensure that excessive water does not build up in the system, a spring loaded drain valve is located in the bottom of the tank. This valve also serves as the pressure relief valve to prevent system pressure from exceeding 5.5-7.0kg/cm<sup>2</sup> (78-100 PSI).

The surge tank should be drained once each month by operating the pressure relief/drain valve which is accessible by removing the left lower fairing section.

## **Sensor:**

The sensor is attached to the motorcycle in two locations. One is at the right rear section of the frame, and the other end is attached to the swingarm. As the swingarm moves up or down, the sensor provides input to the computer indicating the angle of the swingarm, in relation to the frame. Inside the sensor is an LED and a photo cell. The inner shaft of the sensor has a slot in it to allow the light to pass through the shaft over a specified range. When light passes through the sensor, the compressor will operate since the LED and photo cell have made contact. Once the shaft moves to a point where the light is blocked by the solid portion of the shaft, the pump will turn off.

If the motorcycle height is above normal, because the co-rider and baggage were removed from the motorcycle, the sensor would relay this information to the computer, and the computer would send a signal to the "air bleed" solenoid to release air from the system, and lower the motorcycle. When the motorcycle reaches the proper height, as measured by the sensor, the air valve will close.

## **Computer:**

The computer is located inside the main fairing on the left side, in front of the compressor unit. The computer, or "control unit" as it is called, receives input from the sensor located on the swingarm, the sidestand switch, main, or centerstand switch, and the neutral switch.

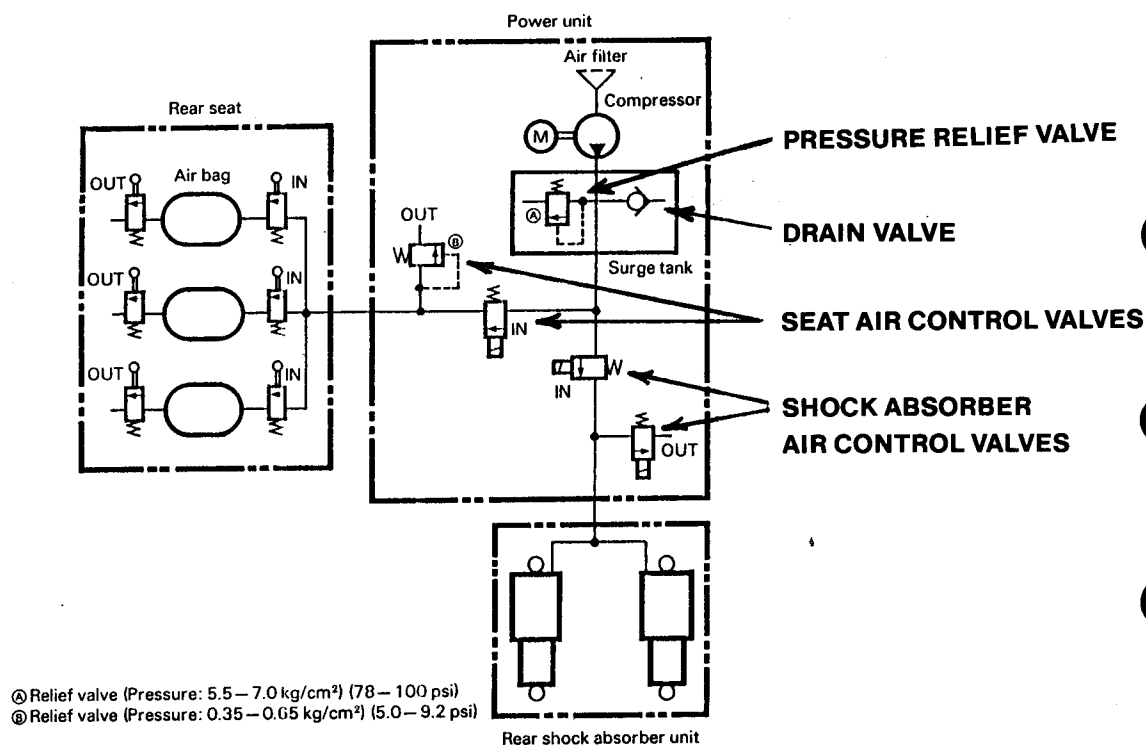
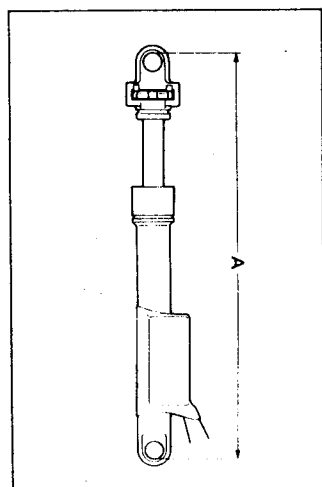


When the main switch is turned to the "acc." or "on" position, power is applied to the control unit. If the motorcycle is sitting on its wheels with the sidestand and center stand retracted, and the transmission is in the neutral position, the adjust switch on the left side of the fairing will illuminate. By pressing the adjust switch, the control unit will then tell the pump to turn on, or tell the relief valve to open if a suspension adjustment is required. If an adjustment is required, the control unit will activate that system accordingly and the adjust switch will remain illuminated until the adjustment is completed.

If no adjustment is required, the adjust switch will go out after it is pressed, indicating that the system is already properly adjusted.

NOTE: When the suspension is being adjusted upwards, the sensor and control unit will always allow the motorcycle to be raised up beyond the "normal" height. At that point, the compressor will shut off and the control unit will open the air relief valve to allow the motorcycle to "lower", down to the proper height. This allows more positive control of the suspension adjustment.

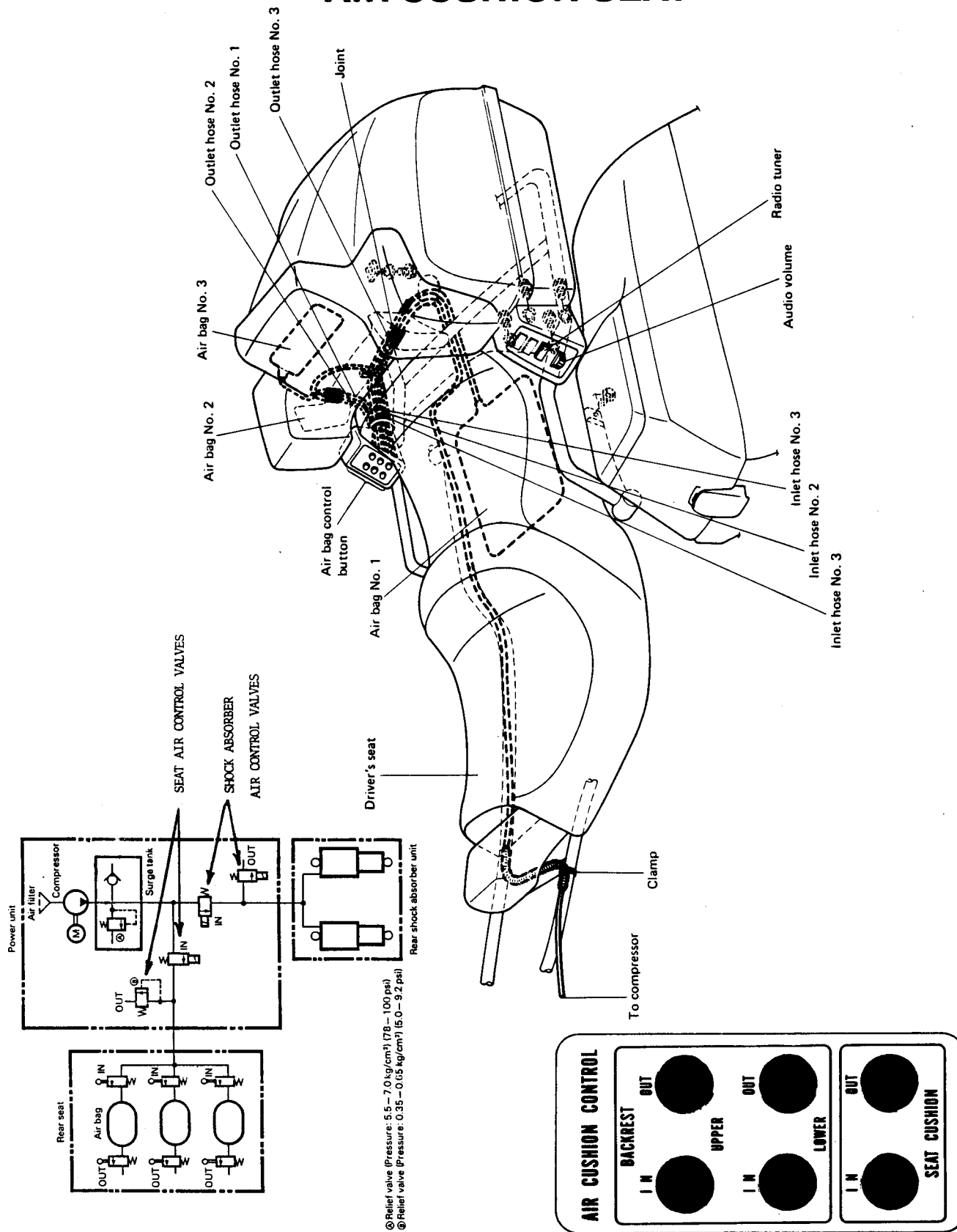
## GV1400GD AUTO LEVELING SYSTEM (AIR FLOW SYSTEM)



[illegible]



## AIR CUSHION SEAT





## AIR CUSHION SEAT

### Air Cushion Seat:

Although not directly interconnected with the auto leveling system, the air cushion seat does share a common air and power supply.

The air cushion seat uses three air bags, two located in the backrest cushion, and one in the seat. Each of the air bags has its own controls so that air can be pumped into or released from an individual bag, without affecting the others.

The controls for operating the seat are located below the right side co-riders armrest. The six buttons control the flow of air into and out of the the three air bags. When one of the air "in" buttons is pressed, the compressor will operate and the inlet air valve for that bag will open, allowing air from the compressor to enter the air bag. To protect the air bags from being over pressurized, a pressure relief valve is located in the system to ensure that pressure does not exceed 0.35-0.65kg/cm<sup>2</sup> (5.0-9.2PSI).

NOTE: If the auto leveling system is being used, the air cushion seat system cannot be operated at the same time.

## NOTES

---

---

---

---

---

---

---

---

---

---

---

---



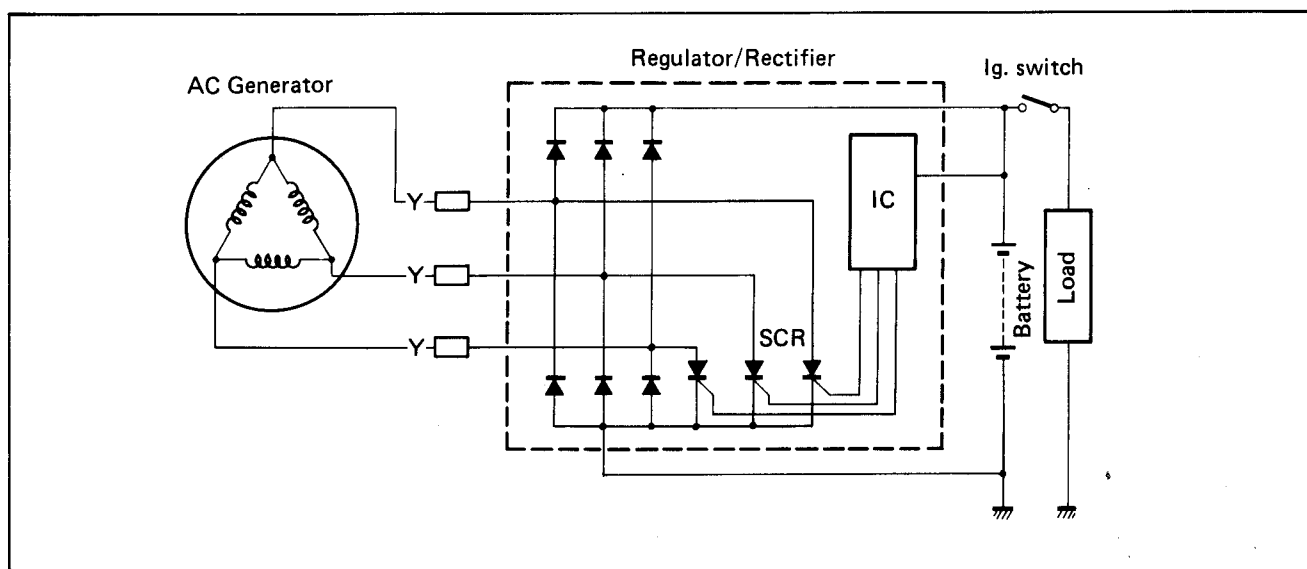
## CHARGING SYSTEM

### Charging System:

A "Delta" wound stator and permanent magnet rotor supply approximately 500 watts of power to the Cavalcade's electrical system. The stator is made of heavier gauge wire than previous Suzuki systems which helps to provide an increase in the flow of electrical current. The large diameter rotor turns at a higher surface speed than a "GS" style system, and produces approximately 90 volts AC @ 5000 RPM under a no load condition. Component testing of the charging system is similar to other Suzuki 3-phase systems and is explained in detail in the Service Manual.

### Battery/Fuse Servicing:

The Cavalcade's 18 amp hour battery, and fuse box are located under the right-hand storage compartment of the fairing. Un-plugging the fuse box and removing the storage tray allows access to the battery and a 30 amp circuit breaker. The main fuse box has an accessory terminal which is protected by a 10 amp fuse. A separate fuse system located next to the battery, handles power supplied to the audio systems.





## IGNITION SYSTEM

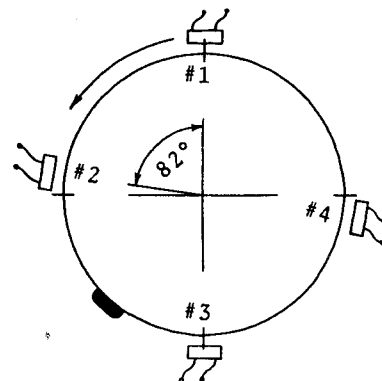
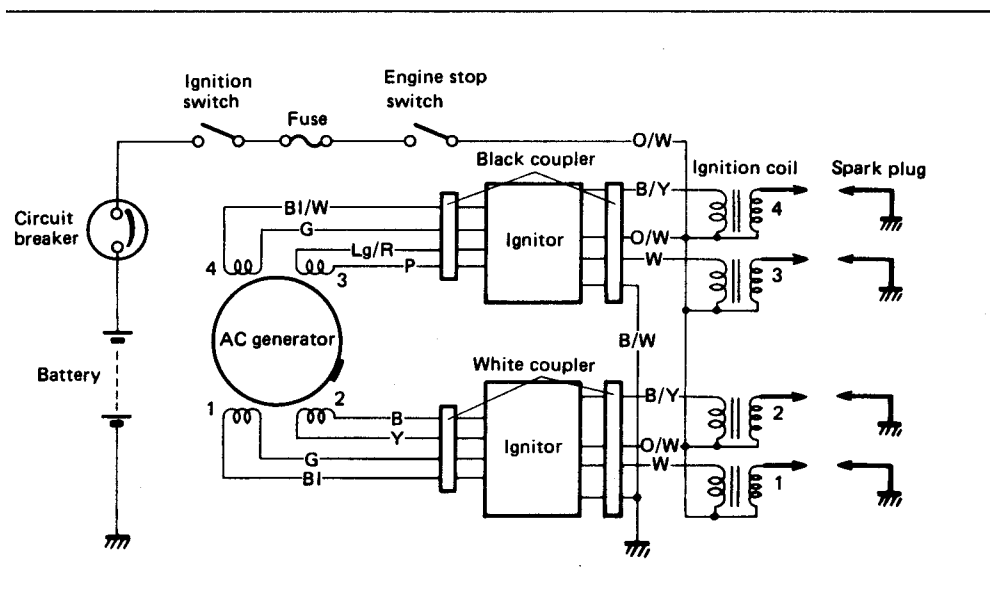
The Cavalcade ignition system differs from other GV models in several areas. Because the engine has been designed with a 180° crankshaft and an 82° V, ignition coils with two high tension leads could not be used. Therefore, two ignitor units and four ignition coils are necessary for this system.

Each ignitor unit has an (over-rev) protection circuit that will cut the ignition primary current to the coils, eliminating the spark to all four cylinders if the engine is revved past 7750 RPM. The ignition system will begin operating in a normal manner as soon as the engine speed has dropped below 7750 RPM.

The alternator rotor is used as the trigger source for the signal generator and is "keyed" to the crankshaft to ensure proper ignition timing. Four signal generator pick-up coils are mounted in the alternator cover. These four coils supply the signal to the ignitor boxes which in turn provide energy to the primary side of the ignition coils.

The mounting position of each pick-up coil corresponds to the degree of crankshaft rotation necessary for the 1-3-2-4 firing order, as shown below. The ignition timing and dwell are controlled by the ignitor units and are not adjustable.

Power to the fuel pump relay is taken directly from the orange white primary lead of the #1 and #2 ignitor box. The electric tachometer receives its power directly from the black yellow primary lead of the #1 and #2 ignitor box.







## FUEL SYSTEM

### Carburetors:

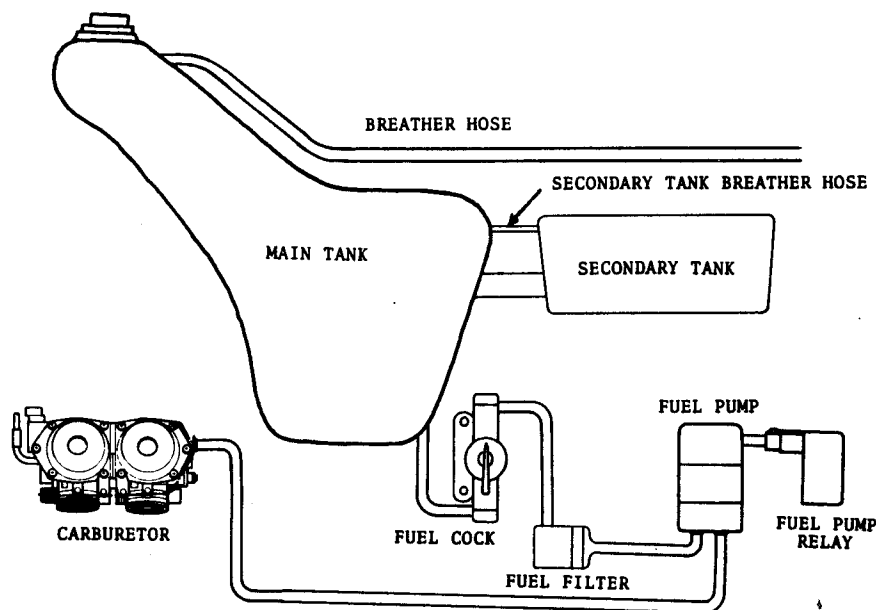
The Cavalcade utilizes four 33mm downdraft carburetors which are equipped with a transient enrichment system. The procedure for carburetor synchronization is the same as for the GV1200 Madura.

### Fuel Tank:

The fuel capacity of the GV1400 is 6.1 gallons, which is divided between two tanks. The main tank is directly below the rider's seat and is connected by a fuel line to a secondary tank which is located behind the left saddlebag. An electric fuel pump is used as the carburetors are mounted higher than the fuel tanks. The fuel pump is located on the right side of the main tank and is powered from the primary side of the #1 and #2 ignitor box.

### Fuel Petcock:

A fuel petcock is located on the left side of the main tank. The fuel flow to the fuel filter and pump can be shut-off with this valve.





## SERVICE TIPS

### Fairing Removal:

The Cavalcade fairing is divided into two upper and two lower sections. These sections must be removed to service the auto level system, cruise control, and ignition system. The removal sequence is as follows:

1. Each lower section has four screws that must be removed. There is one located in each louver (front and rear), one on the bottom, and one through the black storage compartment panel.
2. Remove the fairing storage compartment covers and the screws on the outer edge of each compartment.
3. Each upper section has a screw near the radiator that must be removed, and one behind the bottom edge of each storage compartment panel.
4. Remove the screw behind each mirror. (The mirrors can be pushed back towards the handlebars to reach these screws or the mirrors can be removed from the bike if more room is needed.)
5. Remove the Cavalcade emblem and chrome trim pieces from the windshield and headlight. The four screws beneath the headlight must also be removed.
6. The last screws to be removed are located directly beneath the windshield height adjustment screws.

Remember to disconnect the turnsignals while removing the upper fairing sections.

### NOTE:

When reinstalling a fairing section, it is best to start all the screws first and then tighten them down. This will allow some free play in the section when installing the screws.

To remove the rear wheel assembly, the following sequence should be followed.

1. Remove both saddlebags. They are attached to the rack with four bolts from inside the saddlebags. The taillights plug in from outside the bags.
2. Remove the rear bumper and cross brace.
3. The right muffler mount bolt should be removed and the muffler clamp loosened. Wiggle the muffler and pull it down out of the way of the rear wheel axle.
4. Remove the bolt holding the brake caliper to the rear torque link. Loosen the rear axle nut.
5. Loosen the axle pinch bolt and slide the axle from the wheel. Pull the brake caliper away from the brake rotor. The rear wheel can now be pulled from the final drive unit.

## NOTES

[illegible]



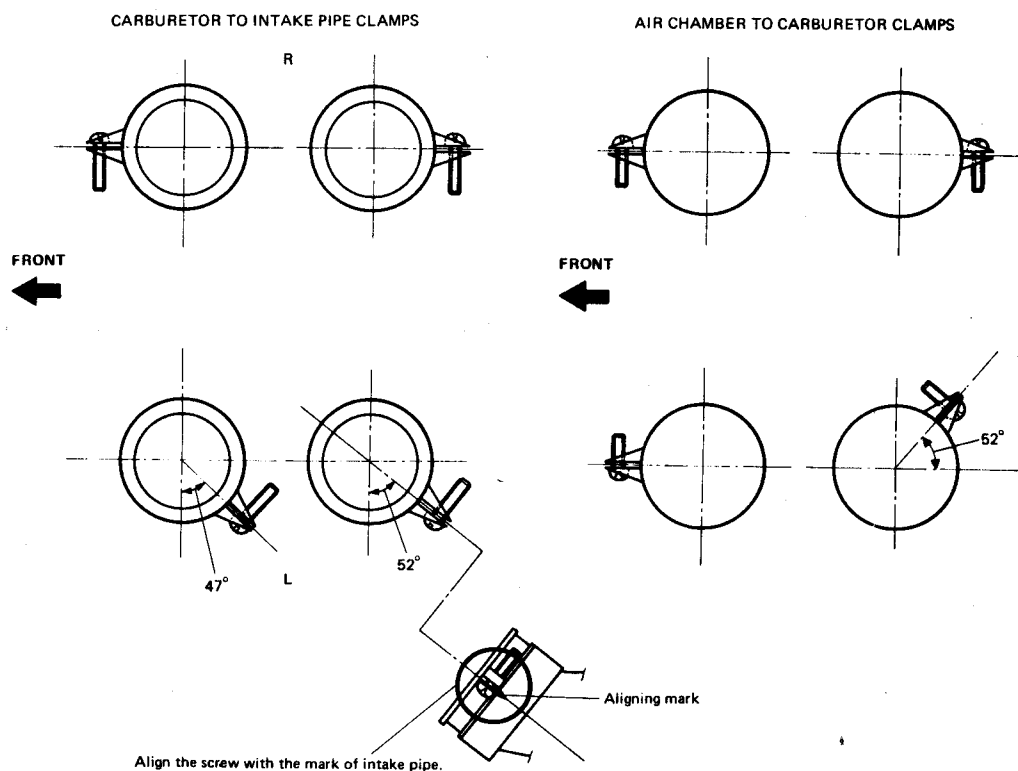
## Air Cleaner Service:

To service the air filter, it is necessary to first remove the side covers, seat, and gas tank cover. The side covers are held in place by a screw located at the bottom of the chrome section, along with tabs that plug into the frame and seat. The seat has a 12mm bolt on each side which can be reached by removing the saddlebag covers. The fuel tank cover is attached with two screws at the rear, two underneath, and one under the handlebar cover. With these screws removed, close the radio lid and pull the cover back and away from the motorcycle. It may be necessary to very gently bend the cover to clear the handlebar cover.

Remove the two wing nuts and air box lid to service the air filter. If for some reason the air box is removed from the carburetors, be sure that the clamps are positioned as shown below, when the box is reinstalled.

### GV1400

#### CARBURETOR CLAMPS





## COMFORT FEATURES

### Windshield:

The windshield has a height adjustment span of 40mm. To adjust the windshield, it is necessary to first remove the chrome trim from the windshield and headlight. With the trim pieces removed, the two remaining screws holding the windshield can be loosened and adjustments made.

### Co-Rider Backrest:

A lever located beneath the air seat control enables the co-rider to move the backrest/travel trunk to four different positions. The travel trunk is attached to a spring loaded sliding rack. Moving the adjustment lever will release the positioning mechanism and the trunk will slide forward under spring tension. To move the trunk back, the co-rider must move the adjustment lever and push back against the backrest.

### Footrests:

Both the rider and co-rider footrests are adjustable. The rider's footrests can be adjusted forward or backward to one of three fixed positions. The co-rider footrests will adjust up and down by compressing the lever located on the left-hand grab rail. The co-rider footrests can also be folded up when not in use.

### Fairing Vents:

The Cavalcade is equipped with four air vents in the fairing to provide ventilation to the rider. Two of the vents are located below the handlebars. Both lower fairing pieces also have a vent behind them, which can be opened to provide the rider with heat during cold weather.

### Handlebar Position:

The handlebars can be moved back towards the rider approximately 1 inch from the standard position. This is done by loosening the handlebar mounts from underneath the fairing and turning them 180°.



## **RADIO/TAPE PLAYER OPERATION**

### **VOL (On/Off Volume)**

The primary volume control for the radio/tape player and power switch for the entire audio system.

### **RADIO/TAPE**

This switches the audio function from radio to tape player.

### **BALANCE**

Balance control for left and right speakers.

### **TONE**

Tone control for the radio and tape player.

### **AVC**

Automatic Volume Control-This system automatically raises the volume level as the motorcycle nears cruising speed, and lowers it as the motorcycle comes to a stop. If the rider does not wish to use the AVC system, he can override the system at any time by using the regular volume control.

### **INTCOM**

Volume control for intercom system.

### **AM/FM**

Radio select switch for AM and FM bands. The LCD display on the right side of the fairing will indicate either AM or FM when using this switch.

### **1-2-3-4-ME**

Four pre-selected stations can be programmed in to the radio for both AM and FM. To pre-set a station, tune in the station you wish to keep and press the ME (memory) button. The letters ME will appear on the LCD display. Next, press the numbered button you wish to program the station to. The ME on the LCD display will disappear and the station will now be set in memory. Repeat this procedure to program stations to the remaining three buttons.

### **TUNE**

Station tuning control for the radio. There is a similar tuning control located on the left handlebar for remote operation.



## **DX/LO**

Distant and local radio station switch. When the switch is in the DX (distant) mode, the tuner will pick up nearly all acceptable radio signals. When switched to LO (local), LO will appear on the LCD display and the tuner will pick-up only the strongest radio signals.

## **HS/SP**

Headset and speaker switch - When switched to HS (headset), the radio and tape player will play only through the headset hookups and HS will appear on the LCD display.

## **PROGRAM**

The program switch allows the rider to play the opposite side of a cassette at any time without removing it from the tape player. The tape player also has an "auto-reverse" function. The "auto-reverse" is similar to the program function, except that the cassette must play completely through one side before switching to the other side.

## **STOP/EJECT**

To stop the tape player and remove the cassette, it is necessary to press the STOP/EJECT button.

## **METAL TAPE**

Press the METAL TAPE switch when playing metal bias cassette tapes. When the switch is on, MTL will appear on the LCD display.

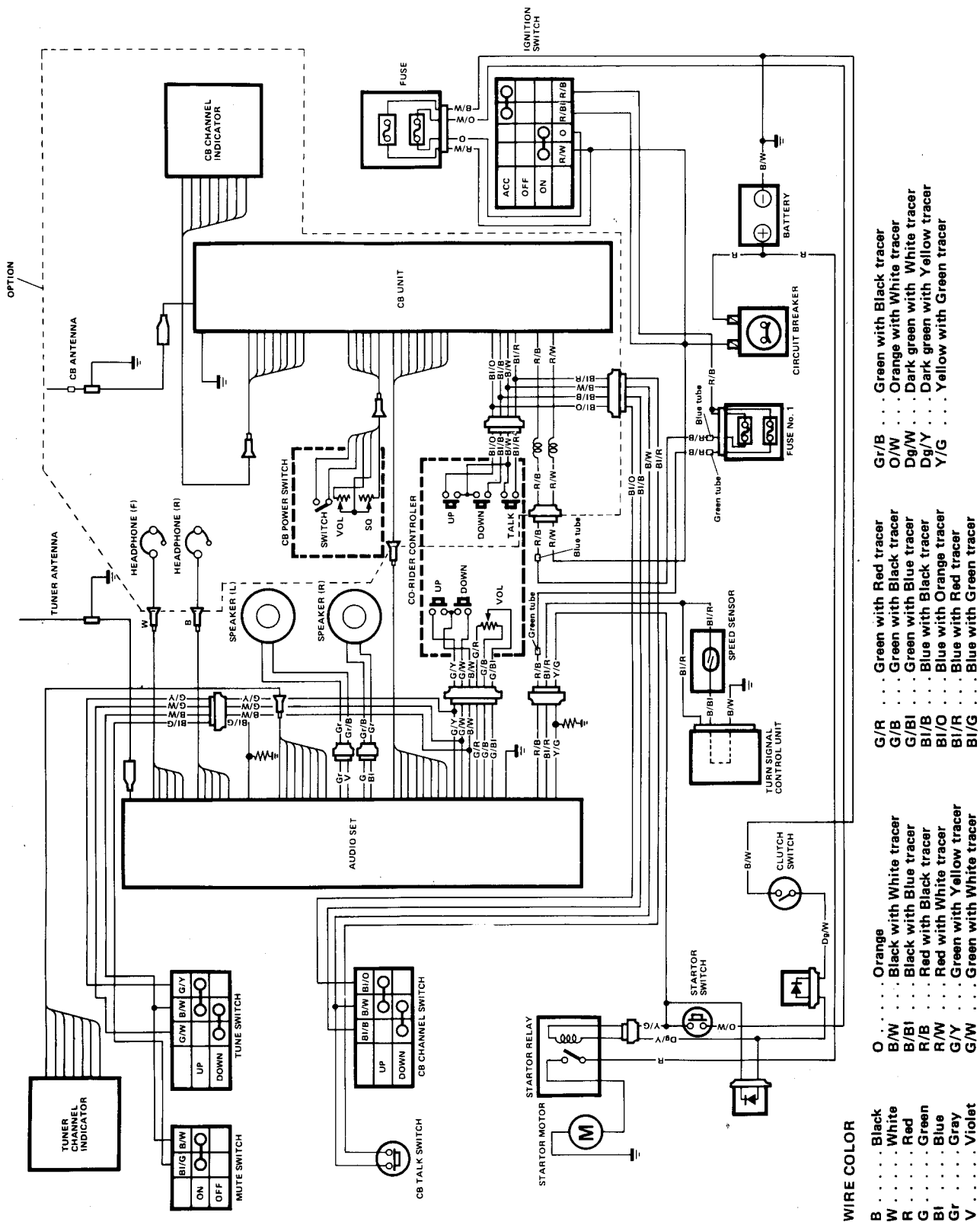
## **CO-RIDER CONTROLS**

A separate volume control for the co-rider headset only, is located on the left side of the travel trunk. This volume control is for the radio/tape player only. The co-rider also has a radio tuning control at this same location.



# Suzuki Technical Seminar

## AUDIO/CB SYSTEM (GV1400 GD)







**U.S. SUZUKI MOTOR CORPORATION • 3251 East Imperial Highway • Brea, California 92621**