

PARTS AND OPERATION MANUAL

MQ POWER

WHISPERWELD™

DC WELDER/AC GENERATOR

Model SGW-250SS

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Parts No. D2845200004A
Revision #2 (08/08/01)

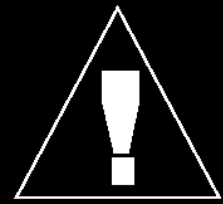


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WARNING



CALIFORNIA — Proposition 65 Warning

Engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.



WARNING



CALIFORNIA Proposition 65 Warning

This product contains or produces chemicals known to the State of California to cause cancer and birth defects (or other reproductive harm).

DCL160

HERE'S HOW TO GET HELP

*PLEASE HAVE THE MODEL AND SERIAL NUMBER
ON-HAND WHEN CALLING*

PARTS DEPARTMENT

800/427-1244 or 310/537-3700

FAX: 800/672-7877 or 310/637-3284

SERVICE DEPARTMENT

800/835-2551 or 310/537-3700

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MAIN

800/421-1244 or 310/537-3700

FAX: 310/537-3927

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NOTE

*Specification and part number
are subject to change without
notice.*

- Dealer account number
- Dealer name and address
- Shipping address (if different than billing address)
- Return fax number
- Applicable model number
- Quantity, part number and description of each part
- Specify preferred method of shipment:
 - UPS Ground
 - UPS Second Day or Third Day*
 - UPS Next Day*
 - Federal Express Priority One (please provide us with your Federal Express account number)*
 - Airborne Express*
 - Truck or parcel post

**Normally shipped the same day the order is received, if prior to 2PM west coast time.*

Earn Extra Discounts when you order by FAX!

All parts orders which include complete part numbers and are received by fax qualify for the following extra discounts:

<u>Number of line items ordered</u>	<u>Additional Discount</u>
1-9 items	3%
10+ items**	5%

Get special freight allowances when you order 10 or more line items via FAX! **

- UPS Ground Service at no charge for freight
- PS Third Day Service at one-half of actual freight cost

No other allowances on freight shipped by any other carrier.

**Common nuts, bolts and washers (all items under \$1.00 list price) do not count towards the 10+ line items.

DISCOUNTS ARE SUBJECT TO CHANGE

Fax order discount and UPS special programs revised June 1, 1995

**Extra Fax Discount
for Domestic USA
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RULES FOR SAFE OPERATION

CAUTION:



Failure to follow instructions in this manual may lead to serious injury or even death! This equipment is to be operated by trained and qualified personnel only! This equipment is for industrial use only.

The following safety guidelines should always be used when operating the SGW-250SS Welder/AC Generator :

GENERAL SAFETY

- **DO NOT** operate or service this equipment before reading this entire manual.



- This equipment should not be operated by persons under 18 years of age.

- **NEVER** operate this equipment without proper protective clothing, shatterproof glasses, steel-toed boots and other protective devices required by the job.



- **NEVER** operate this equipment when not feeling well due to fatigue, illness or taking medicine.



- **NEVER** operate this equipment under the influence of drugs or alcohol.



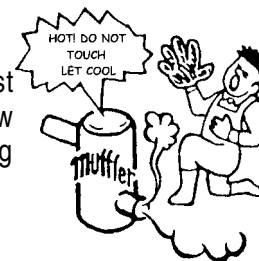
- **NEVER** use accessories or attachments, which are not recommended by MQ Power for this equipment. Damage to the equipment and/or injury to user may result.

- Manufacture does not assume responsibility for any accident due to equipment modifications.

- Whenever necessary, replace nameplate, operation and safety decals when they become difficult read.

- Always check the machine for loosened threads or bolts before starting.

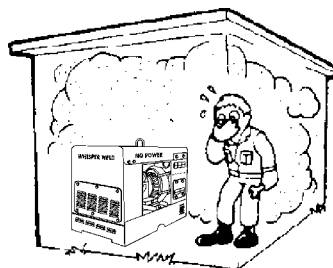
- **NEVER** touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing engine or generator.



- **High Temperatures** – Allow the engine to cool before adding fuel or performing service and maintenance functions. Contact with *hot* components can cause serious burns.

- The engine of this welder/generator requires an adequate free flow of cooling air. Never operate the generator in any

enclosed or narrow area where free flow of the air is restricted. If the air flow is restricted it will cause serious damage to the welder/generator engine and may cause injury to people. Remember the welder/generator's engine gives off **DEADLY** carbon monoxide gas.



- Always refuel in a well-ventilated area, away from sparks and open flames.

- Always use extreme caution when working with **flammable** liquids. When refueling, **stop the engine** and allow it to cool. **DO NOT** smoke around or near the machine. Fire or explosion could result from fuel vapors, or if fuel is spilled on a hot engine.



- **NEVER** operate the generator in an explosive atmosphere or near combustible materials. An explosion or fire could result causing severe *bodily harm or even death*.

- Topping-off to filler port is dangerous, as it tends to spill fuel.

CAUTION:



This generator is a source of providing **LETHAL** high voltages. Never permit unqualified personnel-especially children to operate the generator.

- Always refuel in a well-ventilated area, away from sparks and open flames.
- This generator is equipped with a **ground terminal** for your protection. Always complete the grounding path from the generator to an external grounding source.
- **NEVER** operate this generator, or handle any electrical equipment while standing in **water, while bare foot, while hands are wet, or in the rain**. *Dangerous electrical shock could occur causing severe bodily harm or even death.*
- Keep electrical cords in good condition. Worn, bare or frayed wiring can cause electrical shock, thus causing *bodily harm or even death*.
- This generator requires an adequate free flow of cooling air. Never operate the generator in any enclosed or narrow area where free flow of the air is restricted. If the air flow is restricted it will cause serious damage to the generator and may cause injury to people.
- **NEVER** touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing generator.

- Provide adequate ventilation when operating the generator. **DO NOT** operate the generator in any enclosed or narrow space. The gasoline engine that provides power to the generator gives off **DEADLY** monoxide gas.
- Always make sure the welder/ generator is secure on level ground so that it cannot slide or shift around, endangering workers. Also keep the immediate area free of bystanders.

- **High Temperatures** – Allow the machine and engine to cool before adding fuel or performing service and maintenance functions. Contact with *hot* components can cause serious burns.

CAUTION:

Emergencies



Always know the location of the nearest **fire extinguisher** and **first aid kit**. Know the location of the nearest telephone. Also know the phone numbers of the nearest **ambulance, doctor** and **fire department**.

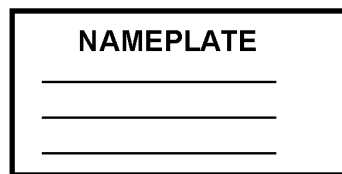
Maintenance Safety

- **NEVER** lubricate components or attempt service on a running machine.
- Always allow the machine a proper amount of time to cool before servicing.
- Keep the machinery in proper running condition.
- Fix damage to the machine immediately and always replace broken parts.
- Dispose of hazardous waste properly. Examples of potentially hazardous waste are used motor oil, coolant, fuel and fuel filters.
- **DO NOT** use plastic containers to dispose of hazardous waste.
- **DO NOT** pour waste, oil, coolant, or fuel directly onto the ground, down a drain or into any water source.

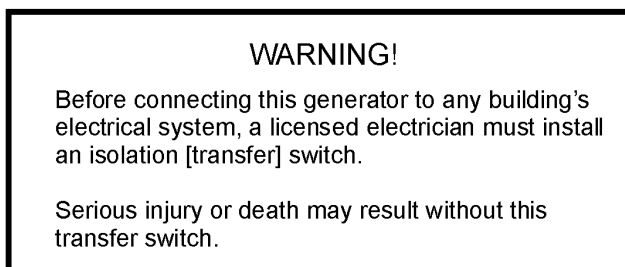
OPERATION AND SAFETY DECALS



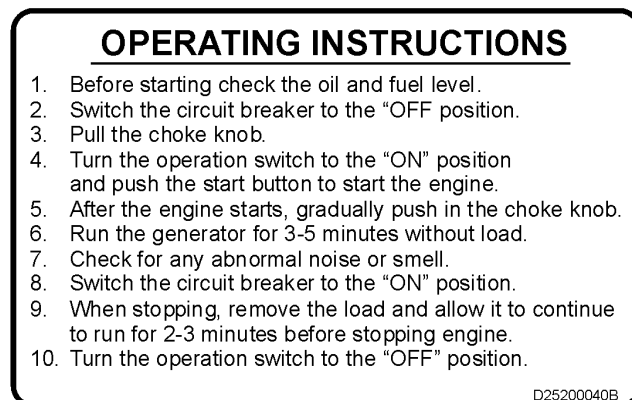
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CONTACT MQ
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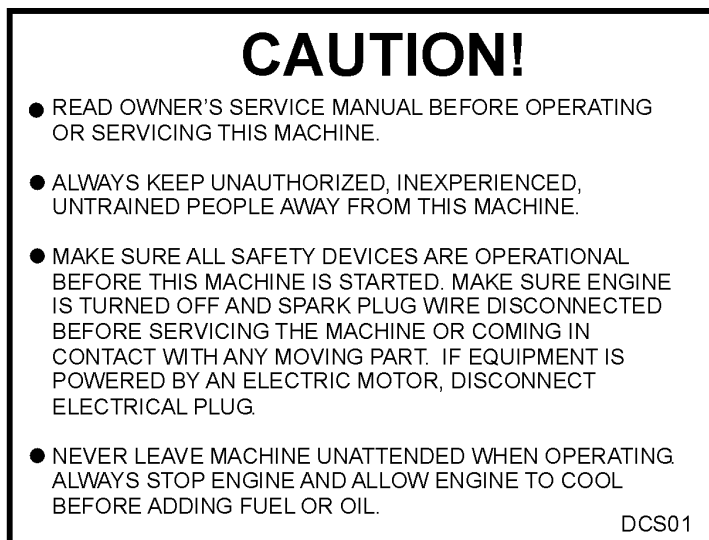


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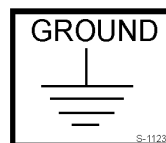


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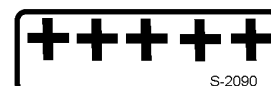
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P/N 0800628504



P/N 0600689404



P/N 1630645004



P/N 0800689504



P/N 7810680104

OPERATION AND SAFETY DECALS

WARNING

- Only operate machine in well ventilated areas.
- Do not inhale exhaust gases.

DANGEROUS GAS

Only qualified personnel should install, use, or service this equipment.

P/N 8700611804

CAUTION

HOT PARTS can burn skin.

- Do not touch until the machine has sufficiently cooled.

P/N B9504000304

CAUTION

Before starting the engine, check that the oil level is within the indicated operating range. If the level is above the H mark or below the L mark, it is important to correct before operating to avoid damage.

OIL LEVEL GAUGE

H L

P/N 8700611524

DANGER

- Do not touch output terminals or internal wiring while unit is operating.
- Turn off power before servicing.

ELECTRICAL SHOCK HAZARD

Only qualified personnel should install, use, or service this equipment.

P/N 8700611904

20A G.F.C.I. 30A 30A

120V 120V/240

AC POWER OUTPUT

GROUND for G.F.C.I.

P/N D252000031

DANGER EXPLOSIVE GASES
Cigarettes, flames or sparks could cause battery to explode. Always shield eyes and face from battery. Do not charge or use dooster cables or adjust post connections without proper instruction and training.

KEEP VENT CAPS TIGHT AND LEVEL

POISON CAUSES SEVERE BURNS
Contains sulfuric acid. Avoid contact with skin, eyes or clothing. In event of accident flush with water and call a physician immediately.

KEEP OUT OF REACH OF CHILDREN

P/N 0820650604

WELDING OUTPUT TERMINAL

P/N D2552000313

WARNING

CALIFORNIA Proposition 65 Warning

This product contains or produces chemicals known to the State of California to cause cancer and birth defects (or other reproductive harm).

P/N DCL160

⚠ DANGER ⚠ CAUTION		<ul style="list-style-type: none"> • Read the instruction manual carefully before operating the unit. • This machine must be installed, operated, and serviced only by a qualified person with sufficient knowledge and skill for safety. • Do not allow people to be near the welder or welding site. 	
<p>Cautions on Welding Operation</p>	<p>Never remove or cover this label.</p>		
<p>⚠ DANGER</p>	<p>Voltage can burn or kill!</p> <ul style="list-style-type: none"> • Never touch electrical parts in the machine during operation, as it may lead to burn or death due to electrical shock. Stop engine before touching the output terminals for cable connection or before servicing. • Never touch the machine especially when your body or the machine is wet. • Ask a qualified person to ground the welder and base metal. • Use dry welding gloves. 	<p>⚠ DANGER</p>	<p>Fume or gas due to welding may harm human's health!</p> <ul style="list-style-type: none"> • Install ventilator or use respirator according to laws and regulations. • If site is tight, install ventilator, use respirator, or perform cutting under supervision. • Do not perform welding operation near site of fat-removing, rinsing, or spraying. • Use respirator for welding a coated steel sheet. • Use respirator for welding in the bottom of oil tank or vessel in order to protect against oxygen starvation.
<p>⚠ DANGER</p>	<p>Welding can cause fire or explosion!</p> <ul style="list-style-type: none"> • Remove inflammables or inflammable gas away from welding site. • Install protective curtain around welding site to shield arc rays and spatters. • Never weld airtight tank or pipe. • Place a fire extinguisher near welding site. 	<p>⚠ CAUTION</p>	<p>Arc rays, spatters and slags may harm your eyes, and noise may damage your ears!</p> <ul style="list-style-type: none"> • Use a shield with proper shade of filter. • Wear proper gloves, long-sleeve shirts and foot protection. • Use ear protector if noise level is high.

P/N D9512100203

SGW-250SS — SPECIFICATIONS

Table 1. Specifications	
Welder Specifications	
Rated Output (CV/CC)	4.0/5.6 kW
Rated Current (CC)	200 Amps
Rated Voltage (CV/CC)	20/28 Volts
Duty Cycle	100%
Rated Speed	3600/rpm
Voltage Range	15-28 Volts
Current Range	50 - 225 Amps
Generator Specifications	
Phase	Single Phase
Wires	3-Wires (Neutral Grounded)
Rated Output	7.2 kW
Rated Voltage	120/240 Volts
Frequency	60 Hz
Power Factor	1.0
Rating	Continuous
Engine Specifications	
Model	HONDA GX610VXD
Type	4-STROKE, OHV
Rated Output	10.7 kW/14.4 HP @ 3600 rpm
Displacement	37.5 cu. in (614 cc)
Cooling System	Forced air
Starting System	Electric Start
Fuel Tank Capacity	10 gal/38 liters
Lube Oil Capacity	0.40 gal/1.5 liters
Fuel Consumption:	
CV Welding	0.93 gal (3.51 liters)/hr.
CC Welding	1.11 gal (4.22 liters)/hr.
AC Power	1.16 gal (4.38 liters)/hr.
Battery	12V-35Ah
Fuel	Unleaded Gasoline
Dimensions (LxWxH)	1070 x 590 x 815 mm (42.1 x 23.2 x 32.1 in)
Dry Weight	553 lbs. (251 kg)

The maximum output of the engine listed above is applicable to supplying electrical power for continuous service at ambient conditions in accordance with SAE Test cord J607. The above ambient conditions are at standard sea level, with a barometric reading of 29.92 inches and a temperature of 60 degrees fahrenheit.

Generally, the engine output power will decrease 3 1/2% for each 1000 feet of altitude above sea level, and 1% for each 10° F fahrenheit above the standard temperature of 60° F

SGW-250SS FAMILIARIZATION

Generator

The MQ Power Model SGW-250SS welder/generator can provide 200 amps of welding current when in the CV/DC mode and 250 amps of welding current when in the CC/DC mode. When used as a generator it can provide a maximum of 7,200 watts of power.

Control Panel

The **control panel** is provided with the following:

- One GFCI 120 volt receptacle, 30 amp (single-phase)
- One 120 volt receptacle, 30 amp (single-phase)
- One 120/240 volt receptacle, 30 amp (single-phase)
- Main Circuit Breaker 265V @25 Amps
- Circuit Protector Breaker (GFCI) 120V @20 Amps
- Idle Control Switch
- Starter Switch
- Starter Button
- Hour Meter
- Ground Terminal

Welder Protection System

In the event of an overload, this welder/generator is equipped with an welder protection system . If an overload is detected while operating the welder/generator, the welder protection system will shut down the engine.

Oil Pressure Warning Alarm

In the event of low oil pressure (engine), this welder/generator is equipped with an engine protection fail safe system . If low oil pressure is detected while operating the welder/generator, the engine protection system will shut down the engine.

If this condition (low oil pressure) should occur, please refer to the engine troubleshooting table in this manual.

Excitation System

The SGW-250SS welder/generator uses a brushless exciter to create rated output electricity. This system will use the mechanical energy generated by the 3600 RPM engine to spin the rotor (or armature) inside the generator (or alternator end).

The motion created by the rotor (which holds copper coils) spins inside a housing of permanent magnets called the "STATOR". A magnetic field is created by the stator and produces an electrical current.

Engine

The SGW-250SS is powered by an air-cooled, 4-cycle HONDA gasoline engine. This engine is designed to meet every performance requirement for generator. Reference Table 1, page 9 for engine specifications.

In keeping with MQ Power's policy of constantly improving its products, the specifications quoted herein are subject to change without prior notice.

Figures 2 and 3 (pages 14-15) show the basic controls and indicators for the SGW-250SS welder/generator.

SGW-250SS — DIMENSIONS

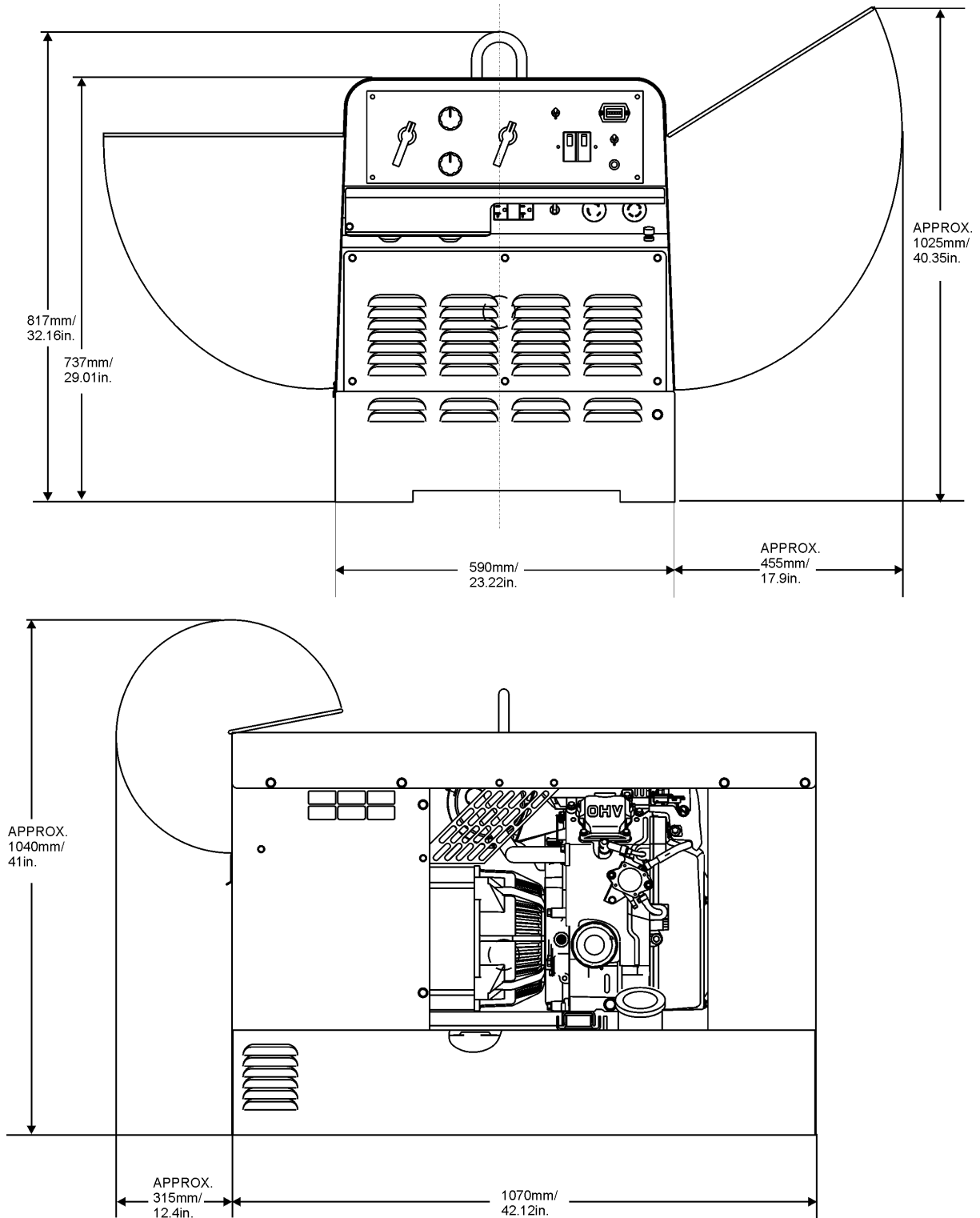


Figure 1. SGW-250SS Dimensions

CAUTION:



ALWAYS make sure the trailer is in good operating condition. Check the tires for proper inflation and wear. Also check the wheel lug nuts for proper tightness.

Explanation of Chart:

This section is intended to provide the user with trailer service and maintenance information. The service and maintenance guidelines referenced in this section apply a wide range of trailers. Remember periodic inspection of the trailer will ensure safe towing of the equipment and will prevent damage to the equipment and personal injury.

It is the purpose of this section to cover the major maintenance components of the trailer. The following trailer components will be discussed in this section:

- Brakes
- Tires
- Lug Nut Torquing
- Suspension
- Electrical
- Brake Troubleshooting Tables

Use the following definitions with reading Table 2.

1. **Fuel Cell** - Provides an adequate amount of fuel for the equipment in use. Fuel cells must be empty when transporting equipment.
2. **Braking System** - System employed in stopping the trailer. Typical braking systems are electric, surge, hydraulic, hydraulic-surge and air.
3. **GVWR**- Gross Vehicle Weight Rating (GVWR), is the maximum number of pounds the trailer can carry, including the fuel cell (empty).
4. **Frame Length** - This measurement is from the ball hitch to the rear bumper (reflector).
5. **Frame Width** - This measurement is from fender to fender.
6. **Jack Stand** - Trailer support device with maximum pound requirement from the tongue of the trailer.
7. **Coupler** - Type of hitch used on the trailer for towing.
8. **Tire Size** - Indicates the diameter of the tire in inches (10,12,14, etc.), and the width in millimeters (175,185,205, etc.). The tire diameter must match the diameter of the tire rim.
9. **Tire Ply** - The tire ply (layers) number is rated in letters; 2-ply,4-ply,6-ply, etc.
10. **Wheel Hub** - The wheel hub is connected to the trailer's axle.
11. **Tire Rim** - Tires mounted on a tire rim. The tire rim must match the size of the tire.
12. **Lug Nuts** - Used to secure the wheel to the wheel hub. Always use a torque wrench to tighten down the lug nuts. See Table 4 and Figure 5 or lug nut tightening and sequence.
13. **Axle** - Indicates the maximum weight the axle can support in pounds, and the diameter of the axle expressed in inches (see Table 3). Please note that some trailers have a double axle. This will be shown as 2-6000 lbs., meaning two axles with a total weight capacity of 6000 pounds.
14. **Suspension** - Protects the trailer chassis from shocks transmitted through the wheels. Types of suspension used are leaf, Q-flex, and air ride.
15. **Electrical** - Electrical connectors (looms) are provided with the trailer so the brake lights and turn signals can be connected to the towing vehicle.
16. **Application** - Indicates which units can be employed on a particular trailer.

SGW-250SS — TRAILER-SPECIFICATIONS

Table 1. Specifications

MODEL	APPLICATION	FUEL CELL	BRAKE SYSTEM	GVWR	FRAME LENGTH	FRAME WIDTH	JACK STAND
TRLR-10W	SDW225, SGW250,TLW300	NO	NO	1900LBS	96"	50"	800LB. FULL TILT WHEEL
TRLR-10	DCA10, TLG12, DCA-15	NO	NO	1900LBS	96"	50"	800LB. FULL TILT WHEEL
TRLR-10XF	DCA10, TLG-12, DCA15, TLW-300	52 GAL	NO	1900LBS	96"	50"	800LB. FULL TILT WHEEL
TRLR-225W	WELDERS, DA7000SS	NO	NO	2200LBS	85"	42"	800LB. FULL TILT WHEEL
TRLR-BLW400	BLW-400	NO	ELECTRIC	2700LBS	W/MAST 154" W/O 124"	55" (78" TALL)	800LB. FULL TILT WHEEL
TRLR-50X	DCA-25	NO	NO	2700LBS	124"	55"	800LB. FULL TILT WHEEL
TRLR-50XF	DCA-25	41 GAL	NO	2700LBS	124"	55"	800LB. FULL TILT WHEEL
TRLR-70W	DCA-45, -60, 70	NO	SURGE	7000LBS	186"	77"	2000LB. FLAT PAD
TRLR-70X	DCA-45, -60, 70	OPT	SURGE	7000LBS	138"	66"	2000LB. FLAT PAD
TRLR-70XF	DCA-45, -60, 70	53 GAL	SURGE	7000LBS	138"	66"	2000LB. FLAT PAD
TRLR-100XF	DCA-100, 125	150 GAL	HYDRAULIC SURGE	7000LBS	190"	76"	2000LB. FLAT PAD
TRLR-85/125	DCA-85, 100, 125	145 GAL	HYDRAULIC	10000LBS	186"	77"	2000LB. FLAT PAD
TRLR-150XF	DCA-150, 180	200 GAL	HYDRAULIC SURGE	11160LBS	204"	84"	5000 LB. FLAT PAD
TRLR-220XF	DCA-220	250 GAL	HYDRAULIC SURGE	14000LBS	222"	83"	5000 LB. FLAT PAD
TRLR-300XF	DCA-300	250 GAL	HYDRAULIC SURGE	18000LBS	238"	83"	5000 LB. FLAT PAD
TRLR-400XF	DCA-400	350 GAL	ELECTRIC	18000LBS	238"	83"	5000 LB. FLAT PAD
TRLR-600XF	DCA-600, 800	550 GAL	AIR	30000LBS	384"	96"	5000 LB. FLAT PAD
TRLR-800SX	DCA-600, 800	550 GAL	AIR	30000LBS	384"	96"	5000 LB. FLAT PAD

SGW-250SS — TRAILER-SPECIFICATIONS

Table 1. Specifications (Con't)

MODEL	COUPLER	TIRES	WHEELS	AXLE	HUBS	SUSPENSION	ELECTRICAL
TRLR-10W	2" BALL CLASS 2 ADJUSTABLE	175-13C	13"X4.50"	2200# 2X2	5 LUG	3 LEAF	4 WIRE LOOM W/ 4 POLE FLAT
TRLR-10	2" BALL CLASS 2 ADJUSTABLE	175-13C	13"X4.5"	2200#2X2	5 LUG	3 LEAF	4 POLE FLAT
TRLR-10XF	2" BALL CLASS 2 ADJUSTABLE	175-13C	13"X4.5"	2200#2X2	5 LUG	3 LEAF	4 POLE FLAT
TRLR-225W	2" BALL CLASS 2 ADJUSTABLE	175-13B	13X4.5"	2200#2X2	5 LUG	Q FLEX	4 POLE FLAT
TRLR-BLW 400	2" BALL CLASS 2 ADJUSTABLE	175-13C	13 X 4.5"	2200#2X2	5 LUG	3 LEAF	4 POLE FLAT
TRLR-50X	2" BALL CLASS	B78-13LRC	13"X4.50"	3500lbs. 2-3/8"	5 LUG	4 LEAF	4 POLE RUBBER FLAT
TRLR-50XF	2" BALL CLASS	B78-13LRC	13"X4.50"	3500lbs. 2-3/8"	5 LUG	4 LEAF	4 POLE RUBBER FLAT
TRLR-70W	2" BALL CLASS 3" ADJUSTABLE	205-14C BIAS (4)	14"X5"	3500lbs. 3"	5 LUG	5 LEAF	4 POLE RUBBER FLAT
TRLR-70X	2" BALL CLASS 3" ADJUSTABLE	205-14C BIAS (4)	14"X5"	3500lbs 3"	5 LUG	5 LEAF	4 POLE RUBBER FLAT
TRLR-70XF	2" BALL CLASS 3" ADJUSTABLE	205-14C BIAS (4)	14"X5"	3500lbs. 3"	5 LUG	5 LEAF	4 POLE RUBBER FLAT
TRLR-100XF	ADJUSTABLE 2-5/6 OPT 3" EYE	205-15C BIAS (4)	14"X5.5"	3500lbs 3"	5 LUG	5 LEAF	4 WIRE LOOM
TRLR-85/125	ADJUSTABLE 2-5/6 OPT 3" EYE	ST225/75R15D RADIAL (4)	14"x6"	(2)-6000lbs	6 LUG	7 LEAF	4 WIRE LOOM
TRLR-150XF	3" BALL EYE	750-16 E BIAS (4)	16"X7"	(2)-6000lbs	8 LUG	7 LEAF	4 WIRE LOOM
TRLR-220XF	3" EYE ADJUSTABLE	ST235/85R16E RADIAL(4)	16"X7"	(2)-7000lbs	8 LUG	Q FLEX	4 WIRE LOOM
TRLR-300XF	3" EYE ADJUSTABLE	ST235/85R16E RADIAL(6)	16"X7"	(2)-6000lbs	8 LUG	Q FLEX	4 WIRE LOOM
TRLR-400XF	3" EYE ADJUSTABLE	ST235/85R16E RADIAL(6)	16"X7"	(3)-7000lbs.	8 LUG	Q FLEX	4 WIRE LOOM
TRLR-600XF	5TH WHEEL	ST215/75R17.5H RADIAL (8)	16"X7"	(3)-10000lbs	8 LUG	7 LEAF	6 WIRE LOOM
TRLR-800AR	5TH WHEEL	ST215/75R17.5H RADIAL (8)	16"X7"	(3)-10000lbs	8 LUG	AIR-RIDE	6 WIRE LOOM

Tires/Wheels/Lug Nuts

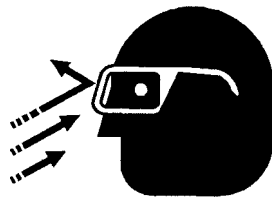
Tires and wheels are a very important and critical components of the trailer. When specifying or replacing the trailer wheels it is important the wheels, tires, and axle are properly matched.

CAUTION:



DO NOT attempt to repair or modify a wheel. DO NOT install in inner tube to correct a leak through the rim. If the rim is cracked, the air pressure in

the inner tube may cause pieces of the rim to explode (break off) with great force and cause serious eye or bodily injury.

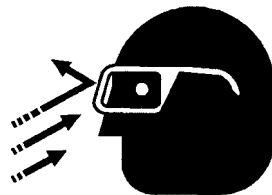


Tire Wear/Inflation

Tire inflation pressure is the most important factor in tire life. Pressure should be checked cold before operation DO NOT bleed air from tires when they are hot. Check inflation pressure weekly during use to insure the maximum tire life and tread wear.

Table 3 (Tire Wear Troubleshooting) will help pinpoint the causes and solutions of tire wear problems.

CAUTION:



NOTE

ALWAYS wear safety glasses when removing or installing force fitted parts. Failure to comply may result in serious injury.

TABLE 3. TIRE WEAR TROUBLESHOOTING

WEAR PATTERN		CAUSE	SOLUTION
	Center Wear	Over Inflation.	Adjust pressure to particular load per tire manufacturer.
	Edge Wear	Under Inflation.	Adjust pressure to particular load per tire manufacturer.
	Side Wear	Loss of camber or overloading.	Make sure load does not exceed axle rating. Align wheels.
	Toe Wear	Incorrect toe-in.	Align wheels.
	Cupping	Out-of-balance.	Check bearing adjustment and balance tires.
	Flat Spots	Wheel lockup & tire skidding.	Avoid sudden stops when possible and adjust brakes.

Suspension

The leaf suspension springs and associated components (Figure 2) should be visually inspected every 6,000 miles for signs of excessive wear, elongation of bolt holes, and loosening of fasteners. Replace all damaged parts (suspension) immediately. Torqued suspension components as detailed in Table 4.

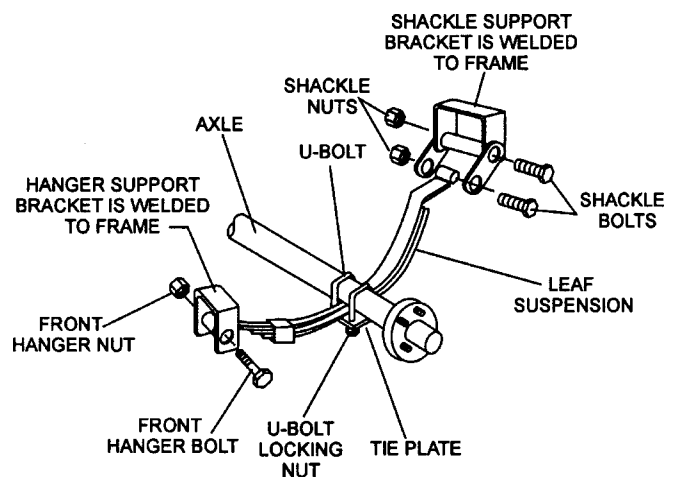


Figure 2. Major Suspension Components

Table 4. Suspension Torque Requirements

Item	Torque (Ft.-Lbs.)
3/8" U-BOLT	MIN-30 MAX-35
7/16" U-BOLT	MIN-45 MAX-60
1/2" U-BOLT	MIN-45 MAX-60
SHACKLE BOLT SPRING EYE BOLT	SNUG FIT ONLY. PARTS MUST ROTATE FREELY. LOCKING NUTS OR COTTER PINS ARE PROVIDED TO RETAIN NUT-BOLT ASSEMBLY.
SHOULDER TYPE SHACKLE BOLT	MIN-30 MAX-50

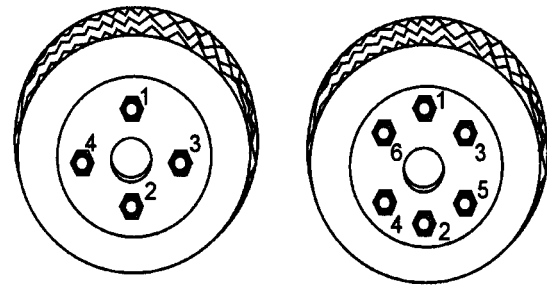
Lug Nut Torque Requirements

It is extremely important to apply and maintain proper wheel mounting torque on the trailer. Be sure to use only the fasteners matched to the cone angle of the wheel. Proper procedure for attachment of the wheels is as follows:

1. Start all wheel lug nuts by hand.
2. Torque all lug nuts in sequence. See Figure 3. **DO NOT** torque the wheel lug nuts all the way down. Tighten each lug nut in 3 separate passes as defined by Table 5.
3. After first road use, retorque all lug nuts in sequence. Check all wheel lug nuts periodically.

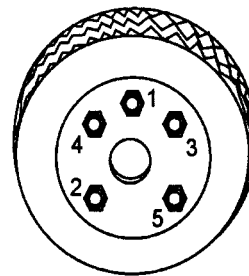
Table 5. Tire Torque Requirements

Wheel Size	First Pass FT-LBS	Second Pass FT-LBS	Third Pass FT-LBS
12"	20-25	35-40	50-65
13"	20-25	35-40	50-65
14"	20-25	50-60	90-120
15"	20-25	50-60	90-120
16"	20-25	50-60	90-120

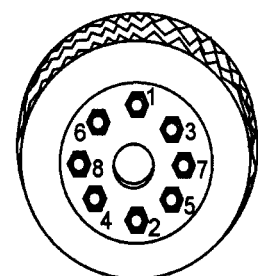


4-LUG NUTS

6-LUG NUTS



5-LUG NUTS



8-LUG NUTS

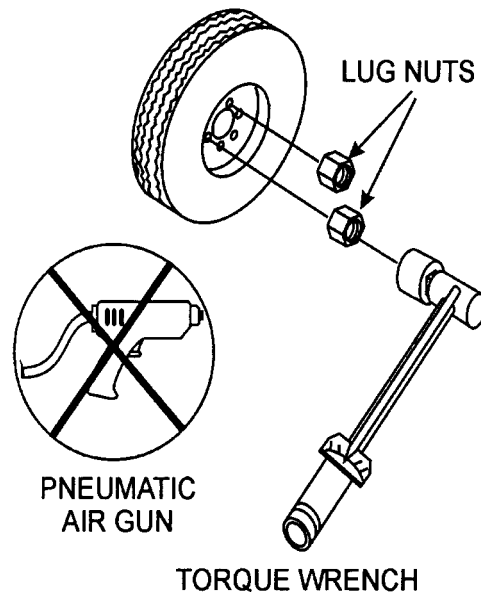


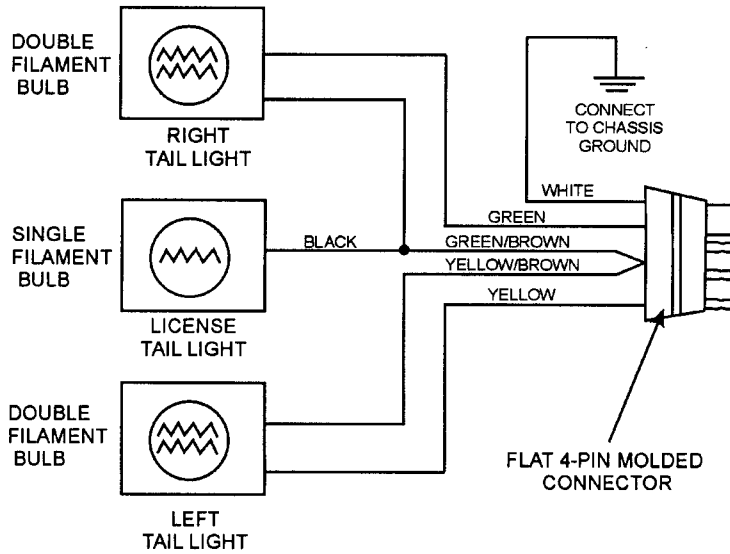
Figure 3. Wheel Lug Nuts Tightening Sequence

NOTE

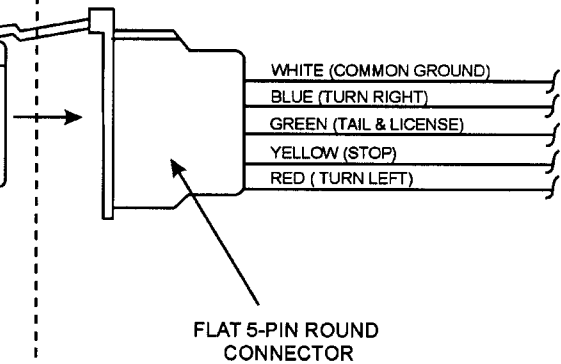
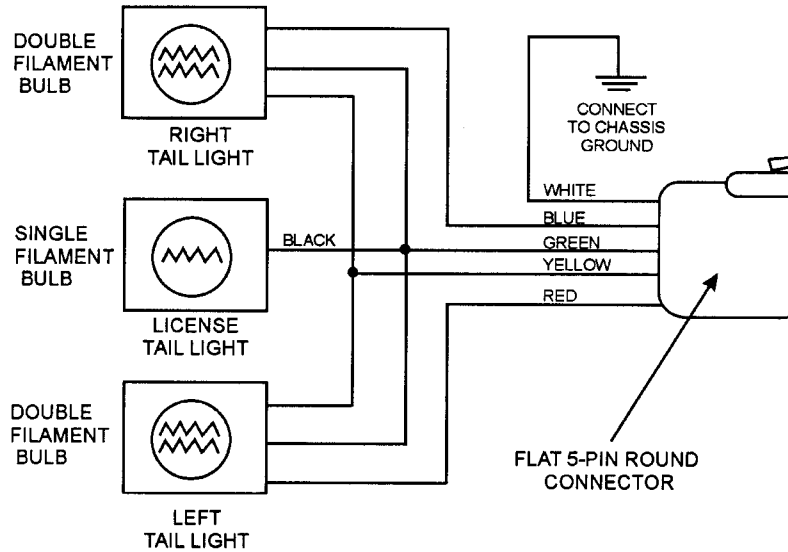
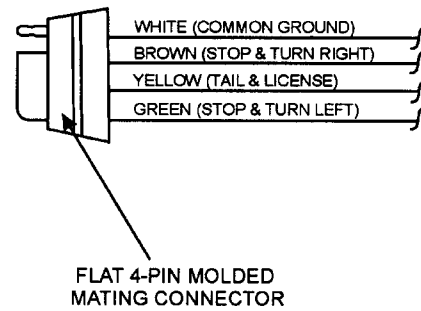
NEVER use an pneumatic air gun to tighten wheel lug nuts.

SGW-250SS —TRAILER-WIRING DIAGRAM

TRAILER SIDE



TOWING VEHICLE SIDE



Towing Safety Precautions

CAUTION :



Check with your county or state safety towing regulations department before towing your generator. Vehicle towing codes and regulations can vary from state to state.

To reduce the possibility of an accident while transporting the generator on public roads, always make sure the trailer (Figure 4) and the towing vehicle are in good operating condition and both units are mechanically sound.

The following list of suggestions should be used when towing your generator:

- Make sure the hitch and coupling of the towing vehicle are rated equal to, or greater than the trailer "gross vehicle weight rating" (GVWR).
- **ALWAYS** inspect the hitch and coupling for wear. **NEVER** tow a trailer with defective hitches, couplings, chains etc.
- Check the tire air pressure on both the towing vehicle and the trailer. Also check the tire tread wear on both vehicles.
- **ALWAYS** make sure the trailer is equipped with a "Safety Chain".
- **ALWAYS** attach trailer's safety chain to bumper of towing vehicle.
- **ALWAYS** make sure the vehicle and trailer directional, backup, brake, and trailer lights are connected and are working properly.
- The maximum speed (unless otherwise posted) for highway towing is **45 MPH**. Recommended off-road towing is not to exceed **10 MPH** or less, depending on type of terrain.
- Place *chocked blocks* underneath wheel to prevent **rolling**, while parked.
- Place *support blocks* underneath the trailer's bumper to prevent **tipping**, while parked.
- Use the trailer's hand winch to adjust the height of the trailer, then insert locking pin to lock wheel stand in place, while parked.
- Avoid sudden stops and starts. This can cause skidding, or jackknifing. Smooth, gradual starts and stops will improve gas milage.
- Avoid sharp turns to prevent rolling.
- Remove wheel stand when transporting.
- **DO NOT** transport generator with fuel in tank.

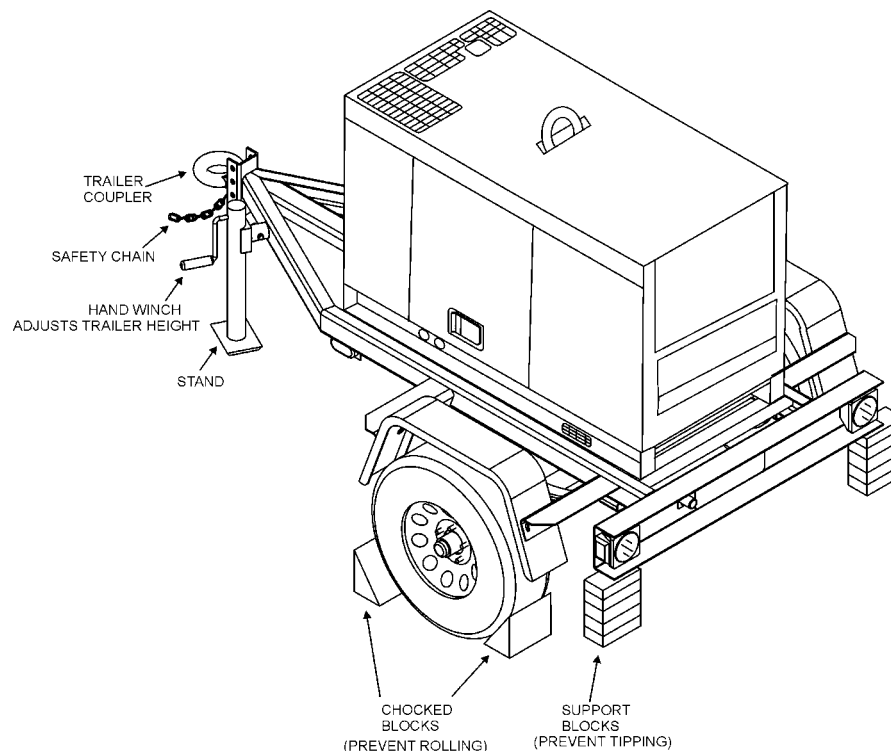


Figure 4. Welder/AC Generator and Towing Trailer

SGW-250SS — CONTROLS AND INDICATORS

Figures 5 and 6 show the location of the controls and indicators. The functions of each control or indicator is described below and on the preceding page.

1. **Welding Type (Wire/Stick) Selector Switch (CV/CC)** – Turn this selector switch to either the CV or CC for welding. **DO NOT** turn this switch under load.
2. **Current Range Selector Switch (CV/CC)** – Turn this selector switch to either the CV or CC for welding. **DO NOT** turn this switch under load.
3. **Current Control (CC) Adjustment Knob** – Use this control to adjust welding current. Low scale (50~120 amps), High scale (90~250 amps). This function will not work in the CV mode.
4. **Voltage Control (CV) Adjustment Knob** – Use this control to adjust the welding voltage. This function will not work in the CC mode.
5. **Idle Control Switch** – Regulates the engine speed when the generator is under load.
6. **Hour Meter** – Indicates number of hours the welder has been in use or engine has been running.
7. **Oil Filler Port** – Use this port when adding oil to the engine.
8. **Engine Air Cleaner** – Prevents dirt and other debris from entering the fuel system. Lift locking latch on air filter cannister to gain access to filter element.
9. **Main Circuit Breaker** – This 2-pole circuit breaker provides circuit protection (265V @30 amps) for the electric parts.
10. **ON/OFF Switch** – This switch is used to start and stop the engine. Must be in the ON position (up) when starting the engine. Place in the OFF position (down) to stop the engine.
11. **Start Button** – Press and hold this push-button switch until the engine has started. The ON/OFF switch must be in the 'ON' position in order for the start push-button switch to start the engine.
12. **Oil Filter** – Provides oil filtering for the engine.
13. **Fuel Cap** – Remove this cap to add fuel. Add only clean unleaded fuel. Always keep an adequate amount of fuel in the tank. **DO NOT** top off. Wipe up any spilled fuel immediately.
14. **Battery Terminals** – Connect these terminals to the battery. Always pay close attention to the polarity of the terminals when connecting to the battery, RED (positive), and BLACK (negative).
15. **Battery** – Provides +12 VDC power for the generator. When replacing battery (12V 35 AH) use only recommended type battery.

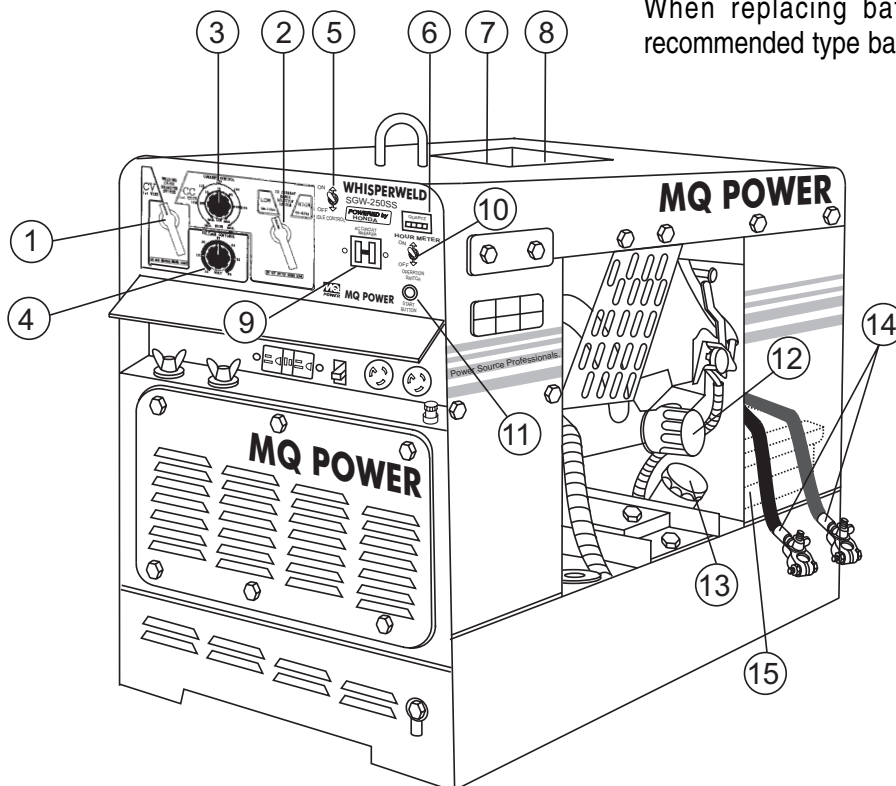


Figure 5. SGW250SS Components 1

SGW-250SS — CONTROLS AND INDICATORS

16. **Positive Welding Output Terminal** – Connect the welding cable to this terminal. Select the appropriate polarities according to the application. See Table 7.
17. **Negative Welding Output Terminal** – Connect the negative cable of the welding source to this terminal. Select the appropriate polarities according to the application. See Table 7.
18. **Receptacle G.F.C.I.** – This receptacle provides 120 volts and output @ 20 amps.
19. **Circuit Protector Circuit Breaker** – This single pole circuit breaker provides circuit protection (250V @20 amps) for the G.F.C.I receptacle.
20. **Receptacle** – Provides 120 volts output @ 25 amps.
21. **Receptacle** – Provides 120/240 volts output @ 25 amps.
22. **G.F.C.I Ground Terminal** – Use this terminal to connect external equipment grounds so the G.F.C.I. receptacle will have a ground path.
23. **Frame Ground Lug** – Connect a ground strap between this lug and a ground rod. Make sure the ground rod is inserted deep into the ground to provide a good earth ground. Consult with local Electrical and Safety Codes for proper connection.
24. **Fuel Tank** – Holds 10 gallons (38 liters) of unleaded fuel.
25. **Fuel Gauge** – Indicates the amount of fuel in the fuel tank.
26. **Choke Knob** – Used in the starting of a cold engine, or in cold weather conditions. The choke enriches the fuel mixture for starting a cold engine.
27. **Lifting Hook** – Use this hook to lift the generator.
28. **Engine Oil Dipstick** – Indicates engine oil level, add oil as required. See Table 3 for correct type of oil.
29. **Oil Drain Plug** – Remove this plug to drain oil from the engine.
30. **Fuel drain Plug** – Remove this plug to drain fuel from the fuel tank.

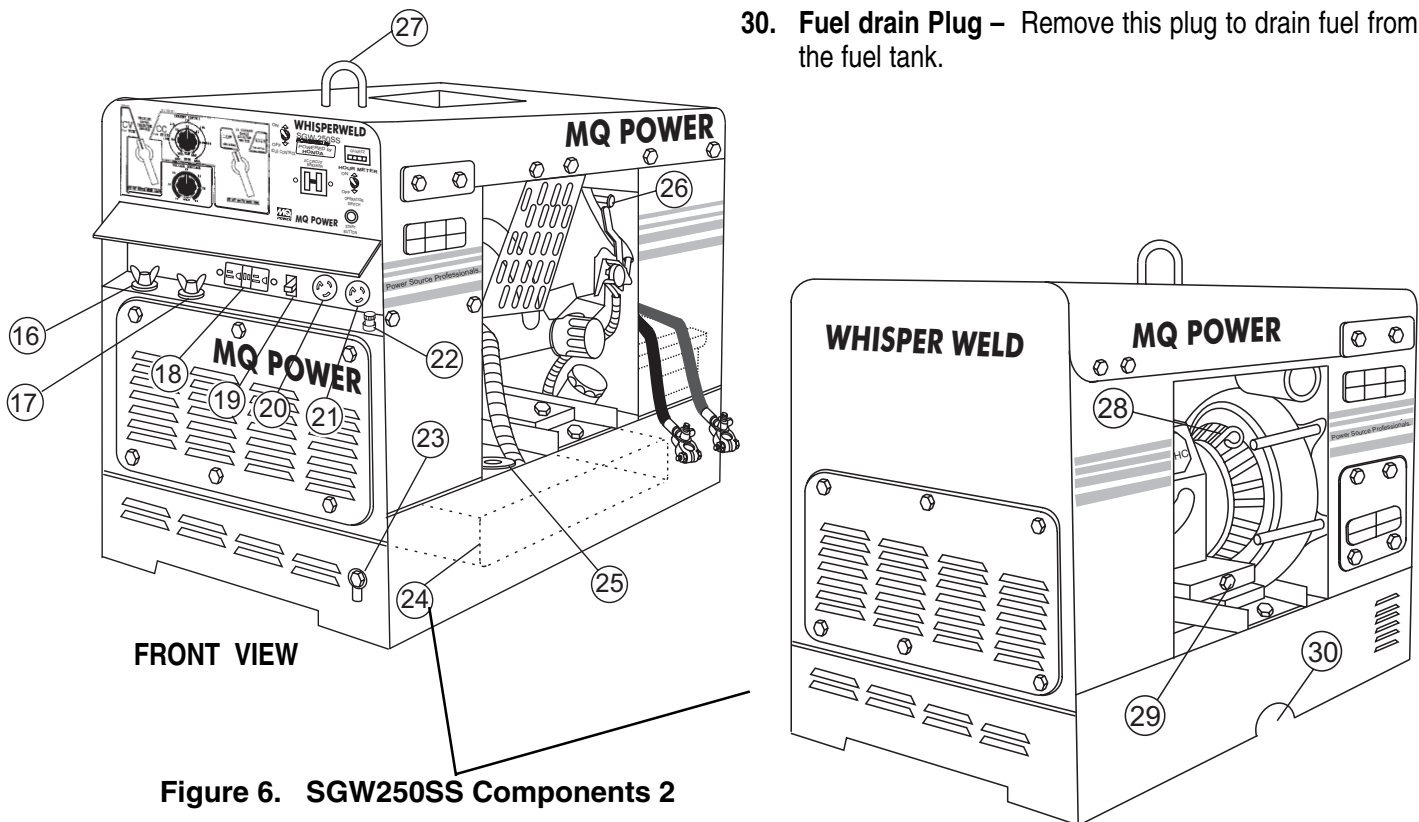


Figure 6. SGW250SS Components 2

Outdoor Installation

Install the welder/generator in a location where it will not be exposed to rain or sunshine. Make sure the welder/generator is on secure level ground so that it cannot slide or shift around. Install the generator in a manner so the exhaust fumes will not be discharged in the direction of nearby homes.

The installation site must be relatively free from moisture and dust. All electrical equipment should be protected from excessive moisture. Failure to do will result in deterioration of the insulation and will result in short circuits and grounding.

Foreign materials such as dust, sand, lint and abrasive materials will cause excessive wear, to the engine and alternator parts.

CAUTION :



Pay close attention to ventilation when operating the generator inside tunnels and caves. The engine exhaust contains noxious elements.

Indoor Installation

Exhaust gases from gasoline engines are extremely poisonous. Whenever an engine is installed indoors the exhaust fumes must be vented to the outside. The engine should be installed at least two feet from any outside wall. Using an exhaust pipe which is too long or too small can cause excessive back pressure which will cause the engine to heat excessively and possibly burn the valves.

Eliminate the danger of deadly carbon monoxide gas. Remember that exhaust fumes from any gasoline engine are very poisonous if discharged in a closed room, but harmless if allowed to mix with the outside air. If the generator is installed indoors, you must make provisions for venting the engine exhaust to the outside of the building.

CAUTION :



An electric shock may happen when vibrators are used. Pay close attention to handling when operating vibrators and always use rubber boots and gloves to insulate the body from electrical shock.

Selecting Optimum Welding Cable

Use the table below (Table 2) to select the best cable for the total length and current of the application being used.

Note:

During the operation of Self-Shield Welding or MIG Welding, do not allow the cables to bundle, because it will cause a short current drop. This may also happen if the size of the cables are smaller than recommended.

Table 6. Welding Cable Sizes

Total Cable Length (ft)/ Current (A)	50	100	125	150	200	250	300
100	#4	#4	#4	#3	#3	#2	#1
150	#3	#3	#3	#2	#1	#1/0	#2/0
200	#2	#2	#2	#1	#1/0	#2/0	#3/0
250	#1	#1	#1	#1/0	#2/0	#3/0	#4/0

General Inspection Prior to Operation

The SGW-250SS utilizes a generator that has been thoroughly inspected and accepted prior to shipment from the factory. However, be sure to check for damaged parts or components, or loose nuts and bolts, which could have occurred in transit.

Ground

The nut and ground terminal on the generator should always be used to connect the generator to a suitable ground. The ground path should be of #8 size wire.

Connect the terminal of the ground wire between the lock washer and the nut and tighten the nut fully. Connect their end of the wire to a suitable ground.

Circuit Breaker

To protect the generator from an overload, a 2-pole, 30 amp, circuit breaker is provided. Make sure to switch the circuit breaker to the "OFF" position prior to starting the engine.

Extension Cable

When electric power is to be provided to various tools or loads at some distance from the generator, extension cords are normally used. Cables should be sized to allow for distance in length and amperage so that the voltage drop between the generator and point of use (load) is held to a minimum. Use the cable selection chart (Table 3) as a guide for selecting proper cable size.

Table 7. Generator Cable

Current in Amperes	Load In Watts		Maximum Allowable Cable Length			
	At 120 Volts	At 240 Volts	#10 Wire	#12 Wire	#14 Wire	#16 Wire
2.5	300	600	1000 ft.	600 ft.	375 ft.	250 ft.
5	600	1200	500 ft.	300 ft.	200 ft.	125 ft.
7.5	900	1800	350 ft.	200 ft.	125 ft.	100 ft.
10	1200	2400	250 ft.	150 ft.	100 ft.	
15	1800	3600	150 ft.	100 ft.	65 ft.	
20	2400	4800	125 ft.	75 ft.	50 ft.	

CAUTION: Equipment damage can result from low voltage.

Lubrication Oil

Fill the engine crankcase with lubricating oil through the filler hole, but do not overfill. Make sure the welder/generator is level. With the dipstick inserted all the way, but without being screw into the filler hole, verify that the oil level is maintained between the two notches (Figure 7) on the dipstick. See Table 4 for proper selection of engine oil.

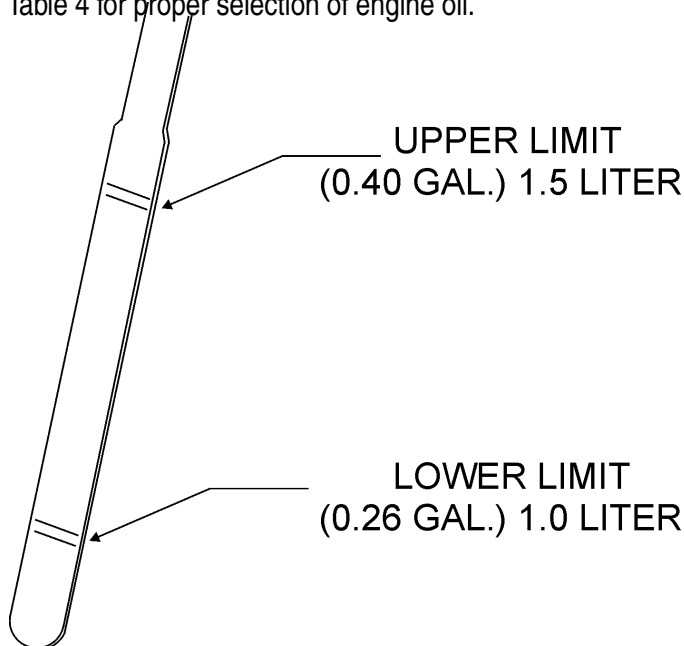


Figure 7. Engine Oil Dipstick

Table 8. Recommended Motor Oil

Temperature Range	Type Oil
104° F ~ 23° F (40° C ~ -5°C)	SAE 30
23° F ~ 5° F (-5° C ~ -15°C)	SAE 20 or SAE 10W-30
Below 5° C (-15°)	SAE 10W or SAE 10W-30

Fuel

Fill the fuel tank with clean and fresh unleaded gasoline. **DO NOT** fill the tank beyond capacity.

Pay attention to the fuel tank capacity when replenishing fuel. Refer to the fuel tank capacity listed on page 11, Specification Table 1.

The fuel tank cap must be closed tightly after filling. Handle fuel in a safety container. If the container does not have a spout, use a funnel.

CAUTION :



Never fill the fuel tank while the engine is running or in the dark. Gasoline spillage on a hot engine can cause a fire or explosion. If gasoline spillage occurs, wipe up the spilled gasoline completely to prevent fire hazards.

Air Cleaner

Periodic cleaning/replacement is necessary. Inspect it in accordance with the engine manual.

Battery

This unit is of negative ground. **DO NOT** connect in reverse. Always maintain battery fluid level between the specified marks. Battery life will be shortened, if the fluid level is not properly maintained. Add only distilled water when replenishment is necessary.

The battery is sufficiently charged if the specific gravity of the battery fluid is 1.28 (at 68° F). If the specific gravity should fall to 1.245 or lower, it indicates that the battery is dead and needs to be recharged or replaced.

Check to see whether the battery cables are loose. Poor contact may result in poor starting or malfunctions, always keep the terminals firmly tightened. Coating the terminals with a thin film of grease will help to inhibit corrosion.

The battery gradually deteriorates over time. The actual life span will vary according to operating conditions, but generally a battery two years or older should be replaced.

CAUTION :



When adding coolant or antifreeze to the radiator, do not remove the radiator cap until the unit has completely cooled.

Day-to-day addition of coolant or antifreeze is done from the reserve tank. See Table 9 for engine, radiator and reserve tank coolant capacities. Make sure the coolant level in the reserve tank is always between the "H" and the "L" markings.

Table 9. Coolant Capacity	
Engine and Radiator	1.1 Gal. (4.16L)
Reserve Tank	0.2 Gal. (0.75L)

Operation in Freezing Weather

When operating in freezing weather, be certain that the proper amount of antifreeze has been added. See Table 10 for antifreeze operating temperatures.

Table 10. Anti-Freeze Operating Temperatures				
Vol % Anti-Freeze	Freezing Point		Boiling Point	
	°C	°F	°C	°F
40	-24	-12	106	222
50	-37	-34	108	226

NOTE

When the antifreeze is mixed with water, the antifreeze mixing ratio must be less than 50%.

Cleaning the Radiator

The radiator may overheat if the fins become overloaded with dust or debris. Periodically clean the radiator fins with compressed air.

Fan Belt Tension

A slack fan belt may contribute to overheating, or to insufficient charging of the battery. Inspect and adjust it in accordance with the *Kubota Engine Operator's Manual*.

The fan belt tension is proper if the fan belt (Figure 5) bends 7 to 9 mm (0.28- to 0.35 in.) when depressed with the thumb as shown in Figure 13 below.

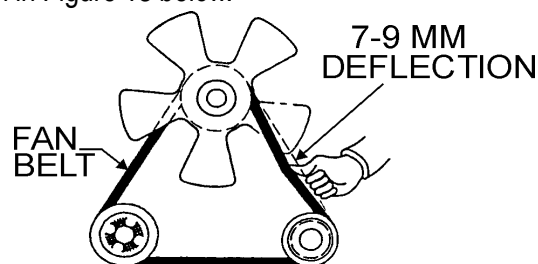


Figure 13. Fan Belt Tension

CAUTION :



Never place hands near the belts or fan while the welder/AC generator is running.

Air Cleaner

Periodic cleaning/replacement is necessary. Inspect it in accordance with the *Kobota Engine Operator's Manual*.

Battery

This unit is of negative ground. **DO NOT** connect in reverse. Always maintain battery fluid level between the specified marks. Battery life will be shortened, if the fluid level is not properly maintained. Add only distilled water when replenishment is necessary.

The battery is sufficiently charged if the specific gravity of the battery fluid is 1.28 (at 68° F). If the specific gravity should fall to 1.245 or lower, it indicates that the battery is dead and needs to be recharged or replaced.

Check to see whether the battery cables are loose. Poor contact may result in poor starting or malfunctions, always keep the terminals firmly tightened. Coating the terminals with a thin film of grease will help to inhibit corrosion.

CAUTION :



When using a combination of dual receptacles, total load should not exceed the rated capacity of the generating set.

Power Outlets

The generator has the following 60 Hz, 120/240 volt single-phase receptacles.

- Single Phase
 - One Duplex NEMA (GFCI) 5-20R (120V, 20 Amp)
 - One Twist Lock NEMA L5-30R (120V, 25 Amp)
 - One Twist Lock NEMA L14-30R (120/240V, 25 Amp)

Main Circuit Breaker (2-Pole)

This 2-pole 25 amp breaker protects the generator from short circuiting or overloading from the 60 Hz single phase load.

GFCI Protection Breaker (Single-Pole)

This Single-pole 25 amp breaker protects the GFCI receptacle from short circuiting or overloading from the 60 Hz single phase load.

Idle Control Switch

The unit is provided with an automatic idle control for noise suppression and fuel cost reduction. The automatic idle control automatically engages under a no-load condition.

With the automatic idle control switched "ON", the engine revolutions will automatically drop to about 2100 rpm (low-speed operation) within 7 seconds after the welding stops. When welding is resumed, the engine speed is automatically increased to about 3600 rpm (high-speed operation) as soon as the electrode contacts the base metal

This provides for smooth welding operation. With AC loads of more than 100W (such as lighting equipment, motor-powered tools, submersible water pumps, etc.), the engine runs at high speed. When a no load condition is produced, the engine automatically shows down.

Turn the idle control switch to the "ON" (up) position when the welder or AC loads of more than 100W is connected. Turn the idle control switch to the "OFF" (down) position when AC loads of less than 100W or when a magnetic switch is used.

Fuel Gauge

The fuel gauge is located on the fuel tank and allows easy monitoring of the fuel level.

GFCI Receptacle

Before connecting a load to the generator's GFCI receptacle, **push** the "Test Button" on the front of receptacle before connecting the load, to confirm that the receptacle is functioning correctly.

Single Phase Load

Always be sure to check the nameplate on the generator and equipment to insure the wattage, amperage and frequency requirements are satisfactorily supplied by the generator for operating the equipment.

Generally, the wattage listed on the nameplate of the equipment is its rated output. Equipment may require 130—150% more wattage than the rating on the nameplate, as the wattage is influenced by the efficiency, power factor and starting system of the equipment.

NOTE

If wattage is not given on the equipment's name plate, approximate wattage may be determined by multiplying nameplate voltage by the nameplate amperage.

$$\text{WATTS} = \text{VOLTAGE} \times \text{AMPERAGE}$$

The power factor of this generator is 1.0. See Table 5. below when connecting loads.

Table 11. Power Factor By Load

Type Of Load	Power Factor
Single-phase induction motors	0.4 - 0.75
Electric heaters, incandescent lamps	1.0
Fluorescent lamps, mercury lamps	0.4 - 0.9
Electronic devices, communication equipment	1.0

- When connecting a resistance load such as an incandescent lamp or electric heater, a capacity of up to the generating set's rated output (kW) can be used.
- When connecting a fluorescent or mercury lamp, a capacity of up to the generating set's rated output (kW) multiplied by 0.6 can be used.
- When connecting an electric drill or other power tools, pay close attention to the required starting current capacity.

When connecting ordinary power tools, a capacity of up to the generating set's rated output (kW) multiplied by 0.8 can be used.

CAUTION:



Motors and motor-driven equipment draw much greater current for starting than during operation.

An inadequate size connecting cable which cannot carry the required load can cause a voltage drop which can burn out the appliance or tool and overheat the cable.

The idle control is operated at minimum load capacity of 100W. If the load capacity is less than 100W, place the idle control switch to the OFF position.

CAUTION:



Before connecting this generator to any building's electrical system, a licensed electrician must install an isolation (transfer) switch. Serious injury or death may result without this transfer switch.

SGW-250SS — WELDER OPERATING INSTRUCTIONS

Welding Cables and Polarities

Connect the welding cables (Figure 8) to the welder's output terminals located on the control panel. The output terminals have positive(+) and negative(-) polarities. Select the appropriate polarities according to the application (See Welding Application, Table 6).

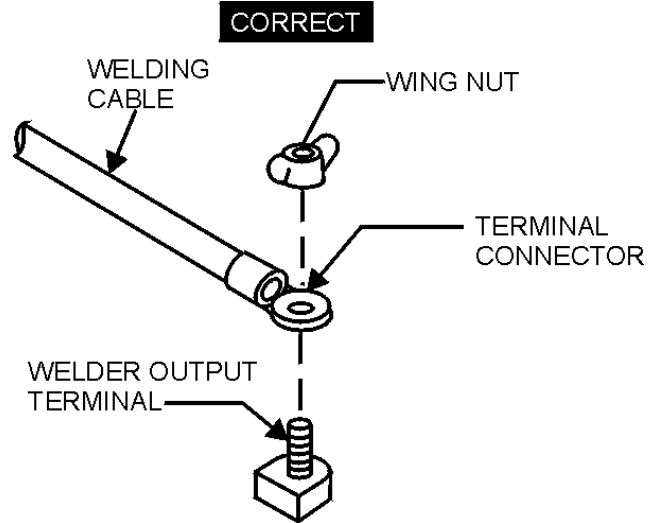


Figure 8. Welding Cable Connection (Correct)

NOTE
Attach terminal connectors at the end of each cable. **NEVER** connect exposed wires (Figure 9) directly to the terminal. Exposed wiring may cause shocks or di-electric breakdown from poor contact.

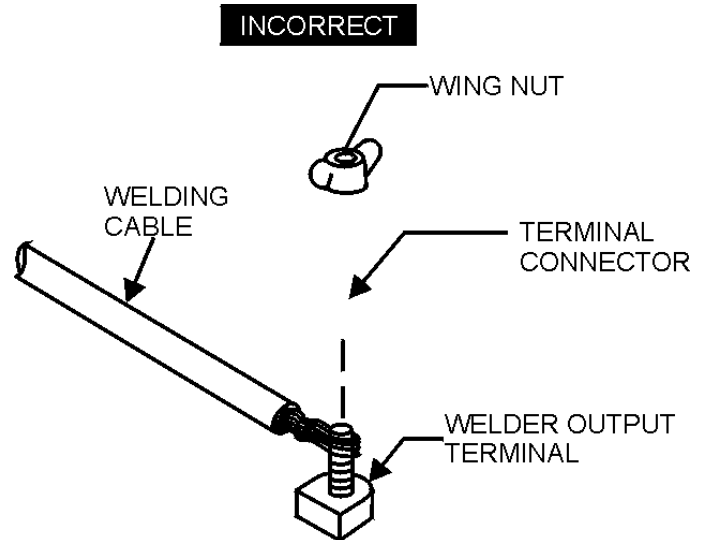


Figure 9. Welding Cable Connection (Incorrect)

Table 12. Welding Applications

POLARITY	WELDING METHOD	TYPICAL APPLICATIONS
Straight Polarity	(+) ... Ground Clamp	Welding steel materials for general structures, and thickness plates.
	(-) ... Electrode Holder	Arc welding for copper alloy
Reverse Polarity	(+) ... Ground Clamp	Build-up welding, ARC welding of thin plates
	(+) ... Electrode Holder	Arc welding of stainless steel

Note: Regarding the selection of the polarity in the CV characteristics, follow the instructions from the wire manufacturer.

SGW-250SS — WELDER OPERATING INSTRUCTIONS

CAUTION :



NEVER switch the CV/CC **Selector Switch** during any welding operation. When switching a selector switch, fully rotate it to the right or left position.

1. Turn the CV/CC **Selector Switch** (Figure 10) to the **CV** position, and adjust voltage using the **Voltage Control** knob.

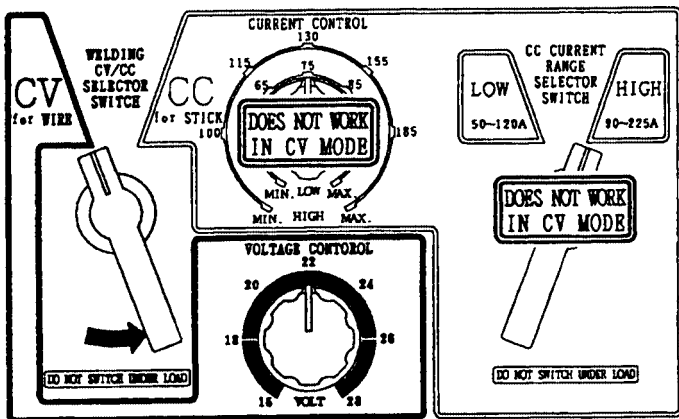


Figure 10. Welding Voltage Adjustment

NOTE

When the CV/CC **Selector Switch** is in the CV position, the **Current Control**, and **Current Range Selector Switch** functions are inoperative.

2. Turn the CV/CC **Selector Switch** (Figure 11) to the **CC** position.

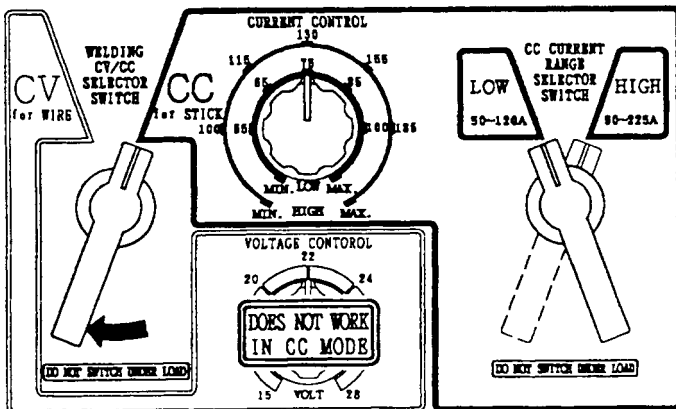


Figure 11. Welding Current Adjustment

NOTE

When the CV/CC **Selector Switch** is in the CC position, the **Voltage Control** function is inoperative.

3. Set the **CC Current Range Selector Switch** to the desired position (Low/High).
4. Adjust current output, by setting **Current Control** knob to desired current output.

NOTE

When using the **Current Control** knob to adjust the current output, the outer scale is for the high range, and the inner scale is for the low range.

Auxiliary AC Power

The Auxiliary AC power in most cases will not be affected by the CV/CC Selector Switch or any controls (Figure 12) on the front panel, and will supply a stable constant AC voltage **except** when the welding mode is activated.

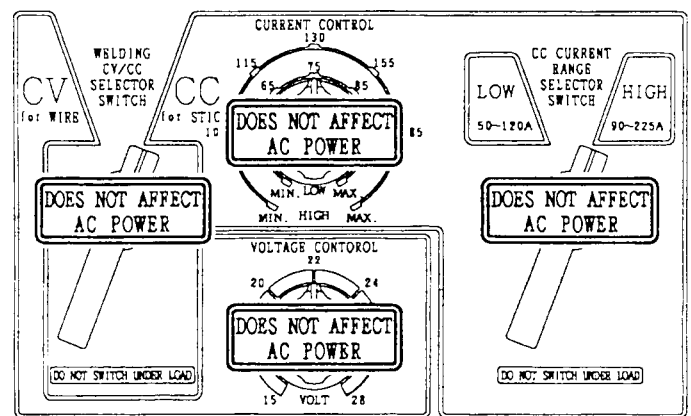


Figure 12. Auxiliary AC Power

NOTE

When welding, remember that the output of the AC **AUXILIARY POWER** is affected by the welding operation. See next page for generator output voltage conditions when welding.

SGW-250SS — WELDER OPERATING INSTRUCTIONS

Welding and Auxiliary Outputs.

The welding and auxiliary outputs can be used simultaneously, subject to all of the following conditions:

- CC/CV Selector Switch is in the **CC** mode.
- CC Current Range Selector is in the **low** mode.
- Current Control is in the **MAX** position.

NOTE

Under the above conditions, the welder can supply welding current of 120 amps, and AC current up to 3 kW at 120V and 240V.

Duty Cycle

The welder is rated at 100% duty cycle at 250 amps. However the duty cycle depends upon the welding current. Select the appropriate duty cycle from Table 7 to prevent overload.

NOTE

The 250 amp, 60% duty cycle referenced in Table 7 is for CV welding **ONLY**.

Table 13. Duty Cycle

Duty Cycle (%)	100	80	60
Current (Amps)	200 or less	225	250

WARNING:



The engine's exhaust contains harmful emissions. **ALWAYS** ventilate the exhaust when operating inside tunnels, excavations or buildings. Direct exhaust away from nearby personnel.

CAUTION:



NEVER press the the “**START**” push-button switch while the engine is running.

Before Starting

1. Be sure to disconnect the electrical load and switch the main circuit breaker to the “OFF” position prior to starting the engine.
2. Never start the engine with the main circuit breaker “ON”.
3. Check the lubricating oil level prior to starting the engine. Make sure the generator is level. The oil level must be maintained between two notches on the dipstick.
4. When there is not enough lubricating oil, fill the crankcase with high grade motor oil. Use a high quality detergent oil classified CC or higher (See Table 3 on page 16).
5. Check the coolant level in the radiator and subtank. Replenish with antifreeze as necessary. Always maintain the coolant level between the **FULL** and **LOW** markings on the coolant container. Be sure that the radiator cap is fastened securely.
6. Let the engine idle for five minutes with the Automatic Idle Control switch in the “ON” position.
7. Check the engine for abnormal vibrations, noises and oil leakage.
8. Check the generator's output voltage by connecting an AC voltmeter to the 120/240 volt output receptacles. If the voltmeter indicates 120 volts, then 120 VAC can be obtained from the 120 V and 240V receptacles at the same time.
9. Turn the **Automatic Idle Control Switch** to either “OFF” or “ON” for full engine operation.

CAUTION:



- Check the fuel level on the fuel gauge. When fuel is low, fill the fuel tank with clean fresh unleaded automotive gasoline.
- If gasoline spillage occurs, completely wipe up the spilled gasoline.

Starting

1. On the front panel of the generator, set the ON/OFF switch to the ON position (up).
2. Pull the choke knob half way out (half open).
3. Press and hold the start “**push-button**” switch until the engine starts, then release.
4. After the engine starts gradually push the choke knob inward, all the way back to its closed position.
5. If the engine does not start within 10 seconds after pushing start button, wait about 30 seconds and repeat steps 1 through 4. If the engine fails to start after repeated attempts, refer to Table 8, Engine Troubleshooting.

Shutdown

1. Remove the load from the generator, then place both the main and GFCI circuit breakers to the OFF position.
2. Listen for the engine speed to drop. Run at low speed for 3-5 minutes.
3. Stop the engine by setting the ON/OFF switch on the generator's front panel to the OFF position.

General Inspection

At least daily or prior to each use, the welder/AC generator should be cleaned and inspected for deficiencies. Check for loose, missing or damaged nuts, bolts or other fasteners. Also check for fuel or oil leaks.

Engine Side:

For a more detail engine maintenance schedule refer to the *HONDA Engine Operator's Manual*.

Air Cleaner:

Every 50 hours: Remove air cleaner element by removing the wing bolts and screws. Inspect and clean heavy duty paper element by tapping it several times or blow with compressed air (not to exceed 30 psi). If element is too dirty or damaged, replace. Clean foam element with liquid detergent and hot water or with kerosene. Wrap foam element in a cloth and squeeze dry. Wipe any dirt from the inside of the air cleaner body and cover using a moist rag. Be careful to prevent dirt from entering the air chamber that leads to the carburetor.

Place the foam air filter element to the air cleaner body. Be sure the gaskets are in place, then reinstall the paper air filter element and cover. Tighten the air filter wing bolt securely.

Cleaning the Fuel Strainer

Clean the fuel strainer if it contains dust or water. Remove dust or water in the strainer cap and wash it in gasoline. Securely fasten the fuel strainer cap so that fuel will not leak. Check the fuel strainer every 200 hours of operation or once a month.

Removing Water from the Fuel Tank

After prolonged use, water and other impurities accumulate in the bottom of the fuel tank. Occasionally remove the drain cock and drain the contents. During cold weather, the more empty are inside the tank, the easier it is for water to accumulate inside the tank. This can be reduced by always keeping the fuel tank as full as possible.

Fuel Addition

Always add clean, fresh unleaded fuel. Always pour through mesh lining.

Rectifier Fins

Periodically inspect the rectifier fins for contamination. ALWAYS keep fins free of dirt.

Air Removal

If air enters the fuel system of a gasoline engine, starting becomes impossible. After running out of gasoline, or after disassembling the fuel system, bleed the system by following this procedure:

Turn the operation switch to the 'ON' position for 15-30 seconds. Try again, if needed.

INSPECTION / MAINTENANCE		10 Hrs DAILY	250 Hrs	500 Hrs	1000 Hrs
ENGINE	Check Engine Fluid Levels	X			
	Check Air Cleaner	X			
	Check Battery Acid Level	X			
	Check Fan Belt Condition	X			
	Check for Leaks	X			
	Check for Loosening of Parts	X			
	Replace Engine Oil and Filter *1		X		
	Clean Air Filter		X		
	Drain Bottom of Fuel Tank		X		
	Clean Unit, Inside and Outside		X		
	Change Fuel Filter *2			X	
	Clean Radiator and Check Coolant Protection Level			X	
	Replace Air Filter Element				X
	Check all Hoses and Clamps				X
Clean Inside of Fuel Tank				X	
GENERATOR	Measure Insulation Resistance Over 3M ohms		X		

*1 Replace engine oil and filter at 100 hours, first time only.

*2 Replace fuel filter at 250 hours, first time only.

Welder/Generator Storage

For storage of the generating set for over 30 days, the following is required:

- Drain the fuel tank completely.
- Run the engine until the gasoline in the carburetor is completely consumed.
- Completely drain the oil from the crankcase and refill with fresh oil.
- Remove the spark plug, pour 2 or 3 cc of SAE 30 oil into the cylinder and crank slowly to distribute the oil.
- Slowly rotate the engine a few times with the and install a new plug.
- Remove the **NEGATIVE** battery cable from the negative post on the battery.
- Stop the engine at the compression point.
- Clean all external parts of the generating set with a cloth.
- Cover the generating set and store in a clean, dry place.

SGW-250SS — TROUBLESHOOTING (WELDER)

Practically all breakdowns can be prevented by proper handling and maintenance inspections, but in the event of a breakdown, please take a remedial action following the

diagnosis based on the Welder Troubleshooting (Table 8) information shown below. If the problem cannot be remedied, please consult our company's business office or service plant.

TABLE 14. WELDER TROUBLESHOOTING

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
AC voltage is not present in generator's AC section or welding section.	Low speed ?	Refer to "Engine remains at low speed" section.
	Defective resistor (R)?	Replace resistor.
	Defective Field Controller?	Replace "Field Controller".
	Defective rotor?	Replace rotor.
	Defective Wiring?	Repair wiring.
	Blown fuse F3?	Replace fuse.
Poor welding and low voltage in AC power section.	Defective Field Controller?	Replace "Field Controller".
	Defective rotor?	Replace rotor.
	Low speed ?	Refer to "Engine remains at low speed" section.
	Layer short-circuit in armature winding?	Replace armature.
	Defective wiring?	Repair wiring.
AC power is normal but there is no welding capability. Current and voltage adjustments are in-operative.	Defective current transformer?	Replace transformer, CT1, CT2 or CT3.
	Defective Field Controller?	Replace "Field Controller".
	Defective rectifier (Re)?	Replace rectifier.
	Defective reactor (DCL or L1 or L2)?	Replace reactor.
	Inadequate length and thickness of welding cable.	Replace welding cable.
	Layer short-circuit in armature winding?	Replace armature.
	Defective wiring?	Repair wiring.
	Defective selector switches?	Replace S1 or S2.
AC power is too low or can not be used, but welding is normal.	Defective circuit breaker	Replace circuit breaker.
	Layer short-circuit in armature winding (AC side)?	Replace armature.
	Defective wiring?	Repair wiring.
	Defective Field Controller?	Replace "Field Controller".
Battery discharges too soon.	Defective engine regulator?	Replace regulator.
	Defective wiring?	Repair wiring.
	Defective ignition switch?	Replace ignition switch.

SGW-250SS — TROUBLESHOOTING (ENGINE)

Practically all breakdowns can be prevented by proper handling and maintenance inspections, but in the event of a breakdown, please take a remedial action following the

diagnosis based on the Engine Troubleshooting (Table 9) shown below. If the problem cannot be remedied, please consult our company's business office or service plant.

TABLE 15. ENGINE TROUBLESHOOTING (PART 1)

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Engine does not start.	No fuel?	Replenish fuel.
	Air in the fuel system?	Bleed system.
	Water in the fuel system?	Remove water from fuel tank.
	Fuel pipe clogged?	Clean fuel pipe.
	Fuel filter clogged?	Clean or change fuel filter.
	Excessively high viscosity of fuel or engine oil at low temperature?	Use the specified fuel or engine oil.
	Fuel with low cetane number?	Use the specified fuel.
	Fuel leak due to loose injection pipe retaining nut?	Tighten nut.
	Incorrect injection timing?	Adjust.
	Fuel cam shaft worn?	Replace.
	Injection nozzle clogged?	Clean injection nozzle.
	Injection pump malfunctioning?	Repair or replace.
	Seizure of crankshaft, camshaft, piston, cylinder liner or bearing?	Repair or replace.
	Compression leak from cylinder?	Replace head gasket, tighten cylinder head bolt, glow plug and nozzle holder.
	Improper valve timing?	Correct or replace timing gear.
Piston ring and liner worn?	Replace.	
Excessive valve clearance?	Adjust.	

SGW-250SS — TROUBLESHOOTING (ENGINE)

TABLE 15. ENGINE TROUBLESHOOTING (PART 2)

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Engine revolution is not smooth.	Fuel filter clogged or dirty?	Clean or change.
	Air cleaner clogged?	Clean or change.
	Fuel leak due to loose injection pipe retaining nut?	Tighten nut.
	Injection pump malfunctioning?	Repair or replace.
	Incorrect nozzle opening pressure?	Adjust.
	Injection nozzle stuck or clogged?	Repair or replace.
	Fuel over flow pipe clogged?	Clean.
	Governor malfunctioning?	Repair.
Either white or blue exhaust gas is observed.	Excessive engine oil?	Reduce to the specified level.
	Piston ring and liner worn or stuck?	Repair or replace.
	Incorrect injection timing?	Adjust.
	Deficient compression?	Adjust top clearance.
Either black or dark gray exhaust gas is observed.	Overload?	Lessen the load.
	Low grade fuel used?	Use the specified fuel.
	Fuel filter clogged?	Clean or change.
	Air cleaner clogged?	Clean or change.
	Deficient nozzle injection?	Repair or replace the nozzle.
Deficient output.	Incorrect injection timing?	Adjust.
	Engine's moving parts seem to be seizing?	Repair or replace.
	Uneven fuel injection?	Repair or replace the injection pump.
	Deficient nozzle injection?	Repair or replace the nozzle.
	Compression leak?	Replace head gasket, tighten cylinder head bolt, glow plug and nozzle holder.

SGW-250SS — TROUBLESHOOTING (ENGINE)

TABLE 15. ENGINE TROUBLESHOOTING (PART 3)

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Engine fails to start and starter rotates.	Broken pre-heat circuit?	Check pre-heat circuit.
	No fuel?	Add fuel.
	Defective wiring?	Check wiring.
Engine starts and remains at low speed.	Clogged fuel strainer?	Clean or replace.
	Clogged air cleaner?	Clean or replace.
	Disconnected wiring?	Check and repair wiring.
Starter does not run.	Battery discharged?	Charge battery.
	Starter malfunctioning?	Repair or replace.
	Key switch malfunctioning?	Repair or replace.
	Wiring disconnected?	Connect wiring.
	Fuse F5 burned out?	Replace fuse.
Engine speed rises and no voltage is present in AC power source.	No voltage present in AC power source?	Replace rectifier (RE1).
	Defective rotor?	Replace rotor.
	Defective voltmeter?	Replace voltmeter.
	Disconnected wiring?	Check and repair wiring.
	Layer short-circuit in armature winding?	Replace armature.
Engine speed rises and AC power voltage is too low or cannot be used.	Defective circuit breaker (protector)?	Replace circuit breaker (protector).
	Layer short-circuit, broken wires in armature winding?	Repair or replace armature.
Engine speed rises and battery discharges too soon.	Defective engine regulator?	Replace regulator.
	Defective wiring?	Repair or replace wiring.
Engine speed rises and engine seems overloaded.	Defective alternator?	Repair or replace alternator.
	Damaged alternator bearing?	Replace alternator bearings.
Engine starts and "Idle Control Switch" is in OFF position. Engine speed rises and engine has large vibrations. Overloads.	Bad engine installation?	Repeat installation of engine.
Engine starts and "Idle Control Switch" is in OFF position. Engine speed rises and engine has abnormal noise.	Loose engine parts?	Check all engine parts for tightness.
	Defective alternator?	Check alternator for damaged bearing or loose clamping bolts.
	Defective enclosure?	Check enclosure bolts for tightness.
Engine starts and "Idle Control Switch" is in OFF position. Engine speed rises and remains at high speed when Idle Control switch is placed in the ON position.	Defective idle control device?	Repair or replace idle control device.
	Defective idle control switch?	Replace idle control switch.
	Defective solenoid?	Replace solenoid.
	Defective relay?	Replace relay.

EXPLANATION OF CODE IN REMARKS COLUMN

How to read the marks and remarks used in this parts book.

Items Found In the “Remarks” Column

Serial Numbers-Where indicated, this indicates a serial number range (inclusive) where a particular part is used.

Model Number-Where indicated, this shows that the corresponding part is utilized only with this specific model number or model number variant.

Items Found In the “Items Number” Column

All parts with same symbol in the number column, *, #, +, %, or ■, belong to the same assembly or kit.

Note: If more than one of the same reference number is listed, the last one listed indicates newest (or latest) part available.

NOTE

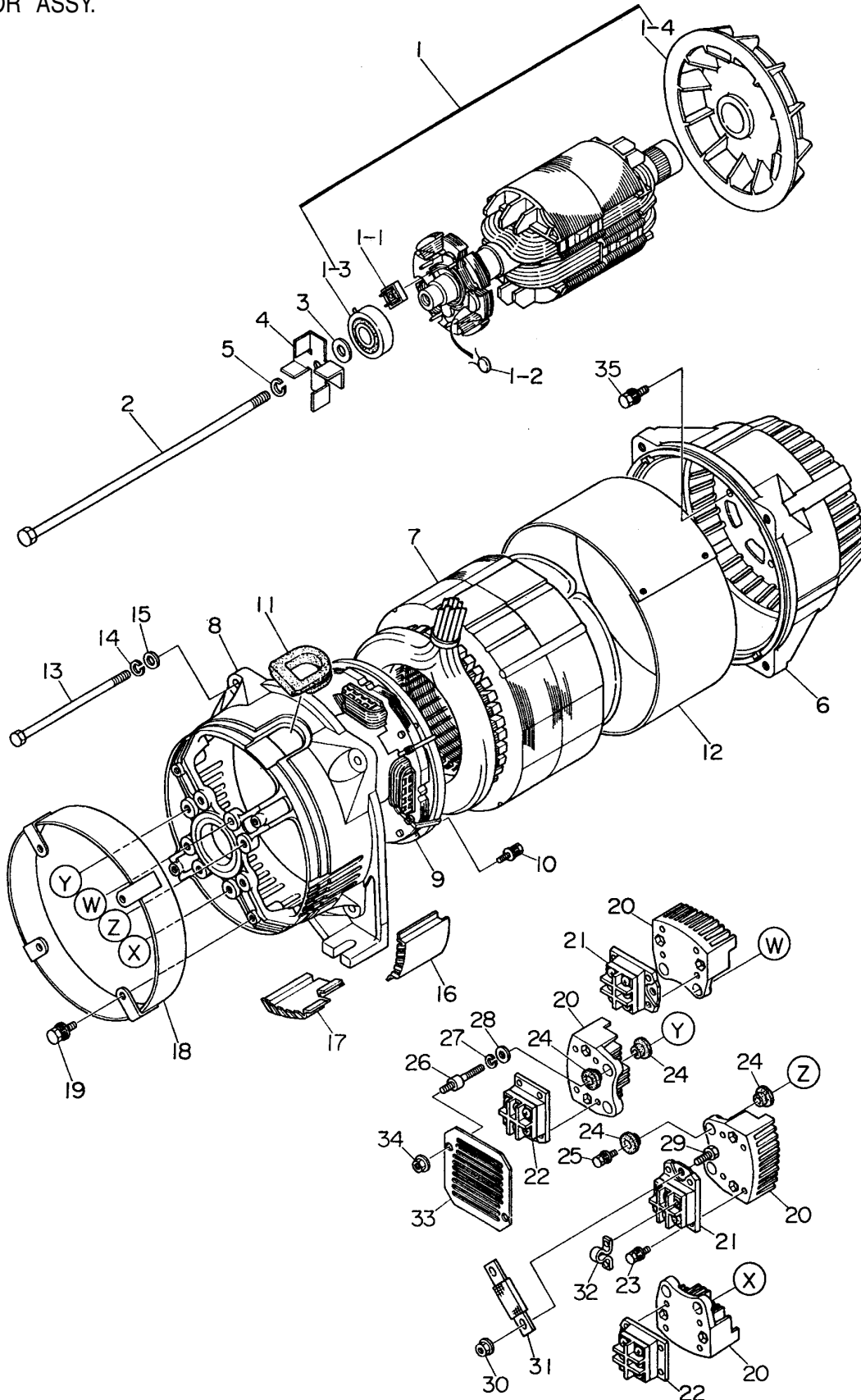
The contents of this parts catalog are subject to change without notice.

SGW W/HONDA GX610 AIR-COOLED ENGINE 1 TO 3 UNITS

Qty.	P/N	Description
5	17010ZJ1000 ...	AIR FILTER
1	17218ZJ1000 ...	AIR FILTER, OUTER
5	16910ZE8015 ..	FUEL FILTER
5	15400PR3004 ..	OIL FILTER
1	15427ZJ1000 ...	SCREEN, CRANKCASE OIL FILTER
1	35480ZJ1812 ...	SWITCH ASSY., OIL LEVEL
1	0601200102	STARTER SWITCH
1	0810105800	FUEL CAP
1	0601805331	MAIN CIRCUIT BREAKER
1	0601827399	CONTROL UNIT
1	1620150404	SOLENOID, ROTARY
4	9807952876	SPARK PLUG
2	0601821370	RECTIFIER
1	0601831841	CV/CC SELECTOR SWITCH
1	0601803070	CC CURRENT RANGE SELECT. SW
2	D1233000004 ..	OUTPUT TERMINAL
2	0801880004	INSULATOR WASHER
4	0039510000	HEX NUT
4	0045110000	LOCK WASHER
4	0042710000	PLAIN WASHER
2	0037810000	WING NUT
1	0601803117	KNOB, SELECTOR SWITCHES
1	A6356400303 ..	THROTTLE WIRE
1	0602125032	FUEL GAUGE
1	31740ZJ7003 ...	DIODE ASSY., ENGINE STOP

SGW-250SS — GENERATOR ASSY.

GENERATOR ASSY.



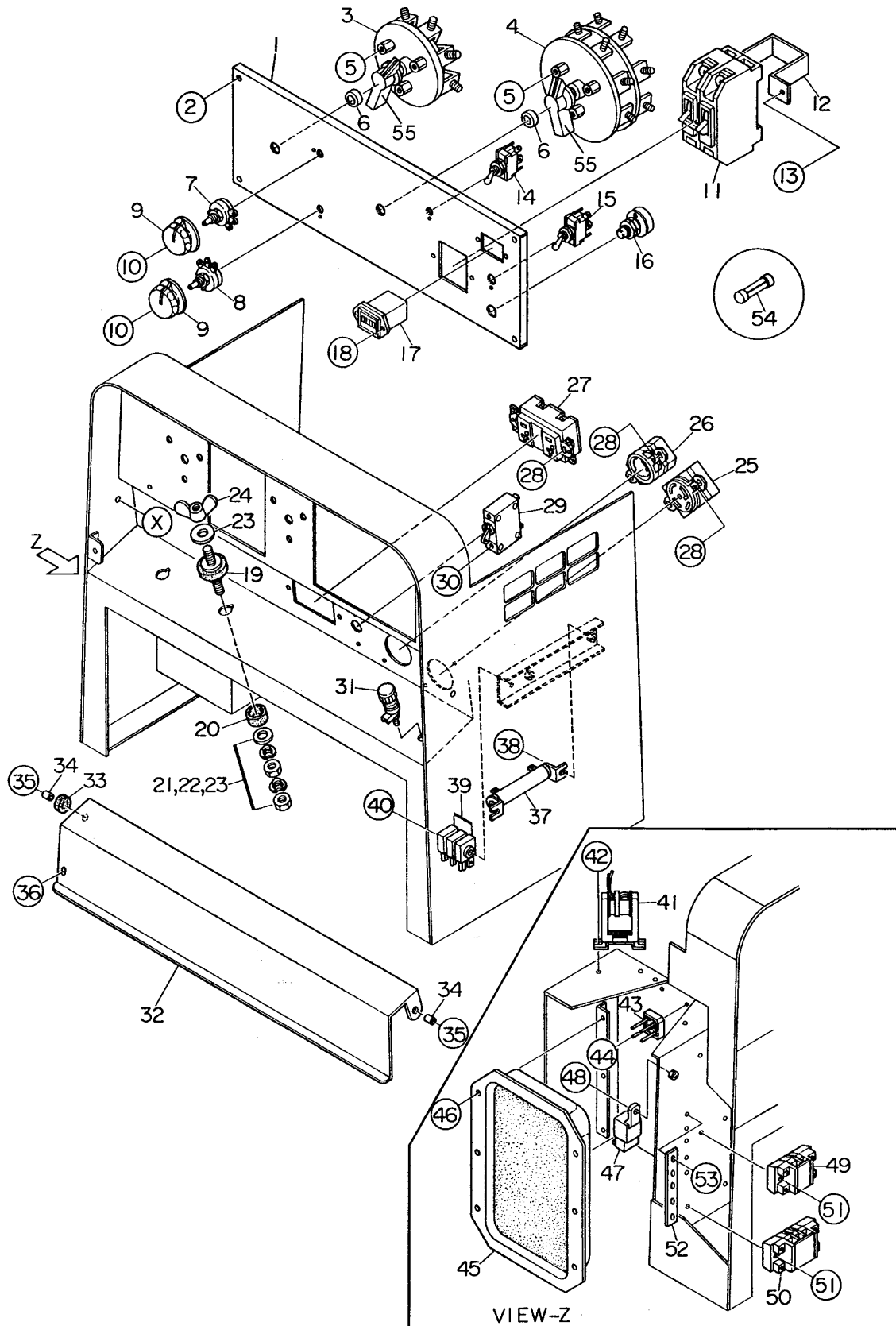
SGW-250SS — GENERATOR ASSY.

GENERATOR ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	D2110100003	ROTOR ASSY	1	INCLUDES ITEMS W/.
1-1.*	0601820037	RECTIFIER	1	S10VB60
1-2.*	0601822638	SURGE ABSORBER	1	TNR15G 431K
1-3.*	042006304	BEARING	1	6304 DDU; REPLACES 0071206304
1-4.*	3051070003	FAN	1	
2	D2113400004	SET BOLT ROTOR	1	
3	0801086104	SET WASHER BEARING	1	
4	D2113100004	FAN	1	
5	0040010000	LOCK WASHER	1	
6	D2155100202	END BRACKET	1	
7	D2134000803	ARMATURE ASSY	1	
8	D2155000104	END BRACKET	1	
9	D2137000203	FIELD ASSY EXCITER	1	
10	011606025	HEX HEAD BOLT	4	REPLACES 0017106025
11	1961324003	GROMMET	1	
12	D2133300004	COVER	1	
13	D2131500404	SET BOLT	4	
14	0040010000	LOCK WASHER	4	
15	031110160	PLAIN WASHER	4	REPLACES 0041210000
16	D1153500603	COVER	2	
17	D11535005031	COVER	2	
18	D2155500013	COVER	1	
19	011006010	HEX HEAD BOLT	4	REPLACES 0017106010
20	1961844513	FIN	4	
21	0601820012	RECTIFIER	2	SR30MA- 6S
22	0601820013	RECTIFIER	2	SR30MA-6R
23	0017105016	HEX HEAD BOLT	16	
24	103189004	INSULATOR WASHER	16	
25	011208035	HEX HEAD BOLT	6	REPLACES 0017108035
26	D2185300004	SET BOLT	2	
27	0040008000	LOCK WASHER	2	
28	031108160	PLAIN WASHER	2	REPLACES 0041208000
29	0019008016	HEX HEAD BOLT	4	
30	020108060	HEX NUT	4	REPLACES 0207208000
31	1991843504	CONNECTION PLATE	2	
32	1001843504	CONNECTION PLATE	12	
33	D2155400004	COVER FAN	1	
34	02072080000	HEX NUT	2	
35	011208025	HEX HEAD BOLT	4	REPLACES 0012308025

SGW-250SS — CONTROL PANEL ASSY.

CONTROL PANEL ASSY.



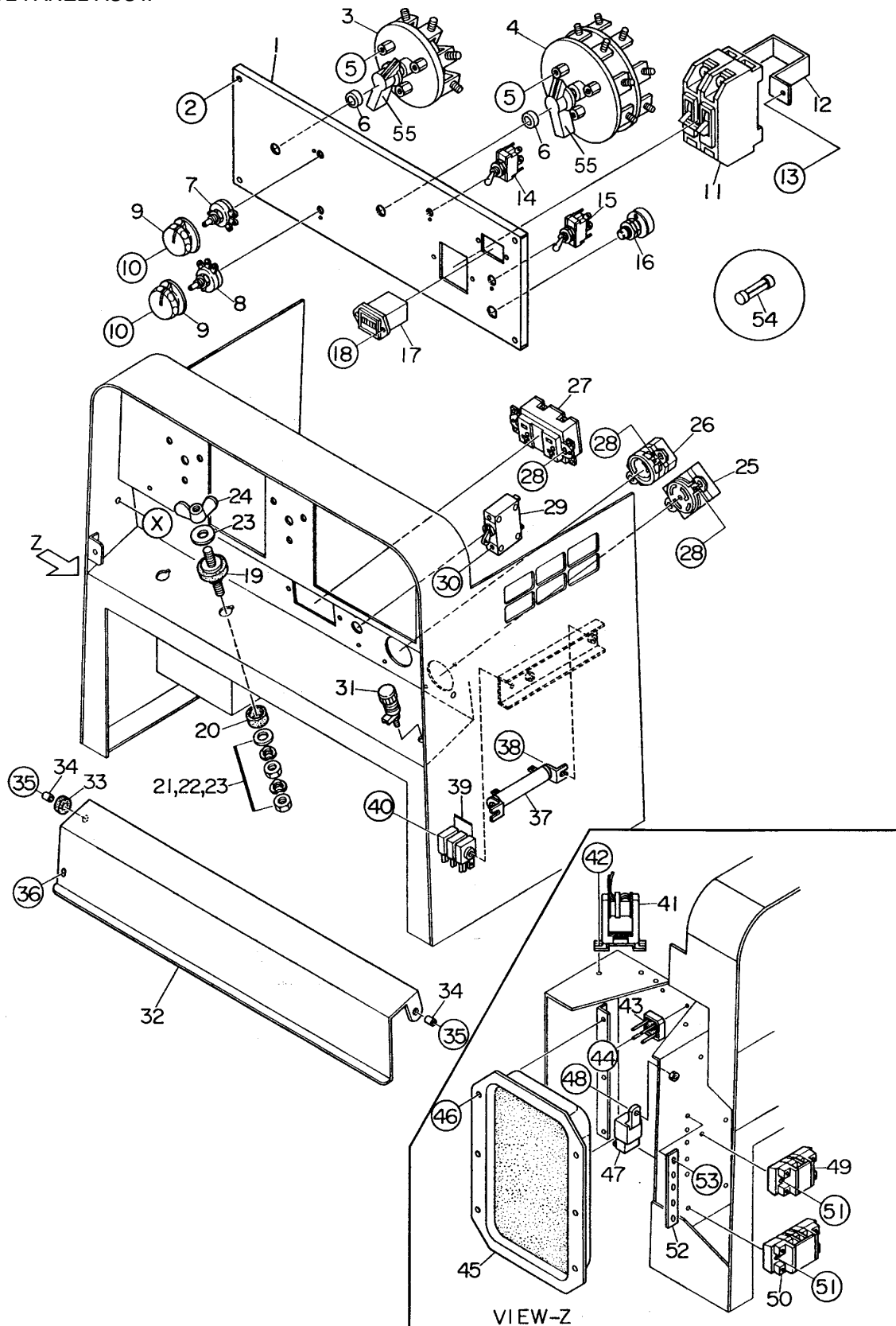
SGW-250SS — CONTROL PANEL ASSY.

CONTROL PANEL ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	D2205000203	CONTROL PANEL	1	D25122 00002
2	0021805020	MACHINE SCREW	4	
3	0601831841	CV CC SELECTOR SWITCH	1	SSK- 1831
4	0601803070	CC CURRENT RANGE SELECTOR SWITCH ..	1	SSK-2036C
5	0021304015	MACHINE SCREW	6	REPLACES 0021506012
6	8705945004	SEAL	2	
7	0601840095	RHEOSTAT CURRENT CONTROL	1	RV24YN20SB2KO
8	0601840026	RHEOSTAT VOLTAGE CONTROL	1	RA25YN20SB2KOJ
9	0601840103	KNOB	2	K- 2195
10	0023304008	SET SCREW	4	
11	0601805331	CIRCUIT BREAKER	1	KM52 265V 30A
12	4341817004	BRACKET CIRCUIT BREAKER	1	
13	0027104015	MACHINE SCREW	2	
14	0601830739	IDLE CONTROL SWITCH	1	ET210N12
15	0601830796	OPERATION SWITCH	1	ET225N12
16	0601200102	STARTER SWITCH	1	ST- 403
17	0601800682	HOUR METER	1	#820114
18	0027403512	MACHINE SCREW	2	
	0030003500	HEX NUT	2	
19	0801831204A	OUTPUT TERMINAL	2	REPLACES D1233000004
20	0801880004	INSULATOR WASHER	2	
21	020310080	HEX NUT	4	REPLACES 0039510000
22	030212300	LOCK WASHER	4	REPLACES 0045110000
23	0042710000	PLAIN WASHER	4	
24	0037810000	WING NUT	2	
25	0601812529	RECEPTACLE	1	L14- 30R
26	0601811031	RECEPTACLE	1	L5- 20R
27	0601812597	RECEPTACLE	1	5- 20R
28	0021004012	MACHINE SCREW	6	
	0030004000	HEX NUT	6	REPLACES 0207004000
29	0601806420	CIRCUIT PROTECTOR	1	
30	0027103006	MACHINE SCREW	2	
31	0601815109	GROUND TERMINAL	1	T- 381
32	D2238100203	COVER OUTPUT TERMINAL	1	
	D2238400004	RUBBER SHEET	1	
33	0805088004	STAY RUBBER	1	
34	0821800014	COLLAR	2	
35	011206020	HEX HEAD BOLT	2	REPLACES 0016906020
	0207006000	HEX NUT	2	
36	0016906016	HEX HEAD BOLT	1	
37	0601842462	RESISTOR	1	GG40W350
38	0027104012	MACHINE SCREW	2	
39	0601821370	RECTIFIER	3	DE4503
40	0027105040	MACHINE SCREW	1	

SGW-250SS — CONTROL PANEL ASSY.

CONTROL PANEL ASSY.



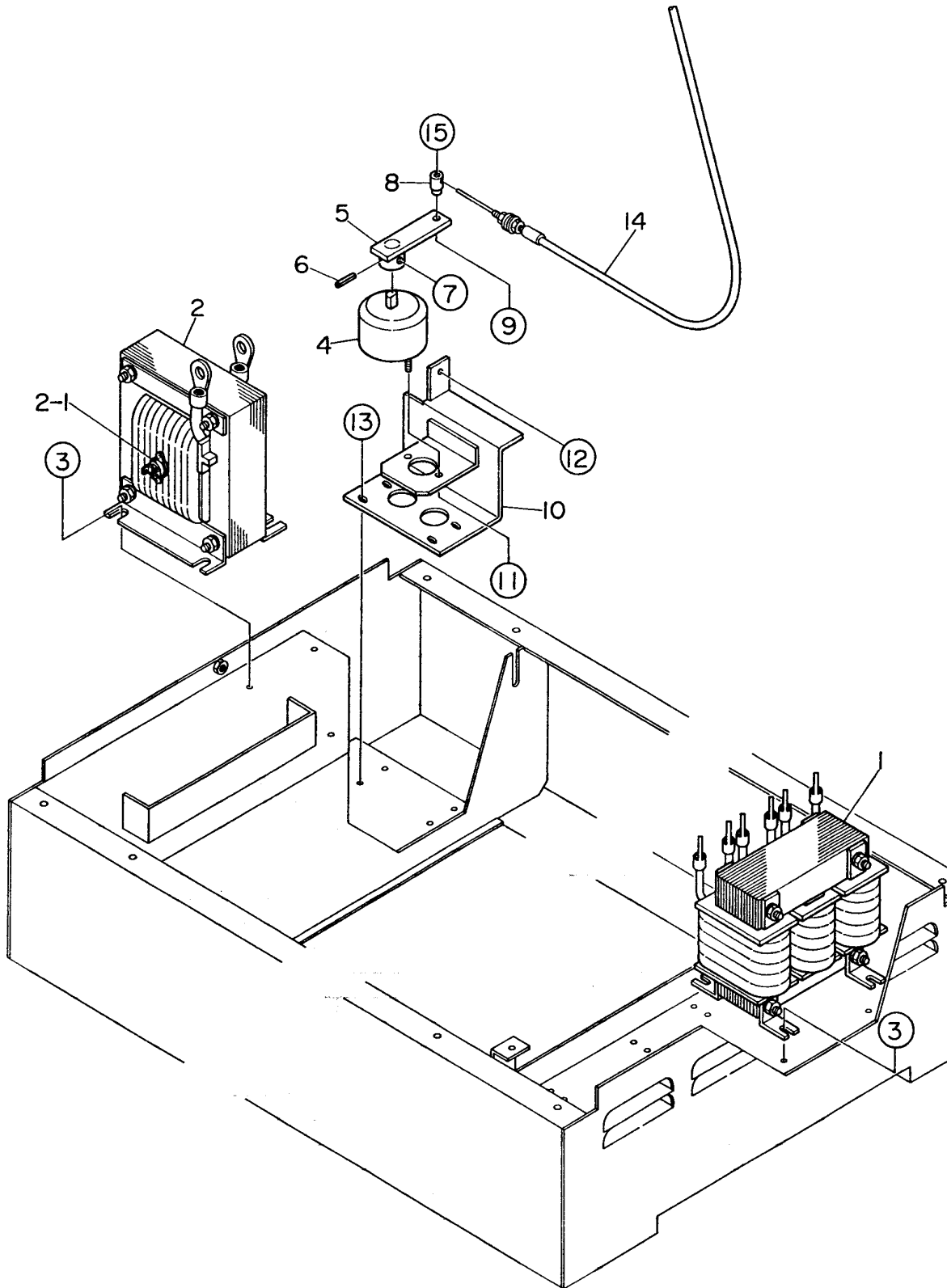
SGW-250SS — CONTROL PANEL ASSY.

CONTROL PANEL ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
41	0601804211	CURRENT TRANSFORMER	3	MCT-100Y
42	0027104012	MACHINE SCREW	6	
43	0601823204	RECTIFIER	2	S5VB60
44	0027103020	MACHINE SCREW	2	
45	0601827399	CONTROL UNIT	1	FD-80
46	0027105012	MACHINE SCREW	6	
47	0601823707	RELAY	1	CA1A-DC12V-N
48	0027105020	MACHINE SCREW	1	
49	0601815870	TERMINAL BOARD	1	KT-20 2P
	D9522001204	SYMBOL SEAL	1	
50	0601815758	TERMINAL BOARD	1	KT- 30 2P
	D9522000804	SYMBOL SEAL	1	
51	0027105020	MACHINE SCREW	2	
52	8511864601A	TERMINAL PLATE	1	REPLACES 8511864604
53	0016906016	HEX HEAD BOLT	5	
54	0601802137	FUSE	1	10A AC250V
55	0601803117	KNOB (SELECTOR SWITCHES)	2	

SGW-250SS — ELECTRIC PARTS ASSY.

ELECTRIC PARTS ASSY.



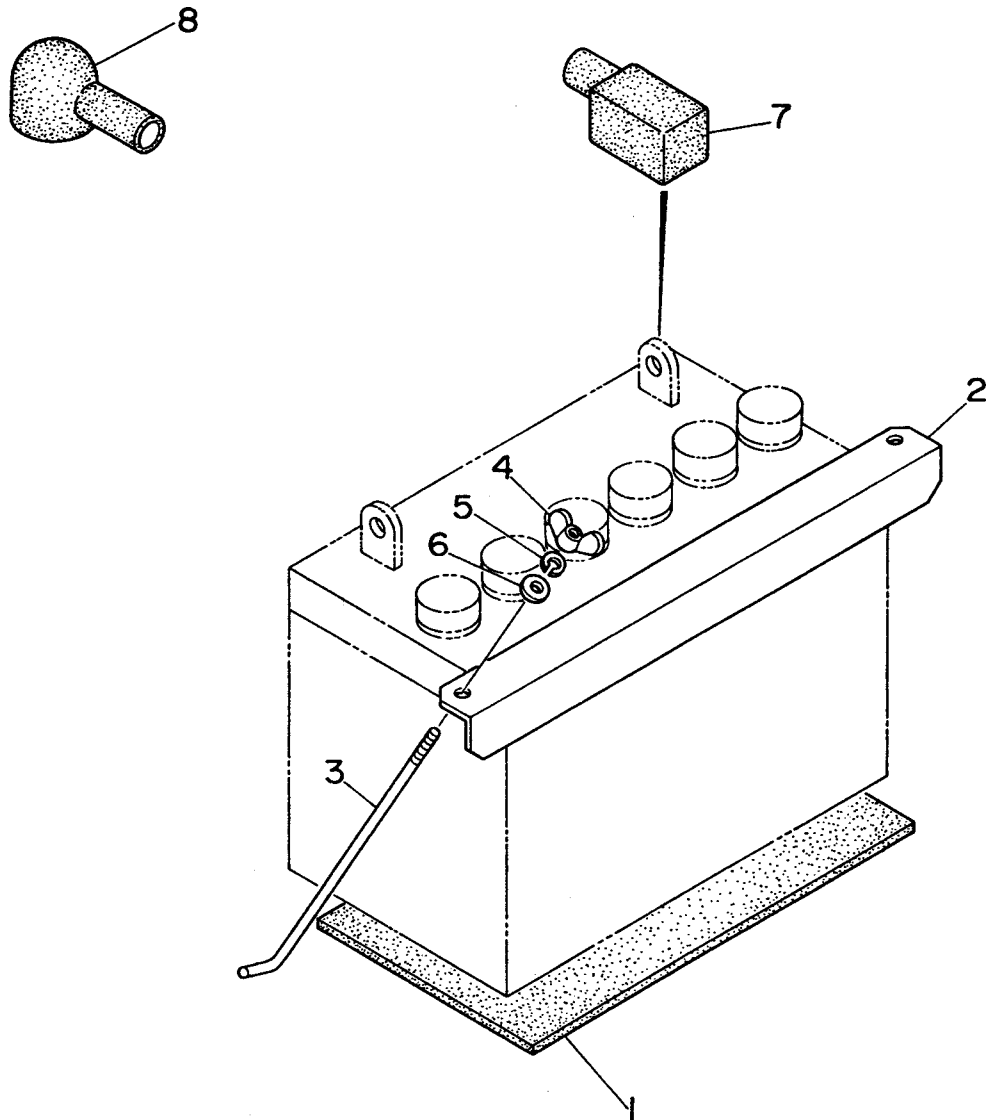
SGW-250SS — ELECTRIC PARTS ASSY.

ELECTRIC PARTS ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	D2263500303	AC REACTOR	2	
2	D2263500403	DC REACTOR	1	INCLUDES ITEMS W/ *
2-1*	0601831054	THERMOSTAT	1	REPLACES 0603210120
3	0017106016	HEX HEAD BOLT	12	
4	1622636103Z	ROTARY SOLENOID	1	7SL25-22; REPLACES 1620150404
5	1992636004	ARM SOLENOID	1	
6	0050403020	SPRING PIN	1	
7	0010106025	HEX HEAD BOLT	1	
	0030006000	HEX NUT	1	
8	A6356600404	WIRE STOPPER	1	
9	0017105010	HEX HEAD BOLT	1	
10	D2356200003	BRACKET SOLENOID	1	
11	0207006000	HEX NUT	2	
12	0010106040	HEX HEAD BOLT	1	
	0038706000	HEX NUT	1	
13	0016906016	HEX HEAD BOLT	4	
14	A6356400303B	THROTTLE WIRE	1	
15	0017105010	HEX HEAD BOLT	1	

SGW-250SS — BATTERY ASSY.

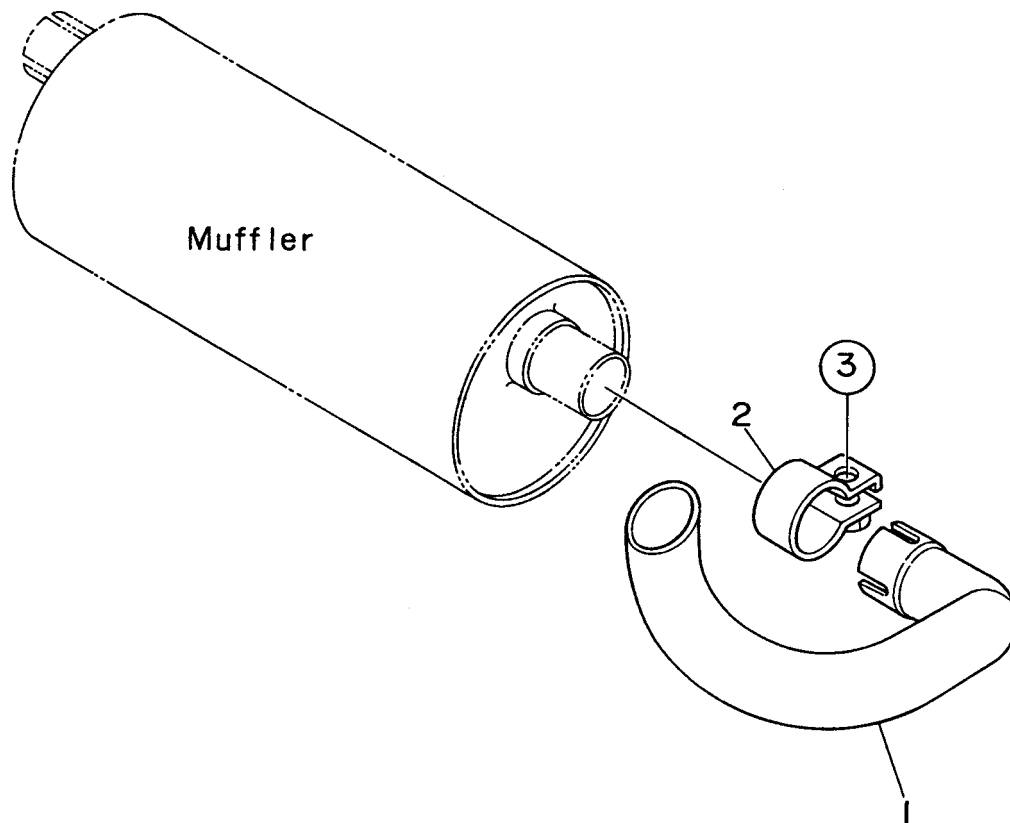
BATTERY ASSY.



BATTERY ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0805081004	BATTERY SHEET	1	REPLACES 1702202104
2	D2345200004	BATTERY BAND	1	
3	0805082704	BATTERY BOLT	2	
4	0037806000	WING NUT	2	
5	0040006000	LOCK WASHER	2	
6	0041206000	PLAIN WASHER	2	
7	0602220600	TERMINAL CAP RED	1	
	0602220601	TERMINAL CAP BLACK	1	
8	D1343200604	TERMINAL CAP	1	

TAIL PIPE ASSY.

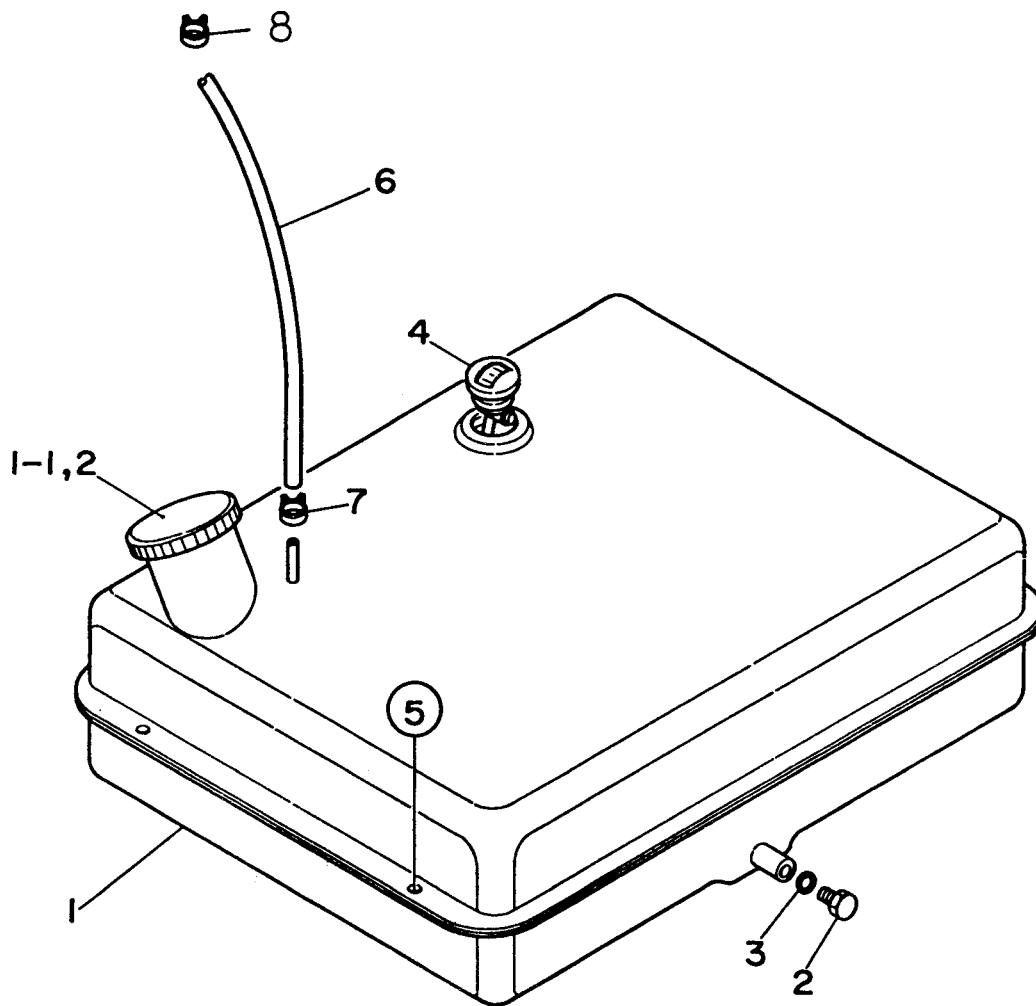


TAIL PIPE ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	D2335100013	OUTLET PIPE	1	
2	D9102200104	PIPE BAND	1	
3	0016908030	HEX HEAD BOLT	1	

SGW-250SS — FUEL TANK ASSY.

FUEL TANK ASSY.



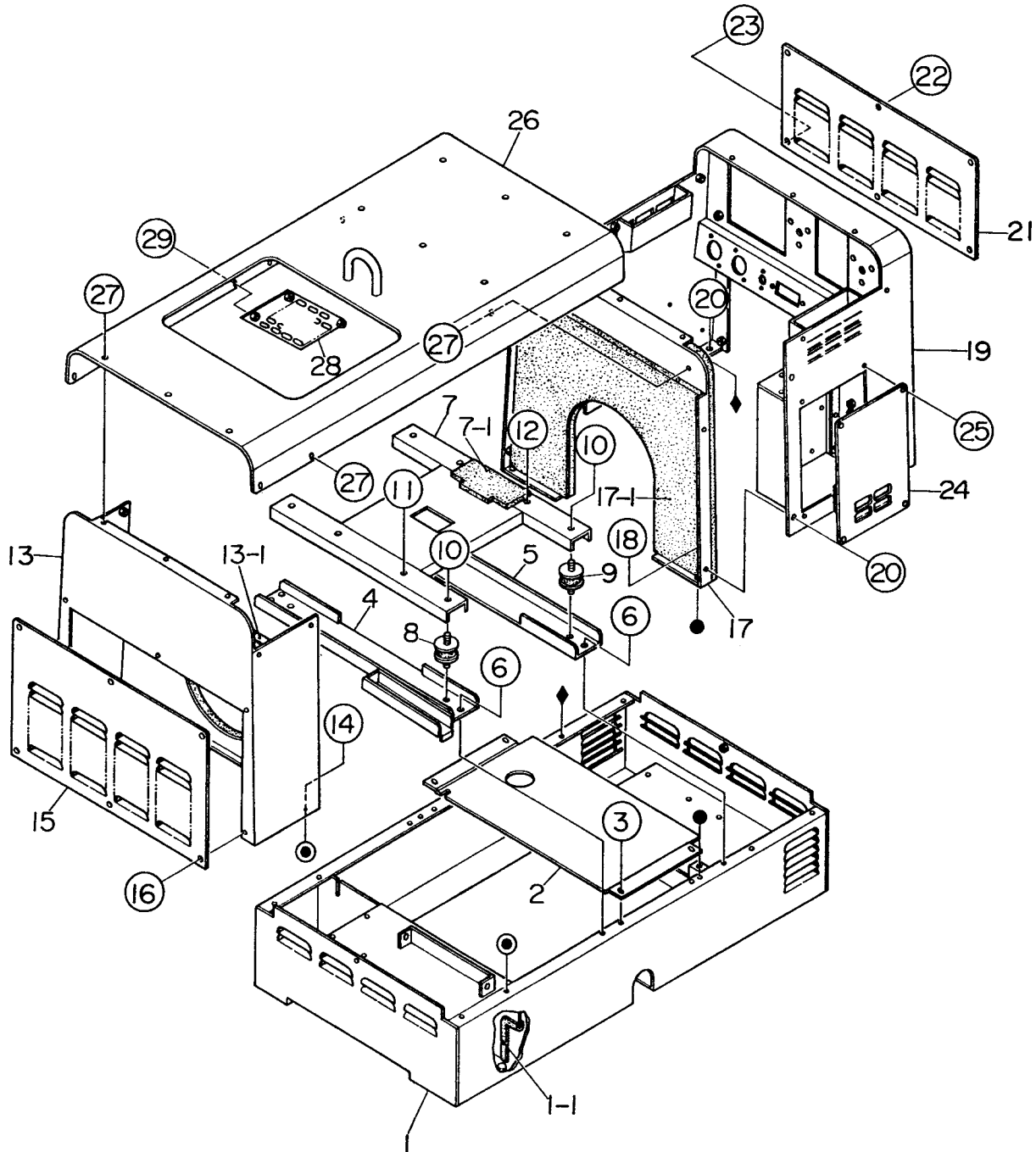
SGW-250SS — FUEL TANK ASSY.

FUEL TANK ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	A6365000402B	FUEL TANK	1	INCLUDES ITEMS W/ *
1-1*	0810105900	CAP FUEL TANK	1	REPLACES 0810105800
1-2*	0810105900	FUEL FILTER	1	
2	3015530004	DRAIN PLUG	1	
3	0150200011	O RING	1	
4	0602125032	FUEL GAUGE	1	
5	0016908020	HEX HEAD BOLT	4	
6	0605513143	FUEL HOSE	1	
7	0605515093	HOSE BAND	1	
8	0605515240	HOSE BAND	1	

SGW-250SS — ENCLOSURE ASSY.

ENCLOSURE ASSY.



SGW-250SS — ENCLOSURE ASSY.

ENCLOSURE ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	D2415000412	BASE	1	
1-1	0226900130	EDGE COVER	1	
2	D2415400014	BASE COVER	1	
3	0016906016	HEX HEAD BOLT	4	
4	D2305100004	ENGINE BASE	1	
5	D2418500104	GENERATOR BASE	1	
6	0016908020	HEX HEAD BOLT	6	
7	D2418700103	COMMON BASE	1	
7-1	D2498000004	LINING	1	
8	3025419304	RUBBER SUSPENSION	2	
9	D9312600104	RUBBER SUSPENSION	2	
10	0207010000	HEX NUT	8	
11	0010110045	HEX HEAD BOLT	2	
	0207010000	HEX NUT	2	
12	0017110030	HEX HEAD BOLT	2	
13	D2425000413	FRONT FRAME	1	
13-1	D2492200114	LINING	1	
14	0016908020	HEX HEAD BOLT	4	
15	D2425200104	COVER FRONT FRAME	1	
16	0016906016	HEX HEAD BOLT	6	
17	D2485100213	PANEL	1	
17-1	D2498200013	LINING	1	
18	0016908020	HEX HEAD BOLT	2	
19	D2445000402	REAR FRAME	1	
20	0016908020	HEX HEAD BOLT	8	
21	D2445300304	COVER REAR FRAME	1	
22	0016906016	HEX HEAD BOLT	5	
23	0016906016	HEX HEAD BOLT	1	
	0040506000	TEETHED WASHER	1	
24	D2455400013	COVER	1	
25	0016906016	HEX HEAD BOLT	4	
26	D2465000303	ROOF PANEL	1	
	D2498500014	LINING	1	
27	0016908020	HEX HEAD BOLT	19	
28	D2332300014	COVER EXHAUST PIPE	1	
29	0016906016	HEX HEAD BOLT	3	

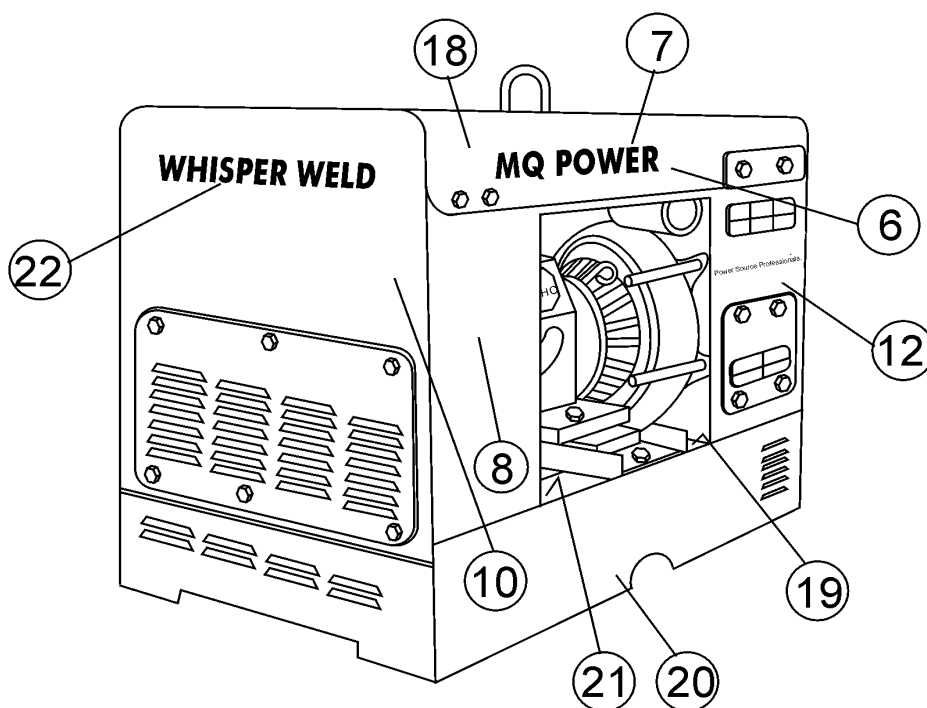
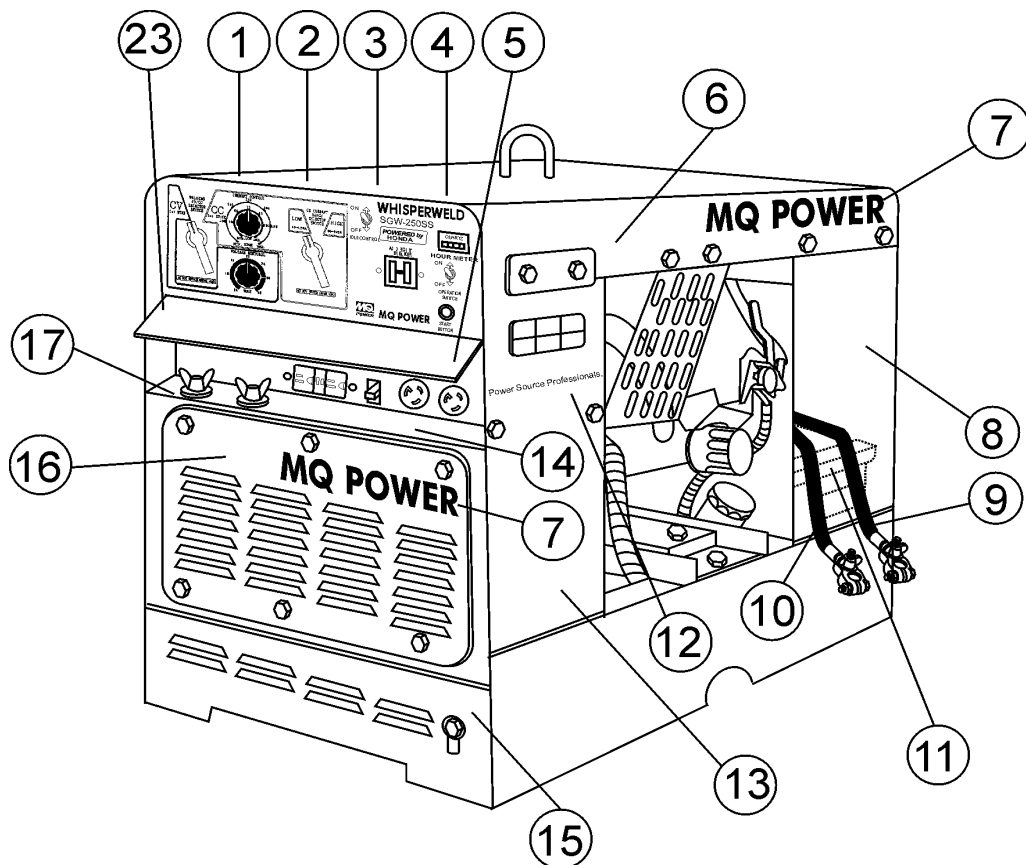
THE PART NUMBER SHOWN IS TEAL. ADD THE FOLLOWING LETTERS AFTER THE PART NUMBER WHEN ORDERING ANY PAINTED PANEL TO INDICATE COLOR OF UNIT:

MQW - WHITE

THE SERIAL NUMBER MAY BE REQUIRED.

SGW-250SS — NAME PLATE AND DECALS ASSY.

NAME PLATE AND DECALS ASSY.



SGW-250SS — NAME PLATE AND DECALS ASSY.

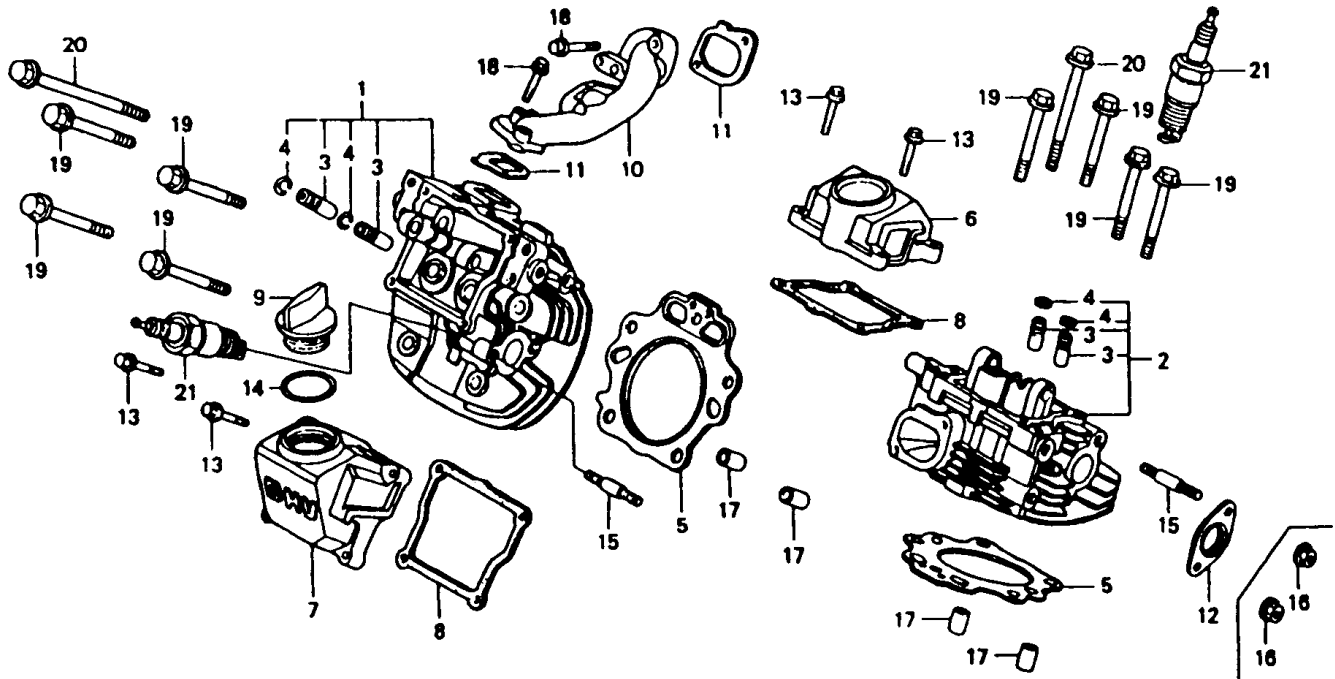
NAME PLATE AND DECALS ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1*	D2552000404	DECAL: OPERATING INSTRUCTIONS	1	REPLACES D25200040B
2*	D9512100203	DECAL: CAUTION (MULTIPLE)	1	REPLACES 91210020
3*	0820610404	DECAL: WARNING (TRANSFER SWITCH)	1	
4*	0820610304	DECAL: READ OWNER'S MANUAL	1	DCS01
5*	8700611904	DECAL: DANGER ELECT. SHOCK HAZARD ...	1	S4985
6*	B9504000304	DECAL: CAUTION HOT PARTS	1	REPLACES B90400030
7*	A5562100204	DECAL: MQ POWER	3	REPLACES D26220010
8*	D2562100003	DECAL: STRIPE	2	REPLACES D26210000
9*	0600689404	DECAL: BATTERY POSITIVE	1	S2090
10*	0800689504	DECAL: BATTERY NEGATIVE	1	S2091
11*	0820650604	DECAL: DANGER EXP. GASES (BATTERY)	1	
12*	D2562100103	DECAL: STRIPE	2	REPLACES D26210010
13		PLATE, SERIAL NO.	1	CONTACT MQ SERVICE DEPT WITH MODEL AND S/N
14*	D2552000313	DECAL: AC POWER OUTPUT	1	REPLACES D25200031
15*	0800628504	DECAL: GROUND	1	S1123
16*	B9504000404	DECAL: WARNING MOVING PARTS	2	REPLACES B90400040
17*	0800690804	DECAL: WELDING OUTPUT TERMINAL	1	
18*	8700611804	DECAL: WARNING DANGEROUS GAS	1	S4984
19*	8700611524	DECAL: CAUTION OIL LEVEL GAUGE	1	
20*	7810680104	DECAL: FUEL DRAIN	1	S3060
21*	1630645004	DECAL: OIL DRAIN	1	S1403
22*	D2562200004	DECAL: WHISPER WELD	1	REPLACES D26220000
23	DCL160	DECAL;PROPOSITION 65 WARNING	1	REPLACES D9522100204
		DCLSGW250SSKIT, DECAL	1	INCLUDES ITEMS W/*

SEE DECAL ILLUSTRATIONS ON PAGE 8 AND 9

HONDA GX610VXD ENGINE — CYLINDER HEAD ASSY.

CYLINDER HEAD ASSY.



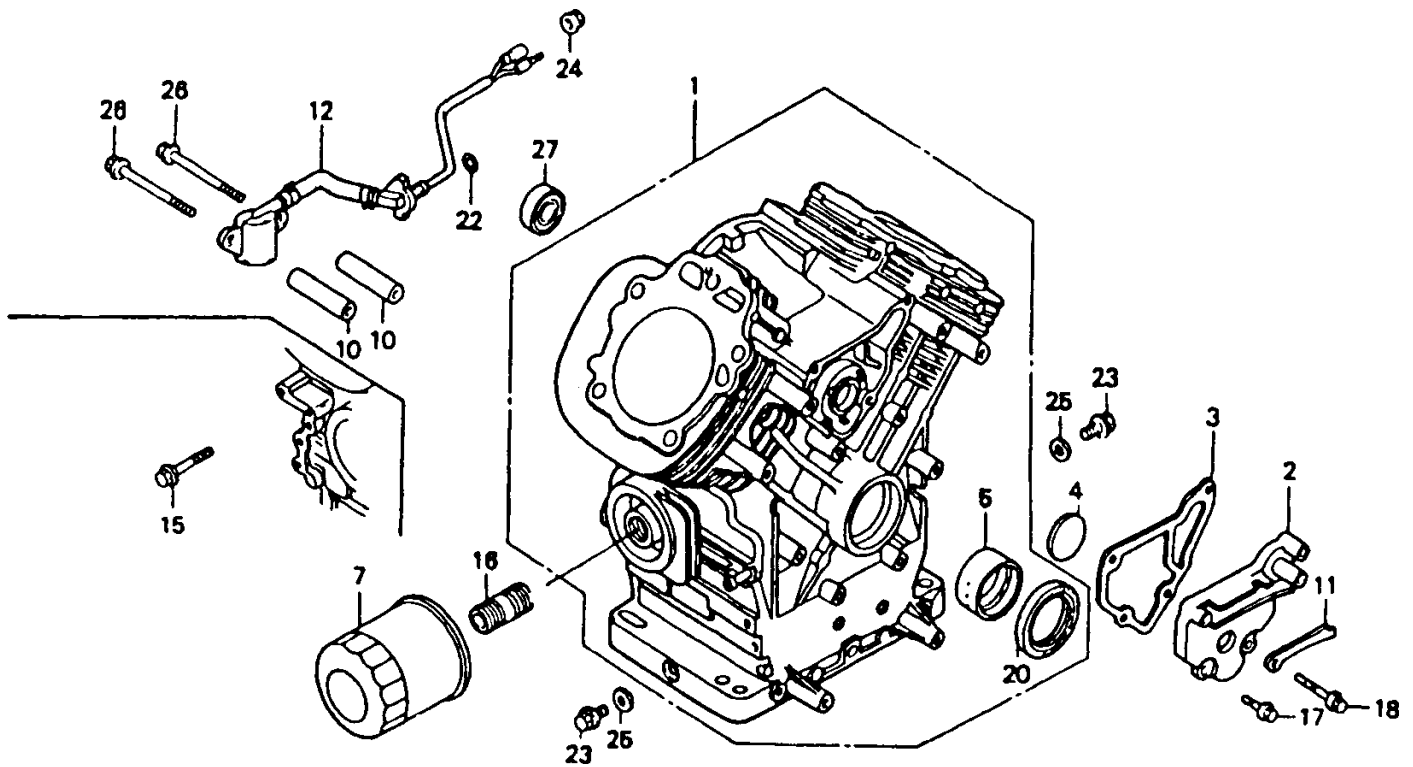
HONDA GX610VXD ENGINE — CYLINDER HEAD ASSY.

CYLINDER HEAD ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12210ZJ1000	CYLINDER HEAD COMP., R.	1 INCLUDES ITEMS W/*
2	12220ZJ1U80	CYLINDER HEAD COMP., L.	1 INCLUDES ITEMS W/*
3*	12205ZE2305	GUIDE, EX. VALVE (OS)	4	
4*	12216ZE2300	CLIP, VALVE GUIDE	4	
5	12251ZJ1003	GASKET, CYLINDER HEAD	2	
6	12311ZJ1000	COVER, HEAD	1	
7	12314ZJ1000	COVER, HEAD FILLER	1	
8	12391ZJ1000	GASKET, HEAD COVER	2	
9	15611921000	CAP, OIL	1	
10	17101ZJ1000	MANIFOLD, IN.	1	
11	17151ZJ1003	GASKET, IN. MANIFOLD	2	
12	90121ZJ1000	BOLT, FLANGE (6X25) (CT200)	8	
13	91301805000	O-RING (26X2.7)	1	
14	92900080250B	BOLT, STUD (8X25)	4	
15	9430112200	PIN A, DOWEL (12X20)	4	
16	9405008000	NUT FLANGE 8MM	4	
17	9430112200	PIN DOWEL 12X20	4	
18	957010603200	BOLT, FLANGE (6X32)	4	
19	957011007500	BOLT, FLANGE (10X75)	8	
20	957011013000	BOLT, FLANGE (10X130)	2	
21	9807952876	SPARK PLUG (BPR2ES)	2	

HONDA GX610VXD ENGINE — CYLINDER BARREL ASSY.

CYLINDER BARREL ASSY.



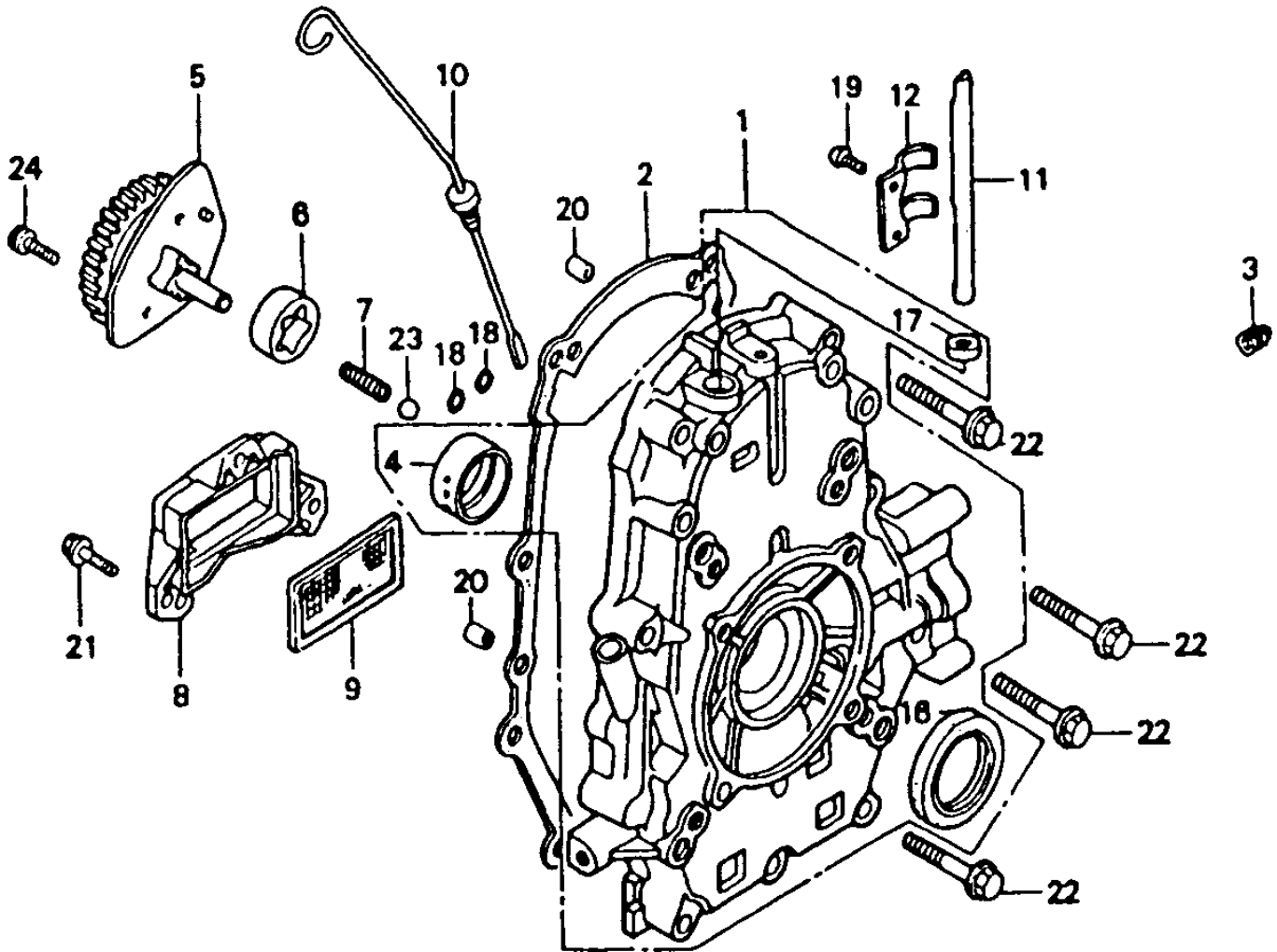
HONDA GX610VXD ENGINE — CYLINDER BARREL ASSY.

CYLINDER BARREL ASSY.

NO	PART NO	PART NAME	QTY.	REMARKS
1	12000ZJ1810	CYLINDER BARREL ASSY.	1	INCLUDES ITEMS W/,*
2	12356ZJ1000	COVER, BREATHER	1	
3	12358ZJ1000	GASKET, BREATHER COVER	1	
4	12372ZE2300	VALVE, BREATHER	1	
5*	13321ZJ1000	BEARING A, MAIN (BLUE)	1	
	13322ZJ1000	BEARING B, MAIN (BLACK)	1	
	13323ZJ1000	BEARING C, MAIN (BROWN)	1	
7	15400PT7005	FILTER, OIL	1	REPLACES 15400PR3004
10	25523VD6010	COLLAR, FILTER SETTING	2	
11	31511ZJ1000	CLAMP, WIRE	1	
12	35480ZJ1812	SWITCH ASSY., OIL LEVEL	1	
15	90014ZE6000	BOLT, FLANGE (6X35)	3	
16	90018PN3000	HOLDER, OIL FILTER	1	
17	90029888000	BOLT, FLANGE (6X16)	2	
18	90031ZE1000	BOLT, FLANGE (6X32)	2	
20*	91201ZJ1003	OIL SEAL (38X58X11)	1	
22	91353671003	O-RING (14MM)	1	REPLACES 91353671004
23	9280014000	BOLT, DRAIN PLUG (14MM)	2	
24	9405010000	NUT, FLANGE (10MM)	1	
25	9410914000	WASHER, DRAIN PLUG (14MM)	2	
26	957010607509	BOLT, FLANGE (6X75)	2	
27	961406003010	BEARING, RADIAL BALL (6003)	1	

HONDA GX610VXD ENGINE — CRANKCASE COVER ASSY.

CRANKCASE COVER ASSY.



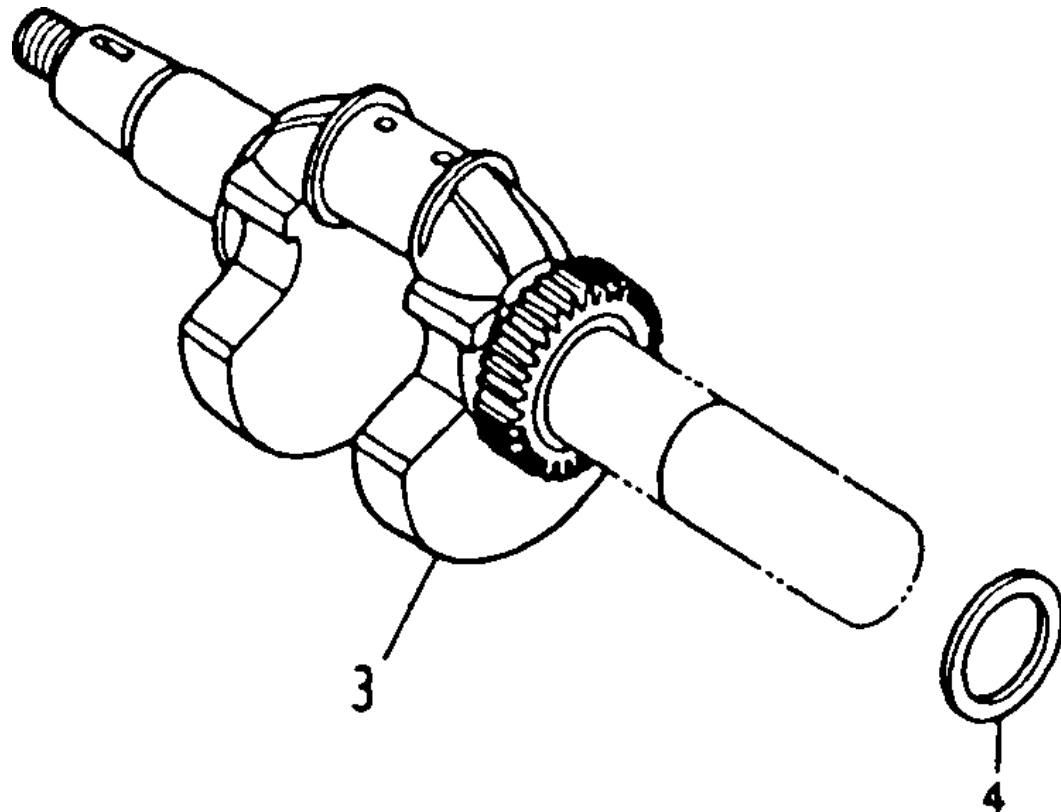
HONDA GX610VXD ENGINE — CRANKCASE COVER ASSY.

CRANKCASE COVER ASSY.

NO	PART NO	PART NAME	QTY.	REMARKS
1	11300ZJ1000	COVER ASSY., CRANKCASE 1	INCLUDES ITEMS W/*
2	11381ZJ1000	GASKET, CASE COVER	1	
3	12105ZAO701	BOLT, SEALING	1	
4*	13321ZJ1000	BEARING A, MAIN (BLUE)	1	
	13322ZJ1000	BEARING B, MAIN (BLACK)	1	
	13323ZJ1000	BEARING C, MAIN (BROWN)	1	
5	15120ZJ1000	COVER ASSY., OIL PUMP	1	
6	15124ZJ1003	ROTOR, OIL PUMP (OUTER)	1	
7	15232ZJ1000	SPRING, RELIEF VALVE	1	
8	15348ZJ1000	COVER, OIL FILTER	1	
9	15427ZJ1000	SCREEN, OIL FILTER	1	
10	15655ZJ1000	DIPSTICK, OIL	1	
11	16541ZJ1000	SHAFT, GOVERNOR ARM	1	
12	16542ZJ1000	FORK, GOVERNOR	1	
16*	91201ZJ1003	OIL SEAL (38X58X11)	1	
17*	91259NM0000	OIL SEAL (10X16X4.5)	1	REPLACES 91206333003
18	91302MB6830	O-RING (13X3.0)	2	
19	93500050100A	SCREW, PAN (5X10)	2	
20	9430108140	PIN A, DOWEL (8X14)	2	
21	957010602000	BOLT, FLANGE (6X20)	3	
22	957010805000	BOLT, FLANGE (8X50)	9	
23	9621112000	BALL, STEEL (#12) (3/8)	1	
24	966000601600	BOLT, SOCKET (6X16)	2	

HONDA GX610VXD ENGINE — CRANKSHAFT ASSY.

CRANKSHAFT ASSY.



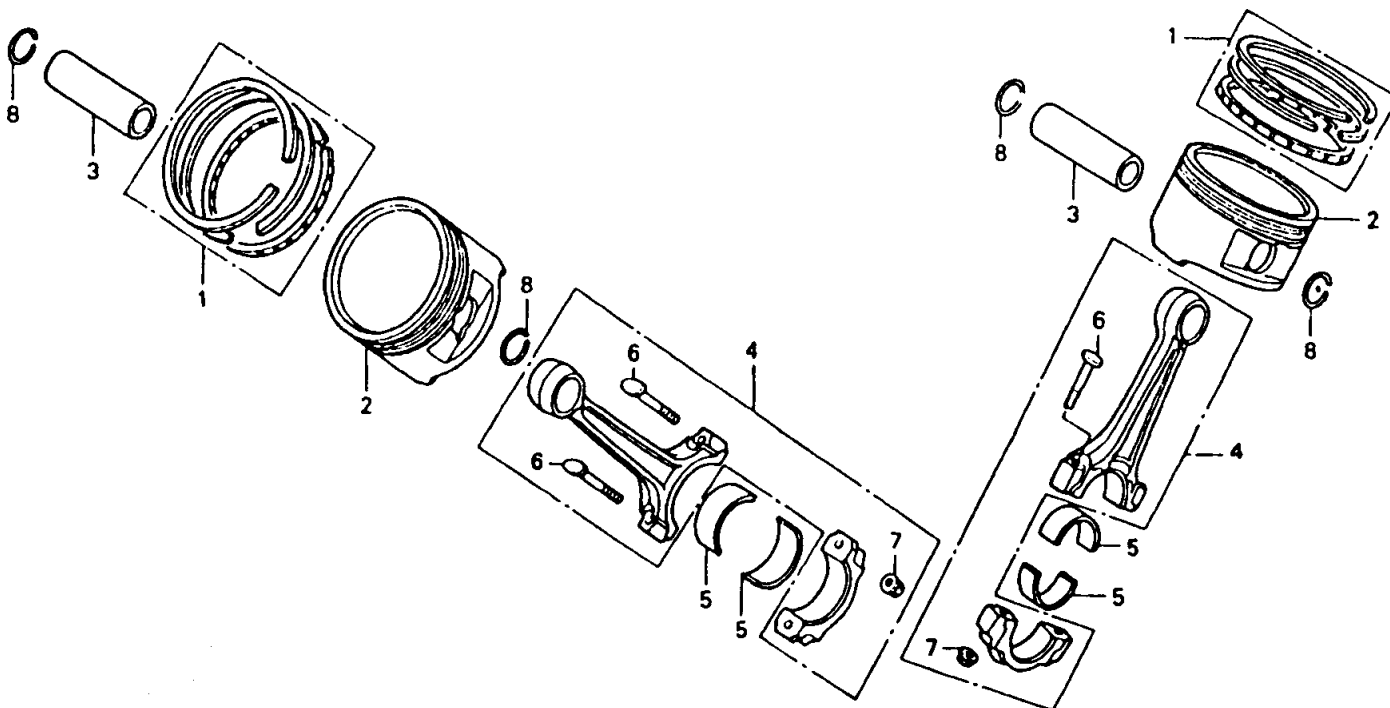
HONDA GX610VXD ENGINE — CRANKSHAFT ASSY.

CRANKSHAFT ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
3	13310ZJ0880	CRANKSHAFT COMP. V-TYPE	1	
4	90401ZJ1000	WASHER, CRANKSHAFT THRUST	1	

HONDA GX610VXD ENGINE — PISTON ASSY.

PISTON ASSY.



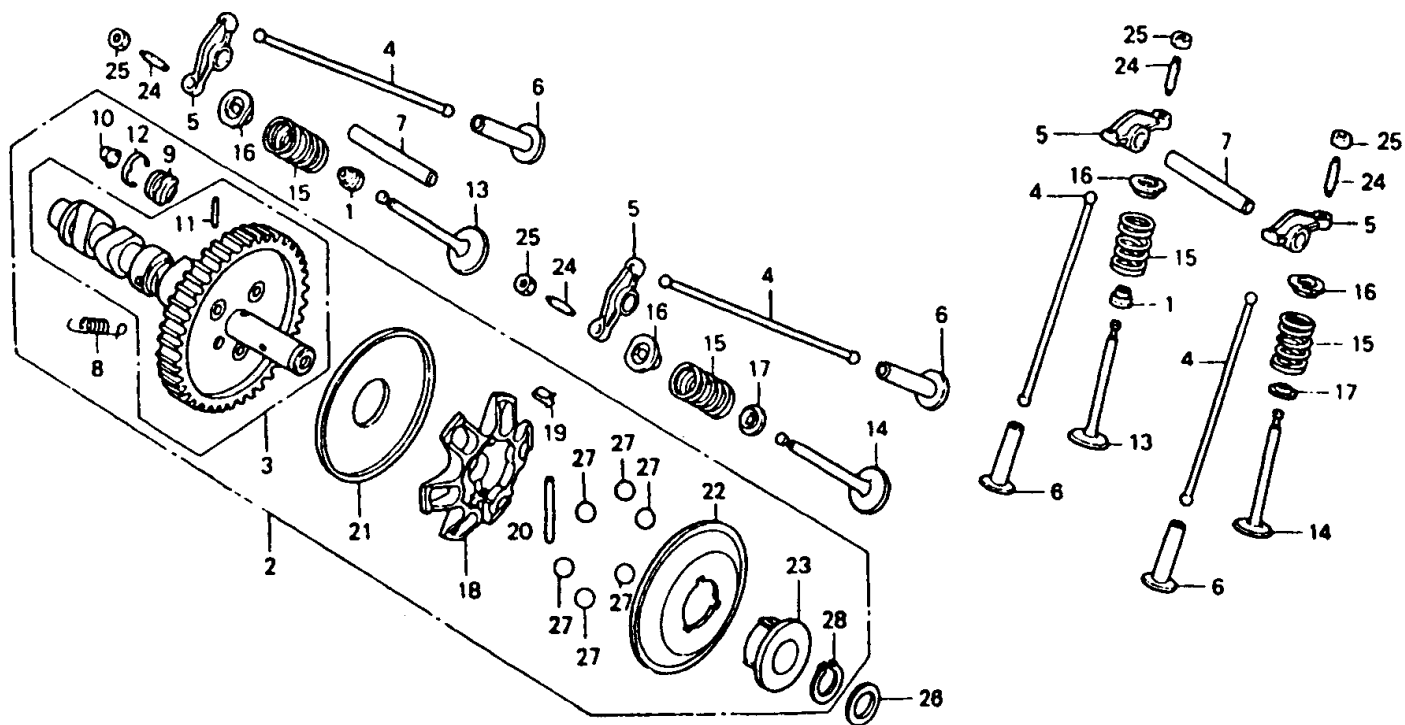
HONDA GX610VXD ENGINE — PISTON ASSY.

PISTON ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	13010ZE8601	RING SET, PISTON (STD) NIPPON	2	
	13011ZE8601	RING SET, PISTON (0.25) NIPPON	2	
	13011ZE8602	RING SET, PISTON (0.25) TEIKOKU	2	
	13012ZE8601	RING SET, PISTON (0.50) NIPPON	2	
	13013ZE8601	RING SET, PISTON (0.75) NIPPON	2	
	13101ZJ1000	PISTON (STD)	2	
	13102ZJ1000	PISTON (0.25)	2	
	13103ZJ1000	PISTON (0.50)	2	
	13104ZJ1000	PISTON (0.75)	2	
3	13111ZJ1000	PIN, PISTON	2	
4	13210ZJ1000	ROD SET, CONNECTING	2	INCLUDES ITEM W/★
5	13211ZJ1003	BEARING A, CONNECTING ROD (BLUE)	4	
	13212ZJ1003	BEARING B, CONNECTING ROD (BLACK)	4	
	13213ZJ1003	BEARING C, CONNECTING ROD (BROWN)	4	
	13214ZJ1003	BEARING D, CONNECTING ROD (GREEN)	4	
	13215ZJ1003	BEARING E, CONNECTING ROD	4	
	13216ZJ1003	BEARING F CONNECTING ROD	4	
	13217ZJ1003	BEARING G CONNECTING ROD	4	
6★	13213ML0000	BOLT, CONNECTING ROD	4	
7★	13215KM3000	NUT, CONNECTING ROD	4	
8	9460118000	CLIP, PISTON PIN (18MM)	4	

HONDA GX610VXD ENGINE — CAMSHAFT ASSY.

CAMSHAFT ASSY.



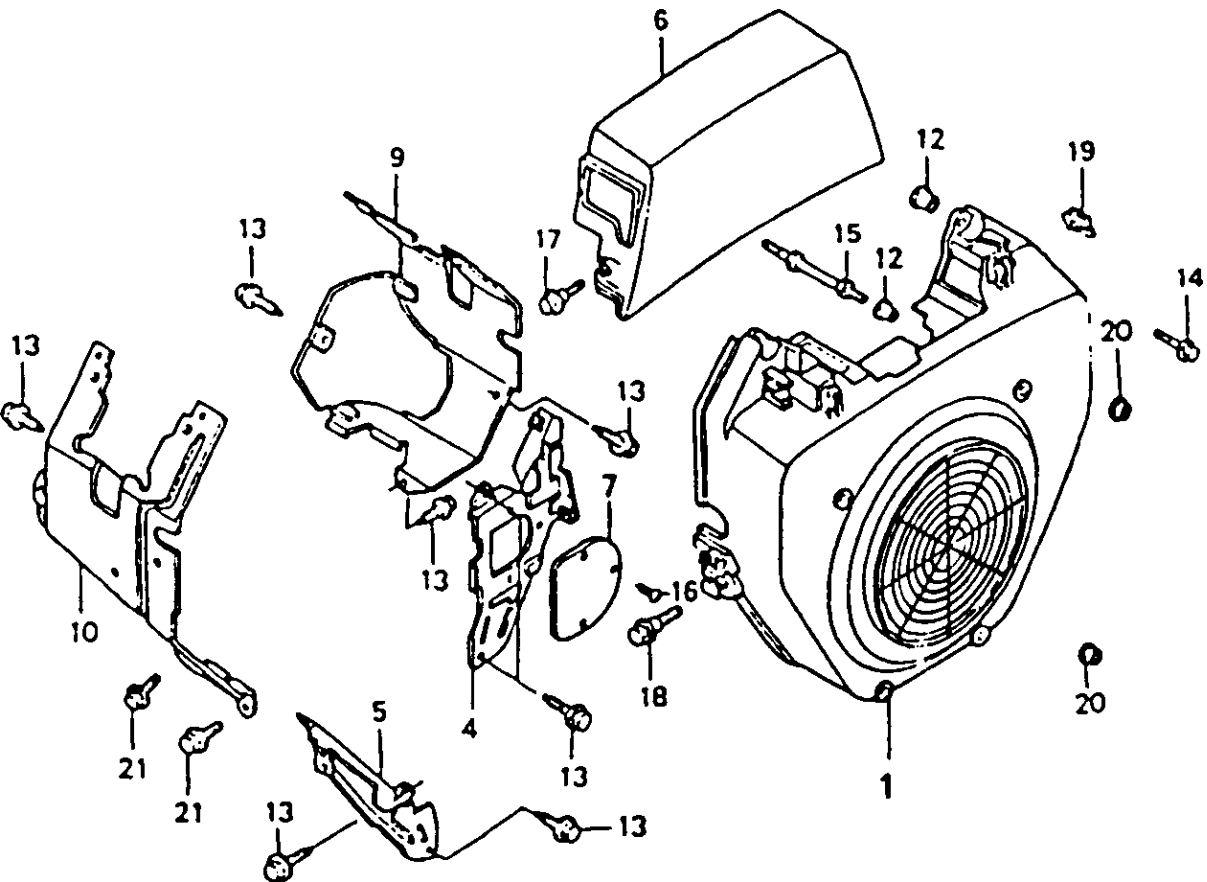
HONDA GX610VXD ENGINE — CAMSHAFT ASSY.

CAMSHAFT ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12209ZE8003	SEAL, VALVE STEM	2	
2	14100ZJ1801	CAMSHAFT ASSY.	1	INCLUDES ITEM W/ *
3*	14110ZJ1801	CAMSHAFT COMP.	1	INCLUDES ITEM W/#
4	14410ZJ1000	ROD, PUSH	4	
5	14431ZJ1000	ARM, VALVE ROCKER	4	
6	14441ZE2000	LIFTER, VALVE	4	
7	14461ZJ1000	SHAFT, ROCKER ARM	2	
8*	14568ZJ1800	SPRING, WEIGHT RETURN	1	
9*	14569ZJ1801	HOLDER, DECOMPER PIN	2	
10*	14576ZJ1801	PIN A, DECOMPER (7.85)	2	
	14577ZJ1801	PIN B, DECOMPER (7.95)	2	REPLACES 14577ZJ1800
	14578ZJ1800	PIN C, DECOMPER (8.05)	2	REPLACES 14578ZJ1800
	14579ZJ1800	PIN D, DECOMPER (8.15)	2	
	14580ZJ1800	PIN E, DECOMPER (8.25)	2	
	14576ZJ1801	PIN A, DECOMPER (7.85)	2	
	14577ZJ1801	PIN B, DECOMPER (7.95)	2	
	14578ZJ1801	PIN C, DECOMPER (8.05)	2	
	14579ZJ1801	PIN D, DECOMPER (8.15)	2	
	14580ZJ1801	PIN E, DECOMPER (8.25)	2	
11*#	14581ZJ1801	ROD, DECOMPER	1	
12*	14586ZJ1800	SPRING, DECOMPER PIN HOLDER	2	
13	14711ZJ1000	VALVE, INLET	2	
14	14721ZJ1000	VALVE, EX.	2	
15	14751ZE2003	SPRING VALVE	4	
16	14771ZE2000	RETAINER, IN. VALVE SPRING	4	
17	14775ZE2010	SEAT, VALVE SPRING	2	
18*	16512ZJ1000	HOLDER, GOVERNOR WEIGHT	1	
19*	16522ZJ1000	PLATE, GOVERNOR WEIGHT HOLDER	1	
20*	16523ZJ1000	PIN, GOVERNOR WEIGHT HOLDER	1	
21*	16524ZJ1000	PLATE, GOVERNOR (LOWER)	1	
22*	16529ZJ1000	PLATE, GOVERNOR SLIDER	1	
23*	16531ZJ1003	SLIDER, GOVERNOR	1	
24	90012415000	SCREW, TAPPET ADJ.	4	
25	90206250000	NUT, TAPPET ADJ.	4	
26	90446357000	WASHER, THRUST (17.2MM)	1	
27*	90901ZJ1003	BALL, STEEL (18)	6	
28*	9451017000	CIRCLIP (OUTER) (17MM)	1	

HONDA GX610VXD ENGINE — FAN COVER ASSY.

FAN COVER ASSY.



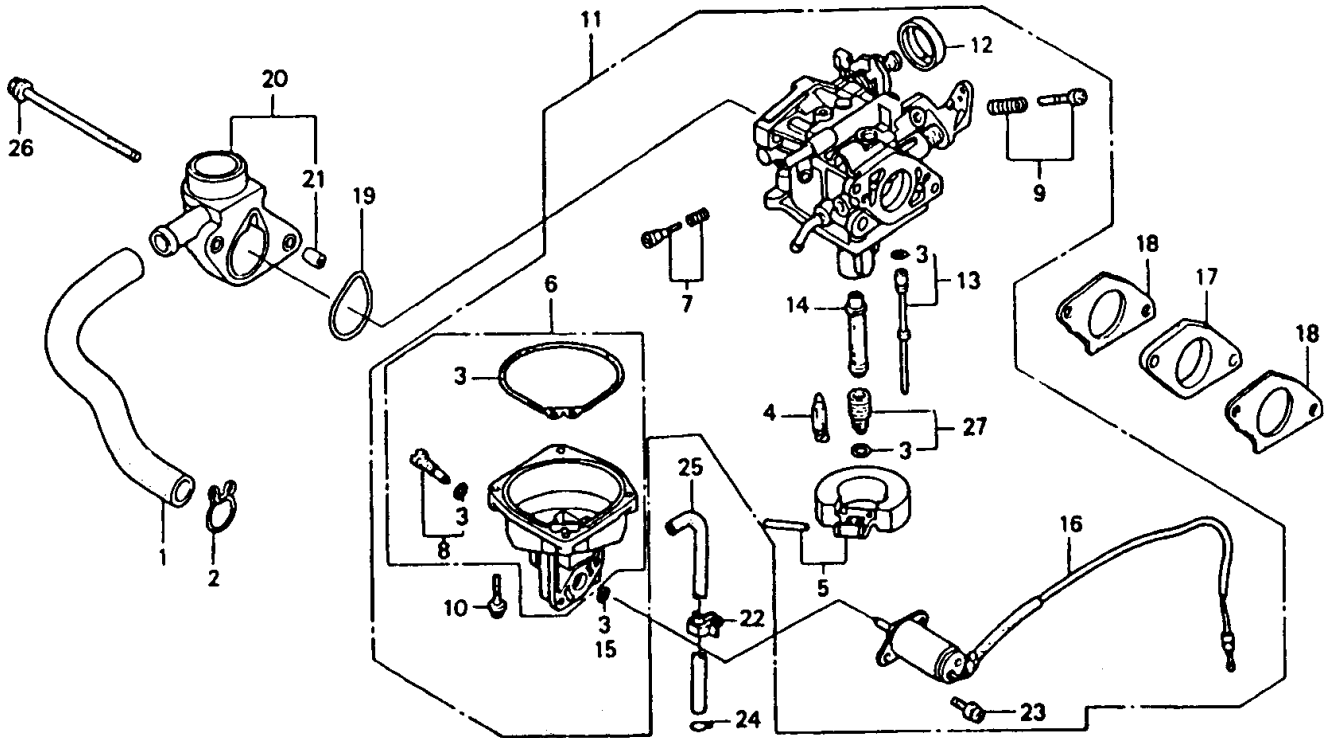
HONDA GX610VXD ENGINE —FAN COVER ASSY.

FAN COVER ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	19611ZJ1800ZB	COVER, FAN	1	
4	19612ZJ1000	PLATE, R SIDE	1	
5	19614ZJ1000	PLATE, L SIDE	1	
6	19615ZJ1000	HOOD FAN COVER	1	
7	19617ZJ4000	COVER, R, SIDE PLATE	1	
9	19631ZJ1000	SHROUD, R	1	
10	19632ZJ1000	SHROUD, L	1	
12	33713GC2000	COLLAR B, TAILLIGHT	6	
13	90013883000	BOLT FLANGE (6X12)	8	
14	90018ZE1000	BOLT FLANGE (6X23)	2	
15	90042ZJ1000	BOLT, STUD (6X75)	4	
16	90055ZE1000	SCREW, TAPPING (4X6)	3	
17	90104GF6000	BOLT FLANGE (6X20)	2	
18	90113GE4000	BOLT FLANGE (6MM) BLACK	2	
19	90320MM5000	NUT, SPRING, 6MM	2	
20	9405006000	NUT, FLANGE 6MM	4	
21	957010600800	BOLT FLANGE (6X8)	2	

HONDA GX610VXD ENGINE — CARBURETOR ASSY.

CARBURETOR ASSY.



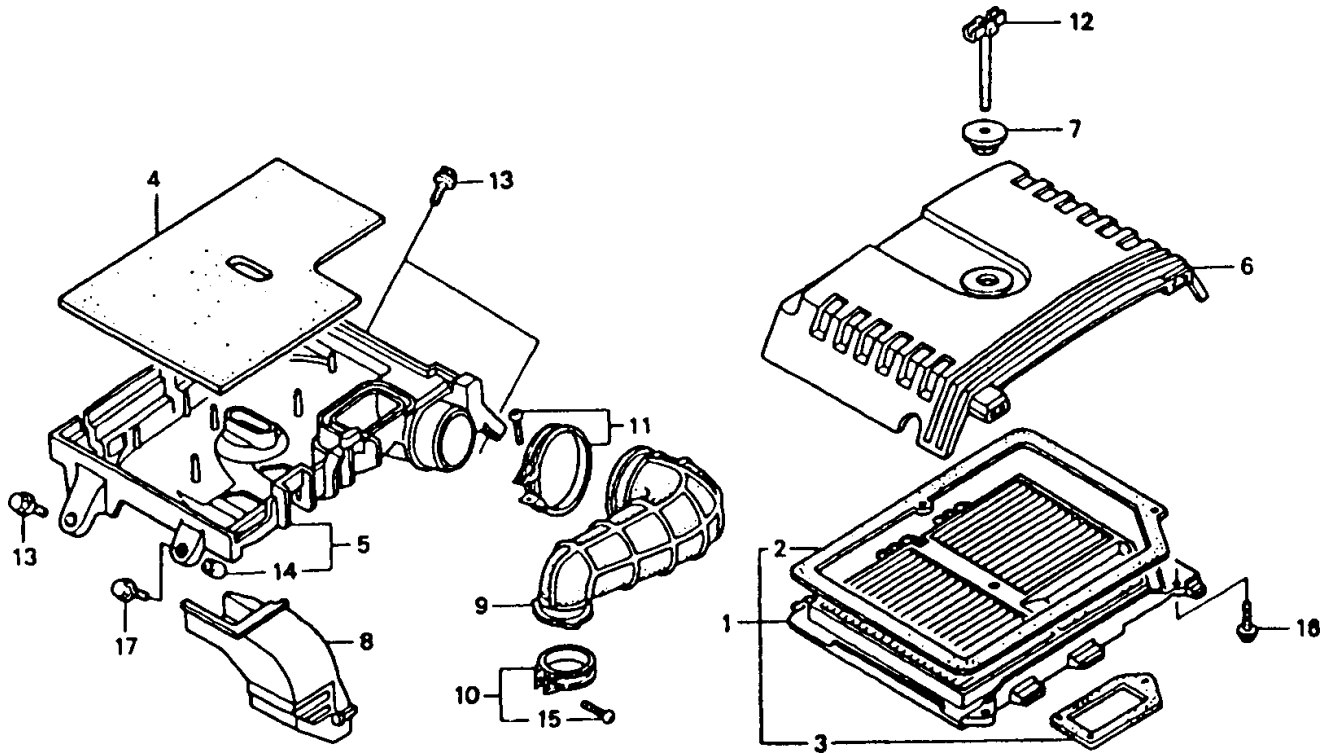
HONDA GX610VXD ENGINE — CARBURETOR ASSY.

CARBURETOR ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	12357ZJ1000	TUBE, BREATHER	1	
2	15772551000	CLIP, BREATHER TUBE	1	
3,*#	16010ZG8000	GASKET SET	1	
4,*	16011382004	VALVE SET, FLOAT	1	REPLACES 16011GK0891
5,*	16013ZV4005	FLOAT SET	1	
6,*	16015ZJ1000	CHAMBER SET, FLOAT	1	INCLUDES ITEMS W/#
7	16016ZJ1010	SCREW SET	1	
8,*#	16024124760	SCREW SET,DRAIN	1	
9,*	16028ZG8000	SCREW SET	1	
10,*	16081ZV4650	SCREW-WASHER	4	
11	16100ZJ0892	CARBURETOR ASSY. (BG21E B)	1	INCLUDES ITEMS W/*
12,*	16148141881	CAP, CHOKE LEVER DUST	1	
13,*	16151ZJ0020	JET SET (#60)	1	
14,*	16166ZJ1010	NOZZLE, MAIN	1	REPLACES 16166ZJ0000
15,*	16178548004	O-RING (5.8X1.9)	1	
16,*	16200ZJ1003	VALVE ASSY., SOLENOID	1	
17	16211ZJ1000	INSULATOR, CARBURETOR	1	
18	16221ZG8000	GASKET, CARBURETOR	2	
19	17228ZG8003	GASKET, AIR CLEANER	1	
20	17410ZJ1000	ELBOW COMP., AIR CLEANER	1	INCLUDES ITEMS W/+
21+	19024ZA0000	COLLAR, DISTANCE	2	
22	90682959661	CLIP B, CABLE	1	
23,*	938920501218	SCREW-WASHER (5X12)	2	
24	9500202080	CLIP, TUBE (B8)	1	
25	950054546020	BULK HOSE, VAC (4.5X460)	1	
26	958010610508	BOLT, FLANGE (6X105)	2	
27,*	99201ZG80880	JET SET, MAIN (#88)	1	
	99201ZG80820	JET SET, MAIN (#82 HIGH ALTITUDE)	1	
	99201ZG80850	JET SET, MAIN (#85 HIGH ALTITUDE)	1	

HONDA GX610VXD ENGINE — AIR CLEANER ASSY.

AIR CLEANER ASSY.



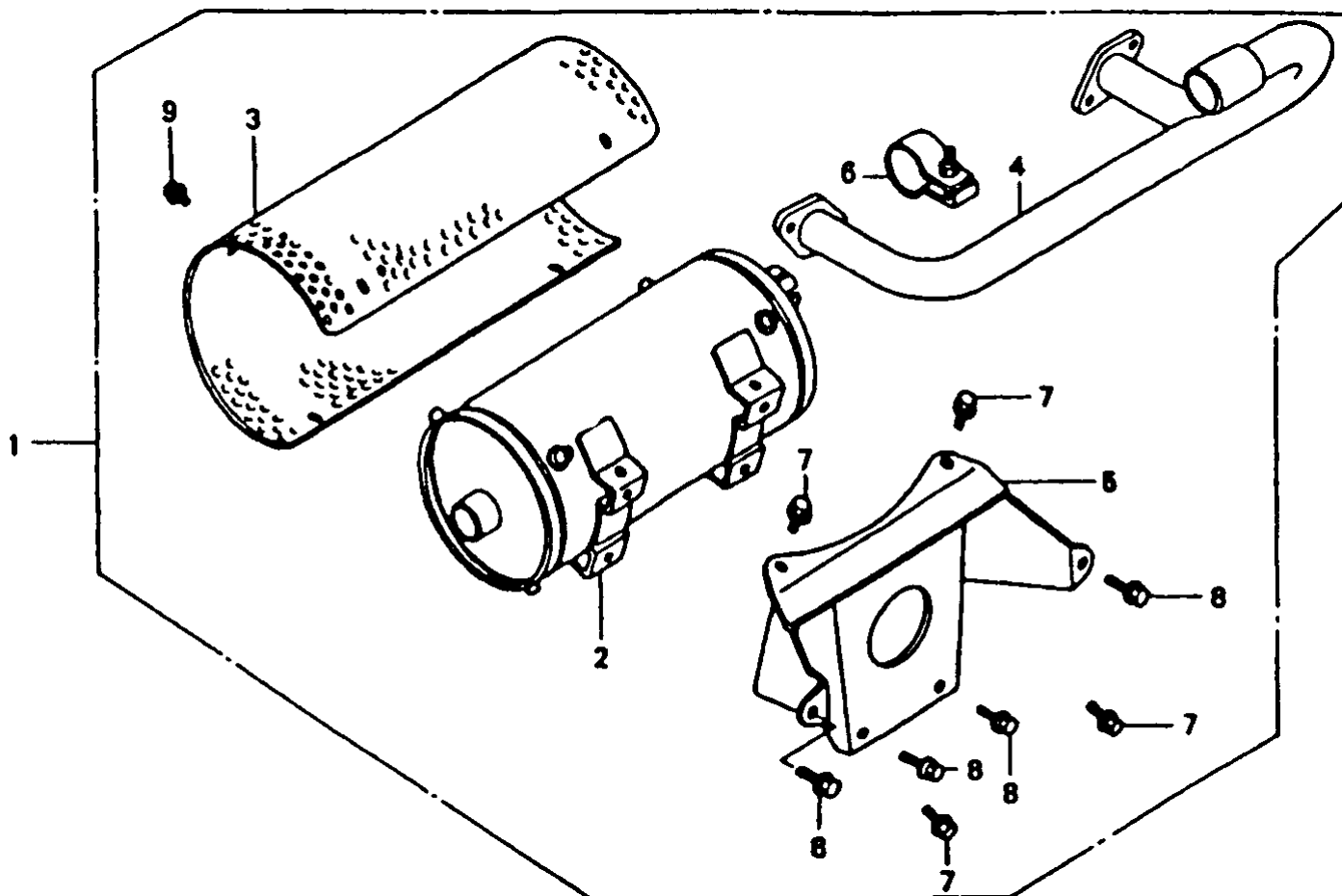
HONDA GX610VXD ENGINE — AIR CLEANER ASSY.

AIR CLEANER ASSY.

NO	PART NO	PART NAME	QTY.	REMARKS
1	17010ZJ1000	ELEMENT SET, AIR CLEANER	1	INCLUDES ITEMS W/.
2*	17216ZJ1000	GASKET A, ELEMENT	1	
3*	17217ZJ1000	GASKET B, ELEMENT	1	
4	17218ZJ1000	FILTER (OUTER)	1	
5	17220ZJ1000	HOUSING COMP., AIR CLEANER	1	INCLUDES ITEMS W/#
6	17231ZJ1000	COVER, AIR CLEANER	1	
7	17232ZJ1000	GROMMET, AIR CLEANER	1	
8	17237ZJ1000	HOSE, AIR CLEANER	1	
9	17251ZJ1000	TUBE, AIR CLEANER CONN.	1	
10	17255758000	BAND, AIR CLEANER CONN. TUBE	1	INCLUDES ITEMS W/&
11	17257HB3000	BAND, AIR CLEANER (B)	1	
12	90017ZJ1000	BOLT, AIR CLEANER	1	
13	90018ZE1000	BOLT, FLANGE (6X23)	3	
14#	90120102000	COLLAR, AIR CLEANER HOUSING	4	
15&	93500040200A	SCREW, PAN (4X20)	1	
16	938910501608	SCREW, WASHER	2	
17	957010601800	BOLT, FLANGE (6X18)	1	REPLACES 957010601800

HONDA GX610VXD ENGINE — MUFFLER ASSY.

MUFFLER ASSY.



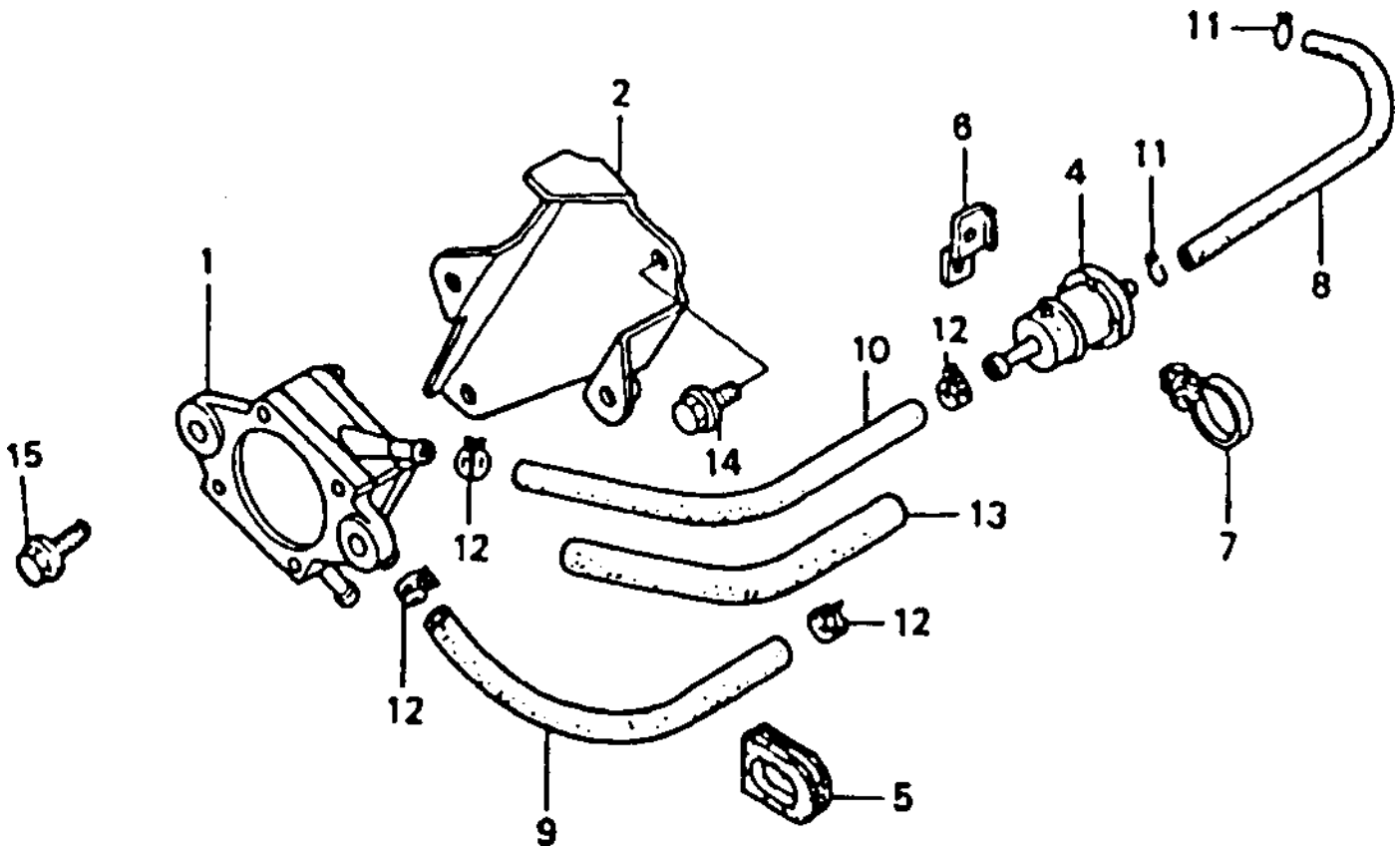
HONDA GX610VXD ENGINE — MUFFLER ASSY.

MUFFLER ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	06183ZJ1820	MUFFLER KIT HIGH B.....	1	INCLUDES ITEMS W/*
2*	18310ZJ1000	MUFFLER COMP. HIGH	1	18310ZJ1003
3*	18321ZJ1000	PROTECTOR,MUFFLER HIGH	1	18321ZJ1003
4*	18330ZJ1601	PIPE COMP., EX. HIGH-L	1	
5*	18333ZJ1000	STAY, MUFFLER HIGH	1	18338ZJ1003
6*	18396ZJ1003	BAND ASSY.	1	
7*	957010801400	BOLT, FLANGE (8X14)	4	
8*	957010802000	BOLT, FLANGE (8X20)	4	
9*	957010600800	BOLT, FLANGE (6X8)	6	

HONDA GX610VXD ENGINE — FUEL PUMP ASSY.

FUEL PUMP ASSY.



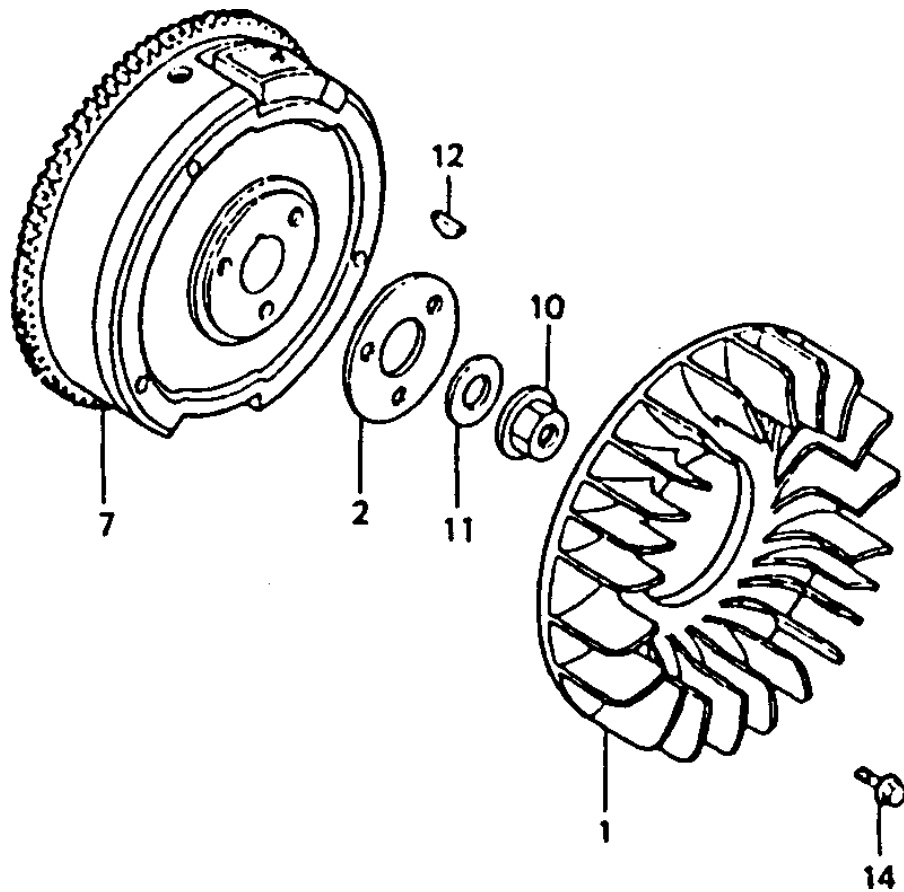
HONDA GX610VXD ENGINE — FUEL PUMP ASSY.

FUEL PUMP ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	16700ZJ1003	PUMP ASSY., FUEL	1	
2	16711ZJ1800	STAY, FUEL PUMP	1	
4	16910ZE8015	STRAINER COMP., FUEL	1	
5	19905ZA8701	GROMMET, WIRE	1	
6	35806752630	BASE, CLIP	1	
7	90617SA0003	CLIP, WIRE HARNESS	1	
8	950014511040	BULK HOSE, FUEL (4.5X110)	1	
9	950015519540	BULK HOSE, FUEL (5.5X195)	1	
10	950015521540	BULK HOSE, FUEL (5.5X215)	1	
11	9500202080	CLIP, TUBE (B8)	2	
12	950024105008	CLIP, TUBE (10.5MM)	4	
13	950033601620	TUBE, VINYL (11X13X160)	1	
14	957010600800	BOLT, FLANGE (6X8)	2	
15	957010601400	BOLT, FLANGE (6X14)	2	

HONDA GX610VXD ENGINE — FLYWHEEL ASSY.

FLYWHEEL ASSY.



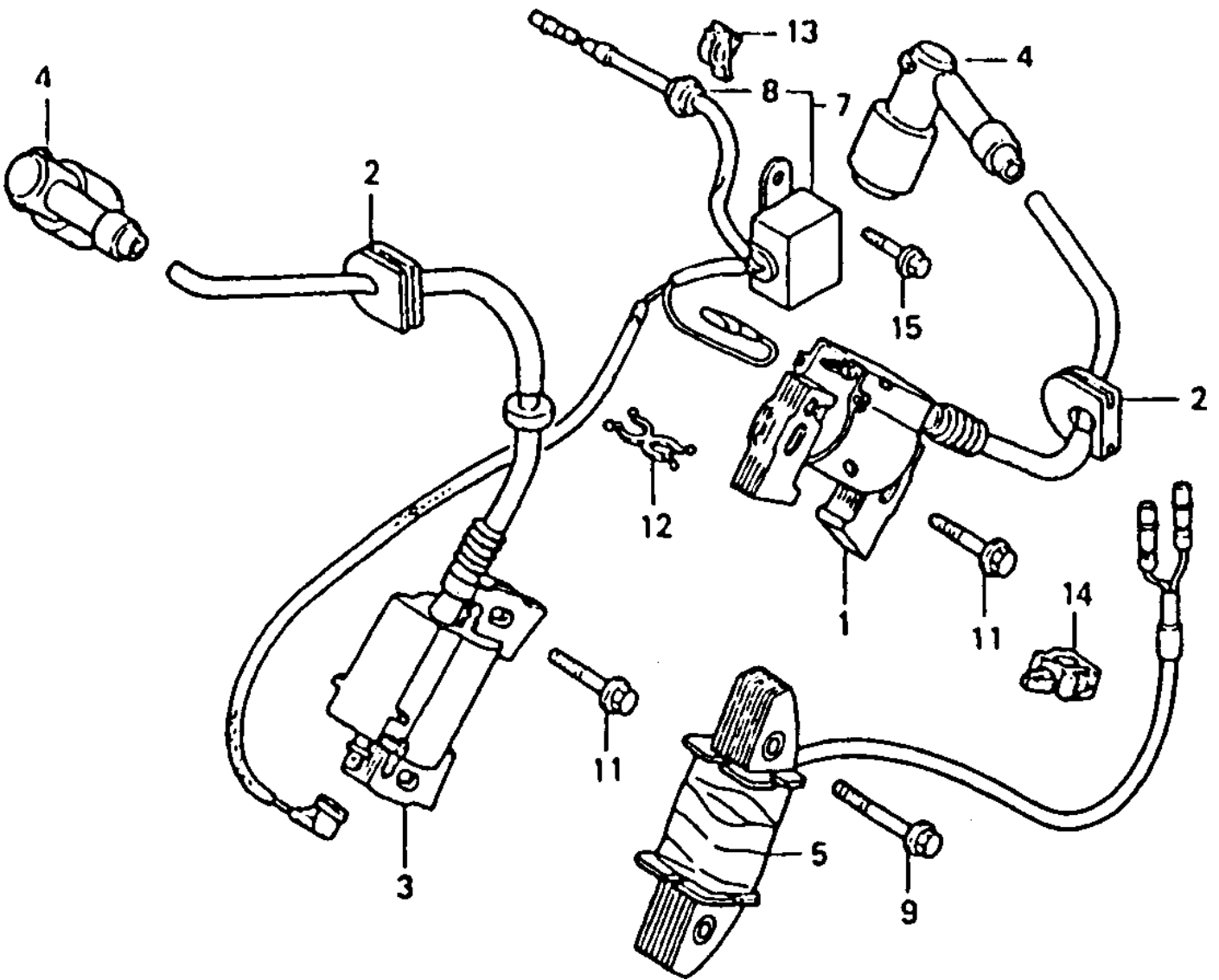
HONDA GX610VXD ENGINE — FLYWHEEL ASSY.

FLYWHEEL ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	19511ZJ1000	FAN, COOLING	1	
2	19513ZJ1000	PLATE, COOLING FAN SETTING	1	
7	31110ZJ1811	FLYWHEEL COMP.	1	
10	90201ZG3000	NUT, FLANGE (20MM)	1	
11	90401ZG3000	WASHER (20MM)	1	
12	90741ZE2000	KEY, SPECIAL WOODRUFF (25X18)	1	
14	957010801600	BOLT, FLANGE (8X16)	3	

HONDA GX610VXD ENGINE — IGNITION COIL ASSY.

IGNITION COIL ASSY.



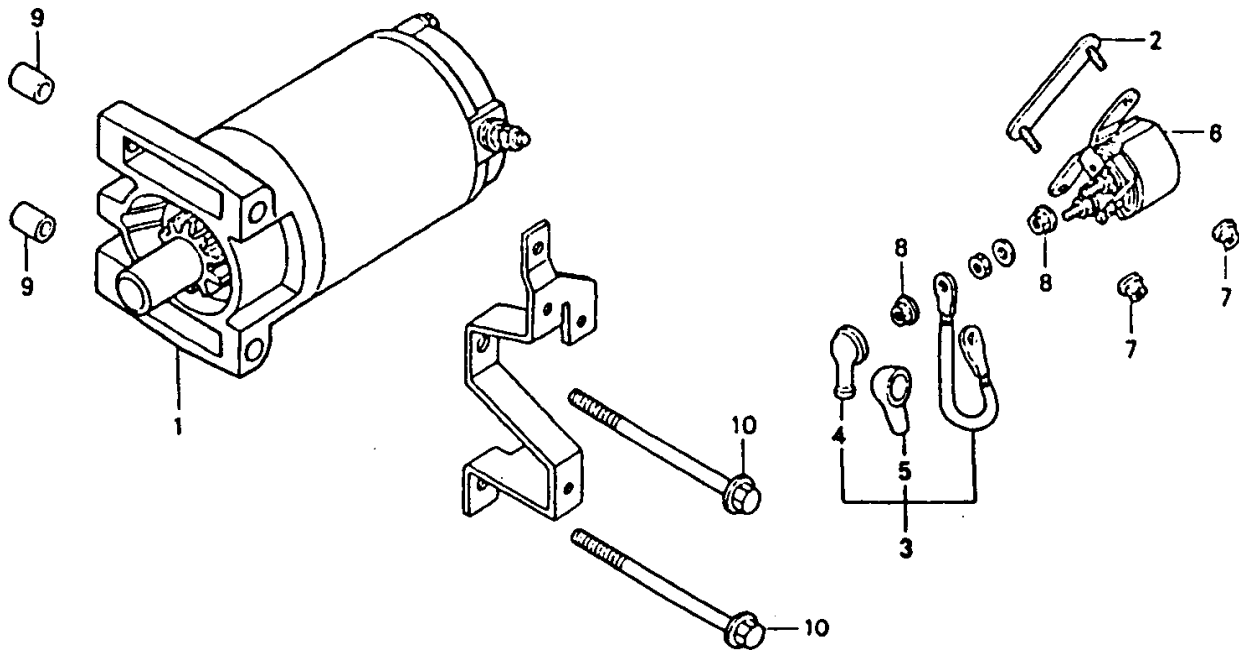
HONDA GX610VXD ENGINE — IGNITION COIL ASSY.

IGNITION COIL ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	30500ZJ1013	COIL ASSY., R. IGNITION	1	
2	30518ZJ1000	GROMMET, IGNITION WIRE	2	
3	30550ZJ1013	COIL ASSY., L. IGNITION	1	
4	30700ZJ1003	CAP ASSY., NOISE SUPPRESSER	2	
5	31630ZJ1003	COIL ASSY., CHARGE (12V/3A)	1	
	31630ZJ0880	COIL ASSY., CHARGE (12V/3A)	1	
7	31740ZJ1003	DIODE ASSY., ENGINE STOP	1	INCLUDES ITEM W/*
8*	63312ZA7000	GROMMET, TOOL	1	
9	90014ZE6000	BOLT, FLANGE (6X35)	2	
11	90121952000	BOLT, FLANGE (6X25)	2	
12	90658SA0003	CLIP, WIRE HARNESS	1	
13	90673GJ5003	CLIP, CORD	1	
14	91504750003	CLIP, WIRE HARNESS	1	
15	957010600800	BOLT, FLANGE (6X8)	1	

HONDA GX610VXD ENGINE — STARTER MOTOR ASSY.

STARTER MOTOR ASSY.



HONDA GX610VXD ENGINE — STARTER MOTOR ASSY.

STARTER MOTOR ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	31200ZJ1004	MOTOR ASSY., STARTER	1	
2	31243ZJ1800	BRACKET, STARTER MAGNETIC SET.	1	
3	32402ZJ1810	CABLE, MAGNET SWITCH	1	INCLUDES ITEMS W/,*
4*	32411KB9930	COVER A, MAGNETIC SWITCH	1	
5*	32411402000	COVER, STARTER. MOTOR TERMINAL	1	
6	35850ZJ1811	SWITCH ASSY., STARTER MAGNETIC	1	
7	9405006000	NUT, FLANGE (6MM)	2	
8	9407006080	NUT, WASHER (6MM)	2	
9	9430110120	PIN, DOWEL (10X12)	2	
10	957010811000	BOLT, FLANGE (8X10)	2	

HONDA GX610VXD ENGINE — CONTROL ASSY.

CONTROL ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	16263ZE3790	JOINT, ROD	1	INCLUDES ITEMS W/*
2	165500ZJ1U80	CONTROL ASSY.	1	
3	16534ZJ1U80	SPRING, RETURN	1	
5	16555ZJ1000	ROD, GOVERNOR	1	
6*	16561ZG1000	SPRING, GOVERNOR	1	
7	16561ZJ1000	SPRING, GOVERNOR	1	
8	16562ZJ1000	SPRING, THROTTLE RETURN	1	
9*	16574ZE1000	SPRING, LEVER	1	
10*	16575ZH8000	WASHER, CONTROL LEVER	1	
11*	16576891000	HOLDER, CABLE	1	
12*	16578ZE1000	SPACER, CONTROL LEVER	1	
13*	16584883300	SPRING, CONTROL ADJ.	2	
16*	16628ZJ1000	ROD, CHOKE KNOB	1	
17*	16649ZJ1000	HOLDER, CHOKE KNOB	1	
18*	17951ZG1000	KNOB, CHOKE	1	
19	90013883000	BOLT, FLANGE (6X12)	2	
20	90015ZE3790	BOLT, GOVERNOR ARM	1	
22*	90114SA0000	NUT, SELFLOCK (6MM)	1	
25*	9350005012OH	SCREW, PAN (5X12)	2	
26*	93500050160A	SCREW, PAN (5X16)	1	
27*	9350005025OH	SCREW, PAN (5X25)	1	
28*	94001050000s	NUT, HEX 5MM	1	
29	9455006000	NUT,FLANGE 6MM	1	
31	16265ZJ1U80	STAY ASSY., AUTO THROTTLE ...	1	INCLUDES ITEMS W/#
32%	16534ZJU80	SPRING, RETURN	1	
33	16550ZJ1U80	ARM COMP., GOVERNOR	1	INCLUDES ITEMS W/%
34#	16576891000	HOLDER, CABLE	1	
35	16584883300	SPRING, CONTROL ADJ.	1	
36#	16592ZJ1000	SPRING, CABLE RETURN	1	
37#	16594883010	HOLDER, WIRE	1	
38#	90605230000	CIRCLIP (5MM)	1	
39#	9350004006OH	SCREW, PAN (4X6)	1	
40	9350005012OH	SCREW, PAN (5X12)	1	
41#%	9350005030OH	SCREW, PAN (5X30)	2	
42	93500050160A	SCREW, PAN (5X16)	1	
43%	9405006000	NUT, HEX 5MM	1	

PAYMENT TERMS

Terms of payment for parts are net 10 days.

FREIGHT POLICY

All parts orders will be shipped collect or prepaid with the charges added to the invoice. All shipments are F.O.B. point of origin. Multiquip's responsibility ceases when a signed manifest has been obtained from the carrier, and any claim for shortage or damage must be settled between the consignee and the carrier.

MINIMUM ORDER

The minimum charge for orders from Multiquip is \$15.00 net. Customers will be asked for instructions regarding handling of orders not meeting this requirement.

RETURNED GOODS POLICY

Return shipments will be accepted and credit will be allowed, subject to the following provisions:

1. A Returned Material Authorization must be approved by Multiquip prior to shipment.
2. To obtain a Return Material Authorization, a list must be provided to Multiquip Parts Sales that defines item numbers, quantities, and descriptions of the items to be returned.
 - a. The parts numbers and descriptions must match the current parts price list.
 - b. The list must be typed or computer generated.
 - c. The list must state the reason(s) for the return.
 - d. The list must reference the sales order(s) or invoice(s) under which the items were originally purchased.
 - e. The list must include the name and phone number of the person requesting the RMA.
3. A copy of the Return Material Authorization must accompany the return shipment.
4. Freight is at the sender's expense. All parts must be returned freight prepaid to Multiquip's designated receiving point.
5. Parts must be in new and resalable condition, in the original Multiquip package (if any), and with Multiquip part numbers clearly marked.
6. The following items are not returnable:
 - a. Obsolete parts. (If an item is listed in the parts price book as being replaced by another item, it is obsolete.)
 - b. Any parts with a limited shelf life (such as gaskets, seals, "O" rings, and other rubber parts) that were purchased more than six months prior to the return date.
 - c. Any line item with an extended dealer net price of less than \$5.00.
 - d. Special order items.
 - e. Electrical components.
 - f. Paint, chemicals, and lubricants.
 - g. Decals and paper products.
 - h. Items purchased in kits.
7. The sender will be notified of any material received that is not acceptable.
8. Such material will be held for 5 working days from notification, pending instructions. If a reply is not received within 5 days, the material will be returned to the sender at his expense.
9. Credit on returned parts will be issued at dealer net price at time of the original purchase, less a 15% restocking charge.
10. In cases where an item is accepted for which the original purchase document can not be determined, the price will be based on the list price that was effective twelve months prior to the RMA date.
11. Credit issued will be applied to future purchases only.

PRICING AND REBATES

Prices are subject to change without prior notice. Price changes are effective on a specific date and all orders received on or after that date will be billed at the revised price. Rebates for price declines and added charges for price increases will not be made for stock on hand at the time of any price change.

Multiquip reserves the right to quote and sell direct to Government agencies, and to Original Equipment Manufacturer accounts who use our products as integral parts of their own products.

SPECIAL EXPEDITING SERVICE

A \$20.00 to \$50.00 surcharge will be added to the invoice for special handling including bus shipments, insured parcel post or in cases where Multiquip must personally deliver the parts to the carrier.

LIMITATIONS OF SELLER'S LIABILITY

Multiquip shall not be liable here under for damages in excess of the purchase price of the item with respect to which damages are claimed, and in no event shall Multiquip be liable for loss of profit or good will or for any other special, consequential or incidental damages.

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No warranties, express or implied, are made in connection with the sale of parts or trade accessories nor as to any engine not manufactured by Multiquip. Such warranties made in connection with the sale of new, complete units are made exclusively by a statement of warranty packaged with such units, and Multiquip neither assumes nor authorizes any person to assume for it any other obligation or liability whatever in connection with the sale of its products. A part from such written statement of warranty, there are no warranties, express, implied or statutory, which extend beyond the description of the products on the face hereof.

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ON-HAND WHEN CALLING*

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FAX: 800/672-7877 or 310/637-3284

SERVICE DEPARTMENT

800/835-2551 or 310/537-3700

FAX: 310/638-8046

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800/835-2551 or 310/537-3700

FAX: 310/638-8046

MAIN

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