

# PARTS AND OPERATION MANUAL

## MQ POWER WHISPERWELD™ WELDER/A.C.GENERATOR Model DAW-500S

© COPYRIGHT 2001, MULTQUIP INC.

PART No. D6845200104B

Revision #0 (07/19/01)

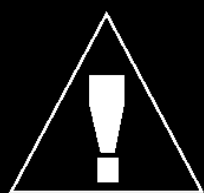


MULTQUIP INC.  
18910 WILMINGTON AVE.  
CARSON, CALIFORNIA 90746  
310-537-3700  
800-421-1244  
FAX: 310-537-3927

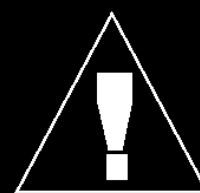
PARTS DEPARTMENT:  
800-427-1244  
FAX: 800-672-7877

SERVICE DEPARTMENT:  
800-835-2551  
FAX: 310-638-8046

E-mail: [mq@multiquip.com](mailto:mq@multiquip.com) • [www.multiquip.com](http://www.multiquip.com)



# 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*

*FAX: 310/638-8046*

### ***WARRANTY DEPARTMENT***

*800/835-2551 or 310/537-3700*

*FAX: 310/638-8046*

### ***MAIN***

*800/421-1244 or 310/537-3700*

*FAX: 310/537-3927*

## TABLE OF CONTENTS

Here's How To Get Help .....	3
Parts Ordering Procedures .....	5
Rules For Safe Operation .....	6-7
Operation and Safety Decals .....	8-9
Specifications .....	10
General Information .....	11
Dimensions .....	12
Controls and Indicators .....	13-14
Trailer Safety Guidelines .....	15
Trailer Specifications .....	16-17
Trailer Tires and Suspension .....	18-19
Trailer Wiring Diagram .....	20
Installation .....	21
Pre-Setup .....	22-23
Instrumentation .....	24
Load Application .....	25
Welder Operating Instructions .....	26-27
Welder/Generator Use .....	28-29
Engine Operating Instructions .....	30-31
Maintenance .....	32-33
Generator Wiring Diagram .....	34
Engine Wiring Diagram .....	35
Troubleshooting Welder .....	36
Troubleshooting (Engine) .....	37-39
Explanation Of Codes in Remarks Section .....	40
Suggested Spare Parts .....	41

### MQ Power DAW-500S — Welder/AC Generator

Generator Assembly .....	42-43
Control Panel Assembly .....	44-45
Electric Parts Assembly .....	46-47
Engine and Radiator Assembly .....	48-49
Battery Assembly .....	50-51
Muffler Assembly .....	52-53
Fuel Tank Assembly .....	54-55
Enclosure Assembly .....	56-57
Enclosure (Rubber Seals) .....	58-59
Name Plate and Decals .....	60-61

#### NOTE

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

### KUBOTA D1703-EB ENGINE

Crankcase Assembly .....	62-63
Oil Pan Assembly .....	64-65
Cylinder Head Assembly .....	66-67
Gear Case Assembly .....	68-69
Head Cover Assembly .....	70-71
Oil Filter Assembly .....	72-73
Dipstick and Guide Assembly .....	74-75
Oil Pump Assembly .....	76-77
Main Bearing Case Assembly .....	78-79
Camshaft and Idle Gear Assembly .....	80-81
Piston and Camshaft Assembly .....	82-83
Flywheel Assembly .....	84-85
Fuel Camshaft Assembly .....	86-87
Engine Stop Lever Assembly .....	88-89
Stop Solenoid Assembly .....	90-91
Injection Pump Assembly .....	92-93
Inj. Pump Component Assembly .....	94-95
Governor Assembly .....	96-97
Speed Control Plate Assembly .....	98-99
Nozzle Holder Assembly .....	100-101
Nozzle Holder Components Assembly .....	102-103
Fuel Filter Assembly .....	104-105
Fuel Pump Assembly .....	106-107
Alternator Assembly .....	108-109
Alternator Component Assembly .....	110-111
Starter Assembly .....	112-113
Starter Component Assembly .....	114-115
Oil Switch Assembly .....	116-117
Water Flange and Thermostat Assembly .....	118-119
Water Pump Assembly .....	120-121
Fan Assembly .....	122-123
Valve and Rocker Arm Assembly .....	124-125
Inlet Manifold Assembly .....	126-127
Exhaust Manifold Assembly .....	128-129
Air Cleaner Assembly .....	130-131
Hydraulic Pump Assembly .....	132-133
Glow Plug Assembly .....	134-135
Starter Switch Assembly .....	136-137
Accessories .....	138-139
Terms and Conditions Of Sale — Parts .....	140

## PARTS ORDERING PROCEDURES

- 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  
Dealers Only**

**Up to 5%  
extra savings!**

**UPS  
Special**  
For faxed orders only

**Now! Direct TOLL-FREE access  
to our Parts Department!**

Toll-free nationwide:

**800-421-1244**

Toll-free FAX:

**800/6-PARTS-7 • 800-672-7877**

## 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 DAW-500S 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 that is flame-resistant (wool or leather), welding shield, ventilator, steel-toed boots and other protective devices required by the job.



- Protect others around the welding area with barriers and screens. Warn others not to stare at the welding arc.

- **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.

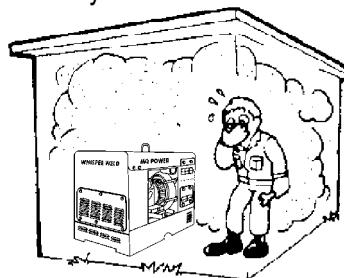
- Always check the machine for loosened threads or bolts before starting.

- **NEVER** touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing engine or welder/AC 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/AC generator requires an adequate free flow of cooling air. Never operate the welder/AC 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/AC generator engine and may cause injury to people. The engine gives off **DEADLY** carbon monoxide gas.

- **DO NOT** weld near flammable liquids.

- 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 welder/AC 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.

- Wear protective ear muffs or ear plugs if noise level is high.

## RULES FOR SAFE OPERATION

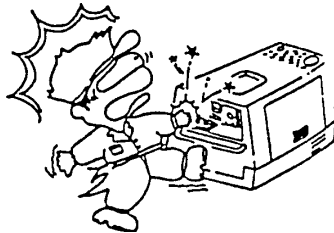
### CAUTION:



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

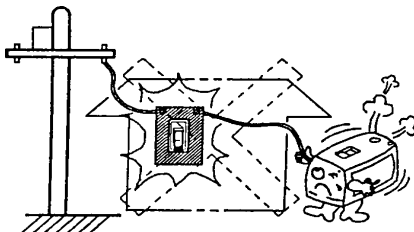
- This welder/AC generator is equipped with a **ground terminal** for your protection. Always complete the grounding path from the welder/AC generator to an external grounding source.
- **NEVER** operate this welder/AC generator, or handle any electrical equipment while standing in **water, while bare foot, while hands are wet, or in the rain**. *Dangerous electrical shock could occur causing severe bodily harm or even death.*
- Arc rays can cause blindness. Always wear protective shield when welding.

### CAUTION:



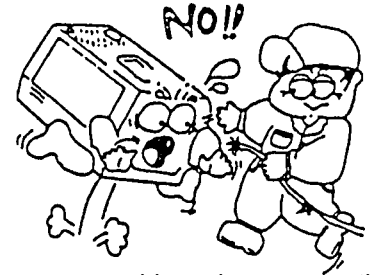
- **NEVER** touch output terminals or electrode during operation. This is extremely dangerous. Always stop the machine when contact with the output terminals and welding electrode.

### CAUTION:



- Backfeed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is opened.

### CAUTION:



- **Never** use damaged or worn cables when connecting power tools or equipment to the welder/AC generator. Make sure power connecting cables are securely connected to the generator's output terminals. Insufficient tightening of the terminal connections may cause damage to the welder/AC generator and electrical shock.

### CAUTION:



**DO NOT** touch or open coolant drain plug, radiator cap, or engine oil drain plug while the welder/AC generator is running. Always allow sufficient time for the engine and generator to cool before performing maintenance.

### 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**. This information will be invaluable in the case of an emergency.

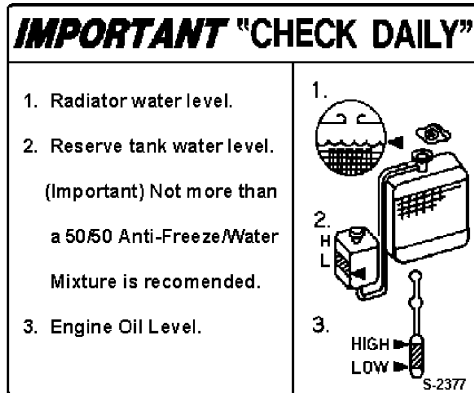
### Maintenance Safety

- **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, fuel, coolant 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.

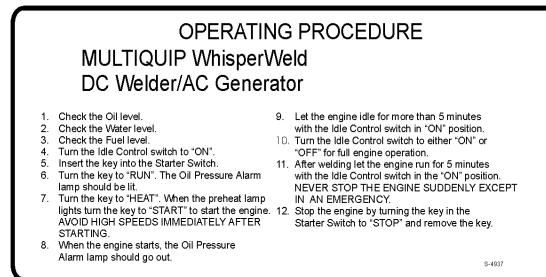
# OPERATION AND SAFETY DECALS

## Machine Safety Decals

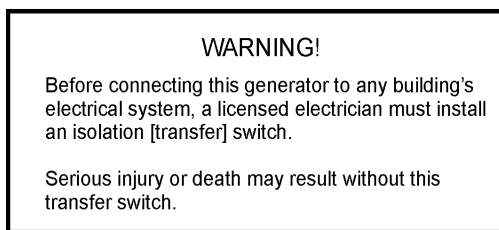
The DAW-500S welder/AC generator is equipped with a number of safety decals. These decals are provided for operator safety and maintenance information. The illustration below shows these decals as they appear on the machine. Should any of these decals become unreadable, replacements can be obtained from your dealer.



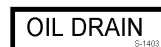
P/N 6390671104



P/N 8700611603



P/N 0820610404



P/N 1630645004



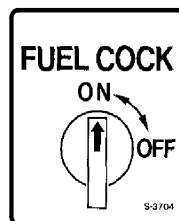
P/N 1630647004



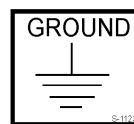
P/N 7810680104



P/N D9522001004



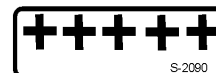
P/N 1630680104



P/N 0800628504



P/N 7670624004



P/N 0600689404



P/N 1630610404



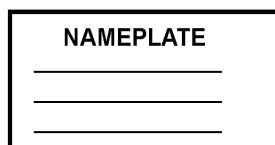
P/N 0800689504



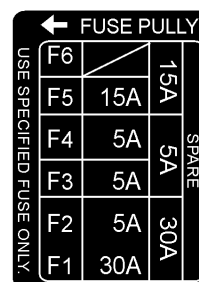
P/N 1630610504



P/N 7810680204



CONTACT MQ  
SERVICE DEPT.



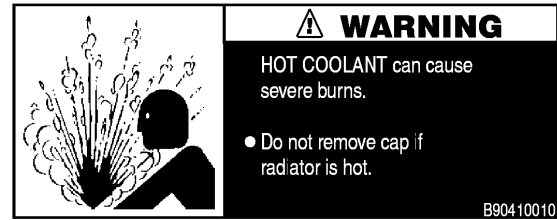
P/N 8700625504



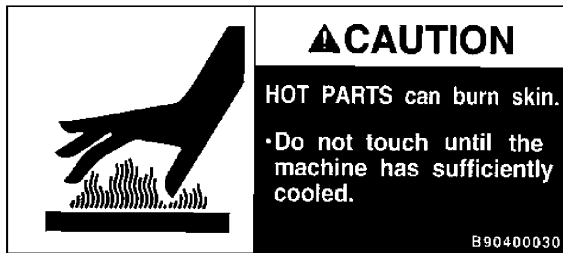
# OPERATION AND SAFETY DECALS



P/N 8700611904



P/N B9504100104



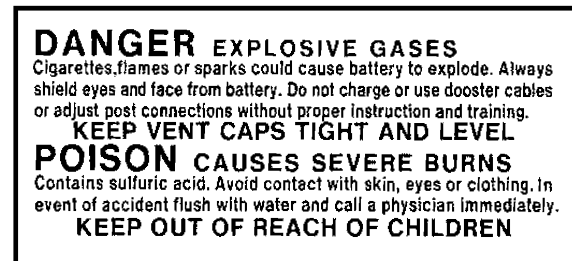
P/N B9504000304



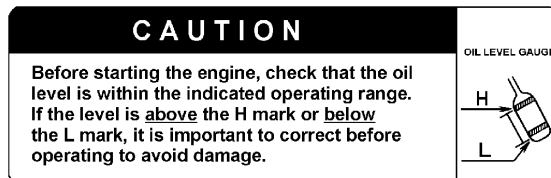
P/N B9504200004



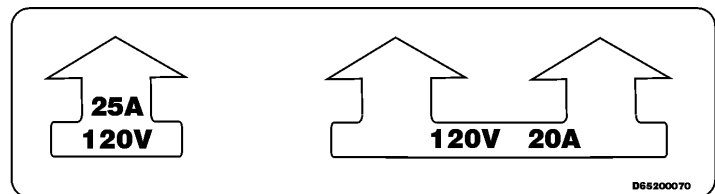
P/N B9504000404



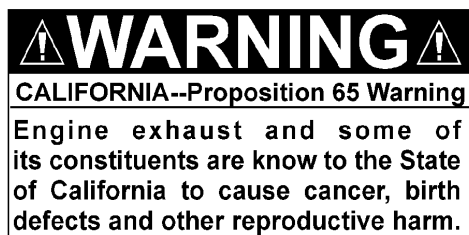
P/N 0820650604



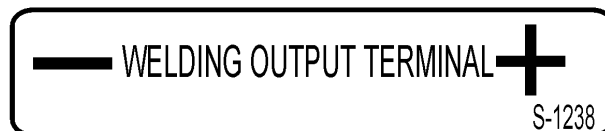
P/N 8700611524



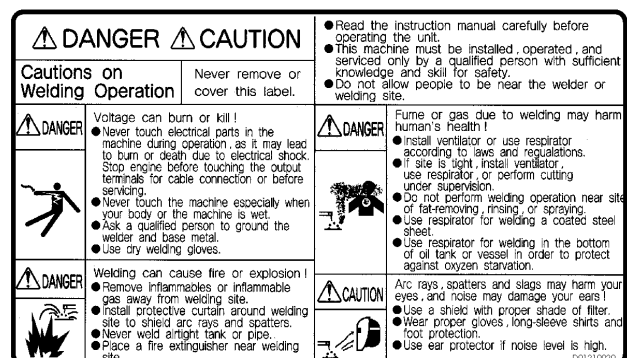
P/N D6552000703



P/N DCL160



P/N 0800690804



P/N D9512100203

# DAW-500S — SPECIFICATIONS

Table 1. Specifications	
Generator Specifications	
Model	DAW-500S
Phase	Single
Wires	2-Wire (Neutral Grounded)
Rated Voltage	120Volts
Frequency	60Hz
Speed	3600 rpm
Power Factor	100%
Rating	Continuous
Welder Specifications	
Rated Output Power (CV/CC)	17.1kW/11.9kW
Rated Output Voltage (CV/CC)	38V/34V
Rated Output Current (CV/CC)	450A/350A
Duty Cycle	60%/100%
Voltage Range	16 ~ 40Volts (CV only)
Current Range	50 ~ 500Amps (CC only)
Engine Specifications	
Model	KUBOTA D1703
Type	Vertical, 4-Cycle
Rated Output	34.1HP(25.4kW) @ 2800 rpm
Displacement	100.4 cu. in (1.647L)
Cooling System	Water-cooled
Starting System	Electric-Start
Fuel Tank Capacity	11.9 gal/45 liters
Coolant Capacity	1.27 gal/4.8 liters
Lube Oil Capacity	1.48 gal/5.6 liters
Fuel Consumption (welding)	1.3 gal (5.0liters)/hr.
Battery	12V-65Ah
Fuel	Diesel Fuel No. 2
Dimensions (L x W x H)	1330 x 800x 870mm (52 x 32 x 34 in)
Weight	1025 lbs.(465kg)

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.

## DAW-500S FAMILIARIZATION

### Generator

The MQ Power Model DAW-500S welder/AC generator can provide 450 amps of welding current when in the CV/DC mode and 350 amps of welding current when in the CC/DC mode.

### Control Panel

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

- One GFCI 120 volt receptacle, 20 amp (single-phase)
- One 120 volt receptacle, 30 amp (single-phase)
- Main Circuit Breaker 125V @25 Amps
- Circuit Protector Breaker (GFCI) 120V @20 Amps
- Idle Control Switch
- Starter Switch
- Warning Lamp Unit
- Hour Meter
- Ground Terminal

### Engine Protection System

Engine protection fail safe features are provided in the event of low oil pressure, high coolant temperature and failure of the battery to charge. If any of the above conditions occur while operating the welder/AC generator, it will cause a complete unit shut down.

### Battery Charge Indicator

This unit is equipped with a protective device that signals an indicator and automatically stops the engine when the battery cannot be charged by the alternator.

### Water Temperature Indicator

This unit is equipped with an apparatus that signals an indicator and automatically stops the engine when the cooling water temperature becomes abnormally high. This apparatus will not function properly if the machine is operated with less than the proper amount of coolant.

### Oil Pressure Warning Indicator

In the event of low oil pressure (engine), this welder/AC generator is equipped with an engine protection fail safe system. If low oil pressure is detected while operating the welder/AC 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 (page 37) in this manual.

### Engine

The DAW-500S is powered by a 4-cycle KUBOTA **diesel** engine. This engine is designed to meet every performance requirement for welder/AC generator. Reference Table 1, page 10 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 13-14) show the basic controls and indicators for the DAW-500S Welder/AC generator.

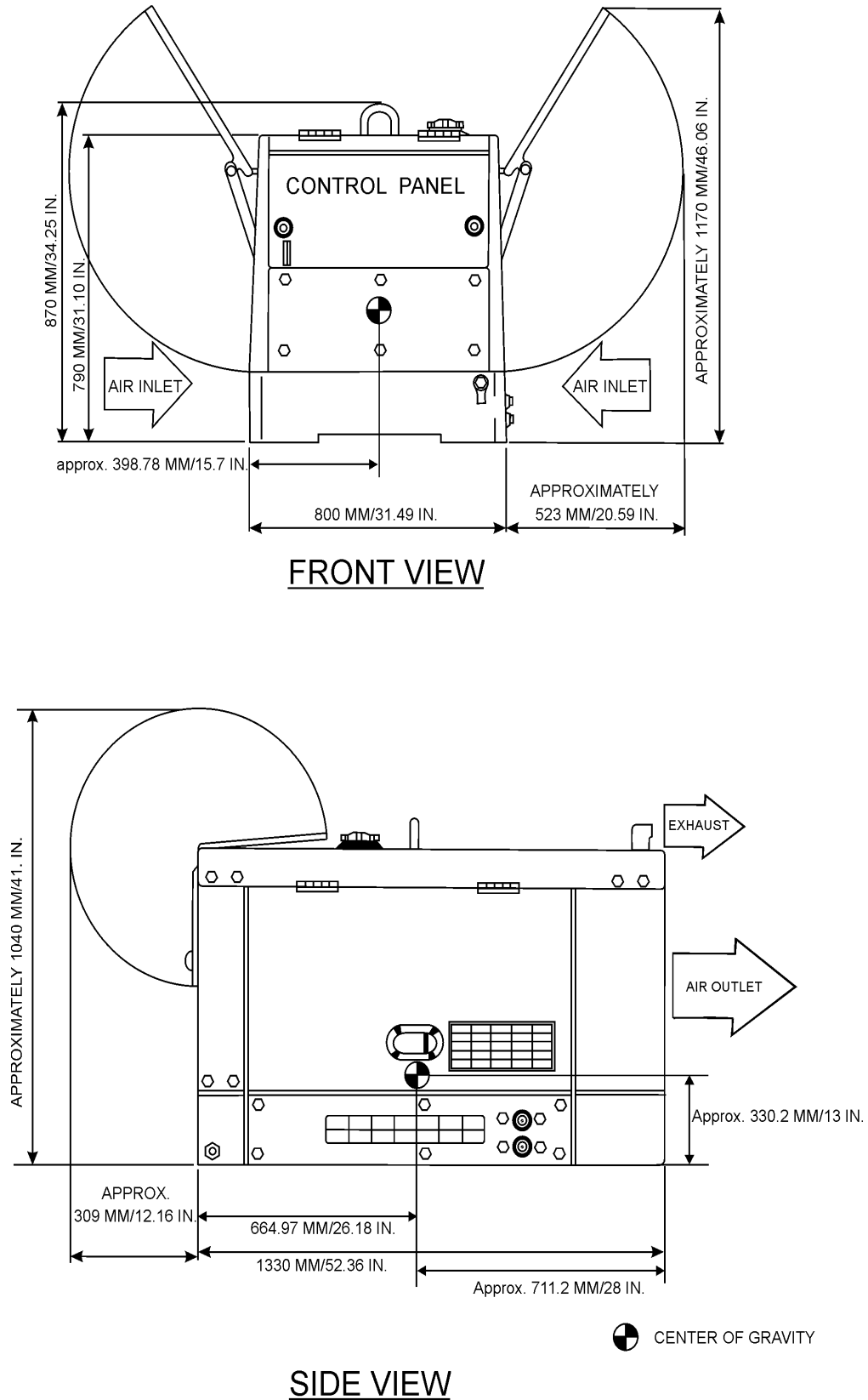
### Circuit Breakers

To protect the welder/AC generator from an overload, a single-pole, 25 amp, **main** circuit breaker is provided. In addition a single pole, 20 amp breaker is provided for the G.F.C.I. receptacle. Make sure to switch both circuit breakers to the "OFF" position prior to starting the engine.

### General Inspection Prior to Operation

The DAW-500S utilizes a welder/AC 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.

# DAW-500S — DIMENSIONS



**Figure 1. DAW-500S Dimensions**

Dry Weight: 1,025 lbs.  
Total Weight: 1,150 lbs.

## DAW-500S — CONTROLS AND INDICATORS

Figures 2 and 3 show the location of the controls and indicators. The functions of each control or indicator is described below and on the preceding page.

1. **Fuel Gauge** – Indicates the amount of fuel in the fuel tank.
2. **Air Outlet Exhaust** – Allows engine exhaust to exit the welder/AC generator into the open air. **NEVER** block this opening.
3. **Fuel Cap** – Remove this cap to add fuel. Add only #2 diesel fuel. Always keep an adequate amount of fuel in the tank. **DO NOT** top off. Wipe up any spilled fuel immediately.
4. **Lifting Hook** – Use this hook to lift the welder/AC generator.
5. **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.
6. **Overflow Bottle** – Supplies coolant to the radiator when radiator coolant level is low. Fill to indicated level as shown on bottle.
7. **Engine Oil Filler Port** – Remove this cap to add engine oil. Use only recommended type oil. See table 3, page 16.
8. **Coolant Drain Plug** – Remove this plug to drain coolant from the radiator.
9. **Oil Drain Plug** – Remove this plug to drain oil from the engine.
10. **Automatic Speed Control Solenoid** – Automatically regulates engine speed.
11. **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).
12. **Battery** – Provides +12 VDC power for the welder/AC generator. When replacing battery (12V 35 AH) use only recommended type battery.
13. **G.F.C.I Ground Terminal** – Use this terminal to connect external equipment grounds so that the GFCI receptacle will have a ground path.
14. **Fuel Tank** – Holds 6.6 gallons (25 liters) of diesel fuel.

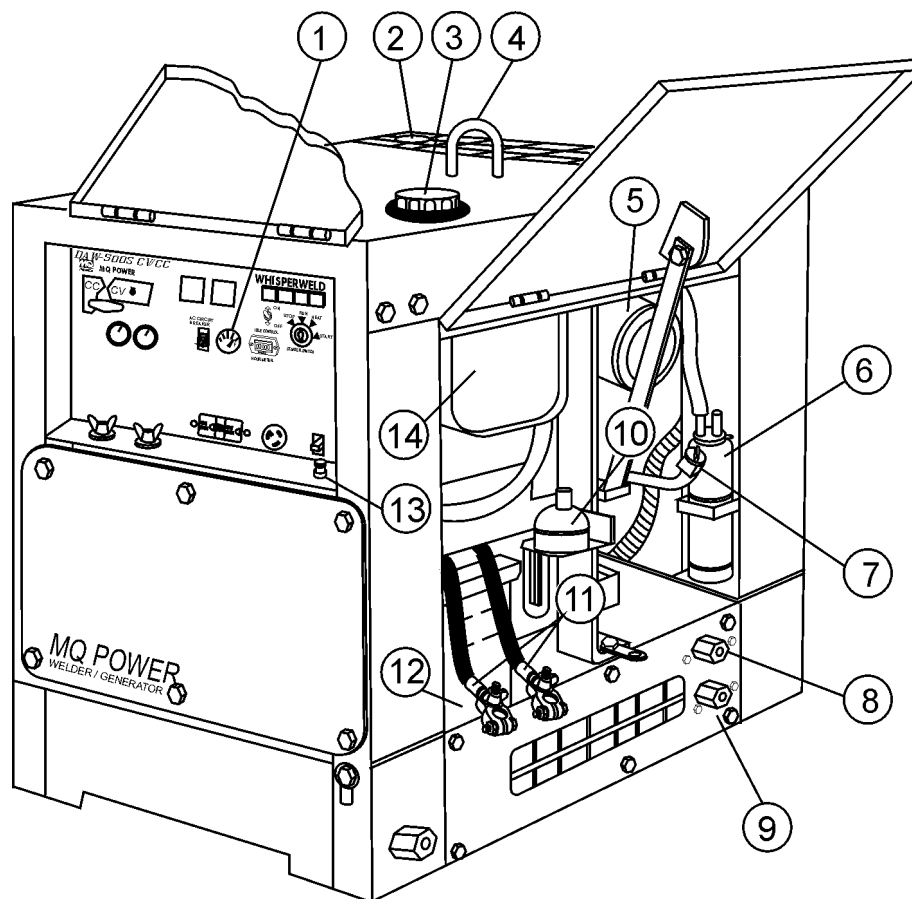


Figure 2. Controls and Indicators

## DAW-500S — CONTROLS AND INDICATORS

15. **Fuel Drain Plug** – Remove this plug to drain fuel from the fuel tank.
16. **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.
17. **Oil Filter** – Provides oil filtering for the engine.
18. **Ignition Switch** – With key inserted turn clockwise to start engine.
19. **Hour Meter** – Indicates number of hours machine has been in use or hours engine was run.
20. **Circuit Protector Circuit Breaker** – This single pole circuit breaker provides circuit protection (120V @20 amps) for the G.F.C.I. receptacle.
21. **Receptacle G.F.C.I.** – This receptacle provides 120 volts output at 20 amps.
22. **Receptacle** – Provides 120 volts output at 25 amps.
23. **Welding Output Terminals** – Connect the welding cable to this terminal. Select the appropriate polarities according to the application. See Table 7.
24. **Main Circuit Breaker** – This single-pole circuit breaker provides circuit protection (125V @25 amps) for the electric parts assembly.
25. **Current Control (CC) Voltage Control (CV) Adjustment Knobs** – Use these controls to adjust welding current and voltage.
26. **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.
27. **Sub-Selector Switch** – This switch is used to select type of welding and welding voltage needed. This switch will not work in CC mode.
28. **DC Voltmeter** – Indicates the amount of voltage used during welding in CV mode.
29. **DC Ammeter** – Indicates the amount of amperage being used during welding in CC mode.
30. **Idle Control Switch** – Regulates the engine speed when the welder/AC generator is under load.
31. **Warning Lamp Display** – Lights red when the following conditions occur:
  - Low Oil Pressure
  - High Water Temperature
  - Electrical System Is Not Charging Properly
  - Preheat Indicator

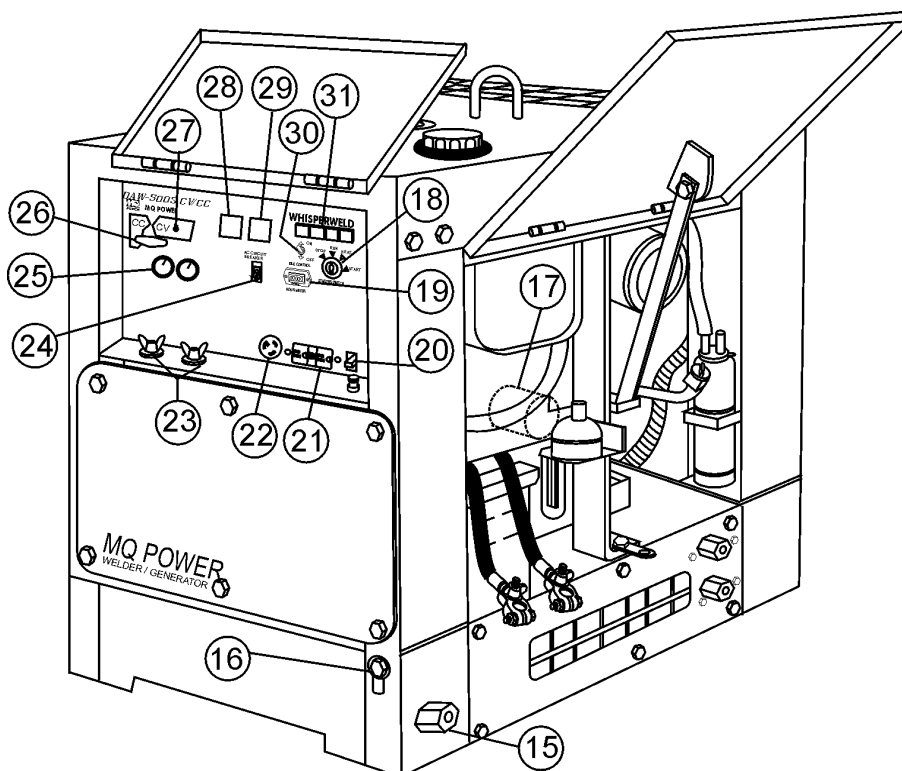


Figure 3. Controls and Indicators (con't)

## 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 while 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 are 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 for 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 on page 17). 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 shock 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. See page 16 for proper wiring connections.
16. **Application** - Indicates which units can be employed on a particular trailer.

Specifications may change without notice. Contact MQ Power Sales for information of specific trailer to unit.

# DAW-500S — TRAILER-SPECIFICATIONS

Table 2. Specifications

MODEL	APPLICATION	FUEL CELL	BRAKE SYSTEM	GVWR	FRAME LENGTH	FRAME WIDTH	JACK STAND
TRLR-10-15	TLG-12, DCA15, TLW-300	NO	NO	1900LBS	96"	50"	800LB. FULL TILT WHEEL
TRLR-10X	TLG-12, DCA15, TLW-300	NO	NO	1900LBS	96"	50"	800LB. FULL TILT WHEEL
TRLR-10XF	TLG-12, DCA15, TLW-300	51 GAL	NO	1900LBS	96"	50"	800LB. FULL TILT WHEEL
TRLR-225W	DCA-10	NO	NO	2200LBS	85"	42"	800LB. FULL TILT WHEEL
BLW-400	BLW-400	NO	ELECTRIC	2700LBS	W/MAST 154" W/O 124"	55" (78" TALL)	800LB. FULL TILT WHEEL
TRLR-15XF	DCA-15	41 GAL	NO	2700LBS	124"	55"	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-25SBT	DCA-25	NO	NO	2990LBS	120"	66"	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



# DAW-500S — TRAILER-SPECIFICATIONS

**Table 2. Specifications (Con't)**

MODEL	COUPLER	TIRES	WHEELS	AXLE	HUBS	SUSPENSION	ELECTRICAL
TRLR-10-15W	2" BALL CLASS 2 ADJUSTABLE	175-13C	13"X4.50"	2200# 2X2	5 LUG	3 LEAF	4 WIRE LOOM W/ 4 POLE FLAT
TRLR-10X	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
BLW 400	2" BALL CLASS 2 ADJUSTABLE	175-13C	13 X 4.5"	2200#2X2	5 LUG	3 LEAF	4 POLE FLAT
TRLR-15XF	2" BALL CLASS	B78-13LRC	13"X4.50"	3500# 2-1/2"	5 LUG	4 LEAF	4 POLE RUBBER 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 an 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

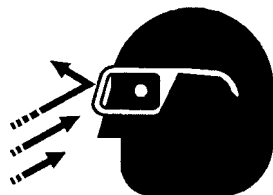
to explode (break off) with great force and cause serious eye or bodily injury.

## Tire Wear/Inflation

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

Table 2 (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 4) 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.

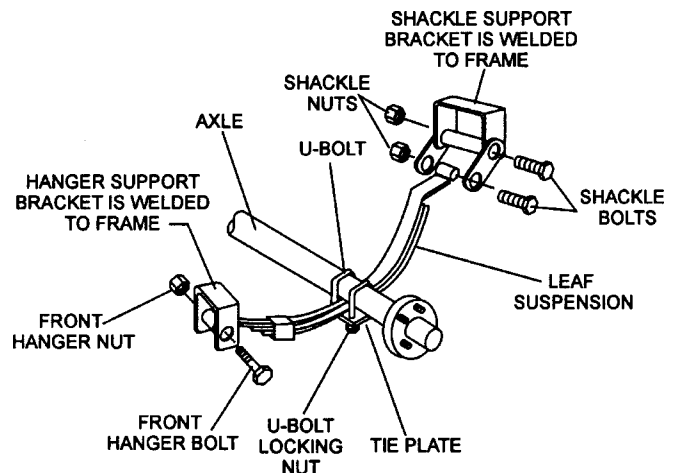


Figure 4. Suspension Components

**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

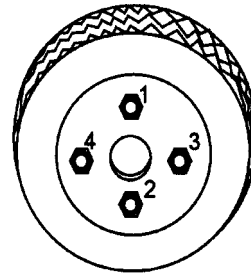
## Lug Nut Torque Requirements

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:

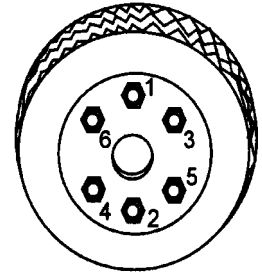
1. Start all wheel lug nuts by hand.
2. Torque all lug nuts in sequence. See Figure 5. **DO NOT** torque the wheel lug nuts all the way down. Tighten each lug nut in 3 separate passes as defined by Table 5.
3. After first road use, retorque all lug nuts in sequence. Check all wheel lug nuts periodically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

**Table 5. Tire Torque Requirements**

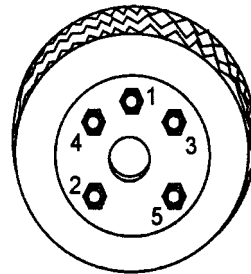
Wheel Size	First Pass FT-LBS	Second Pass FT-LBS	Third Pass FT-LBS
12"	20-25	35-40	50-65
13"	20-25	35-40	50-65
14"	20-25	50-60	90-120
15"	20-25	50-60	90-120
16"	20-25	50-60	90-120



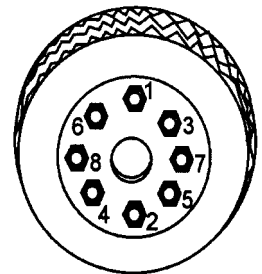
4-LUG NUTS



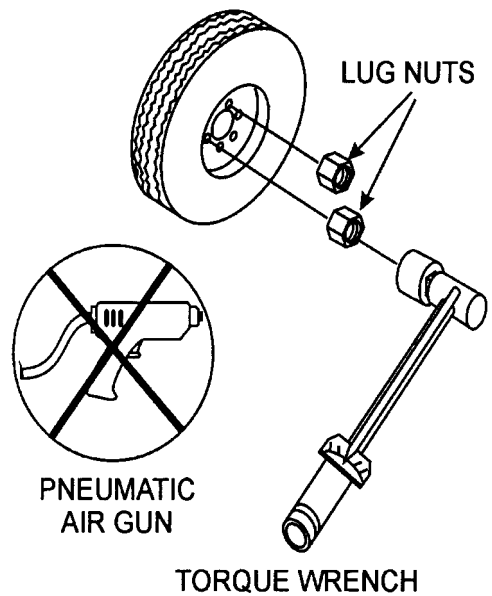
6-LUG NUTS



5-LUG NUTS



8-LUG NUTS

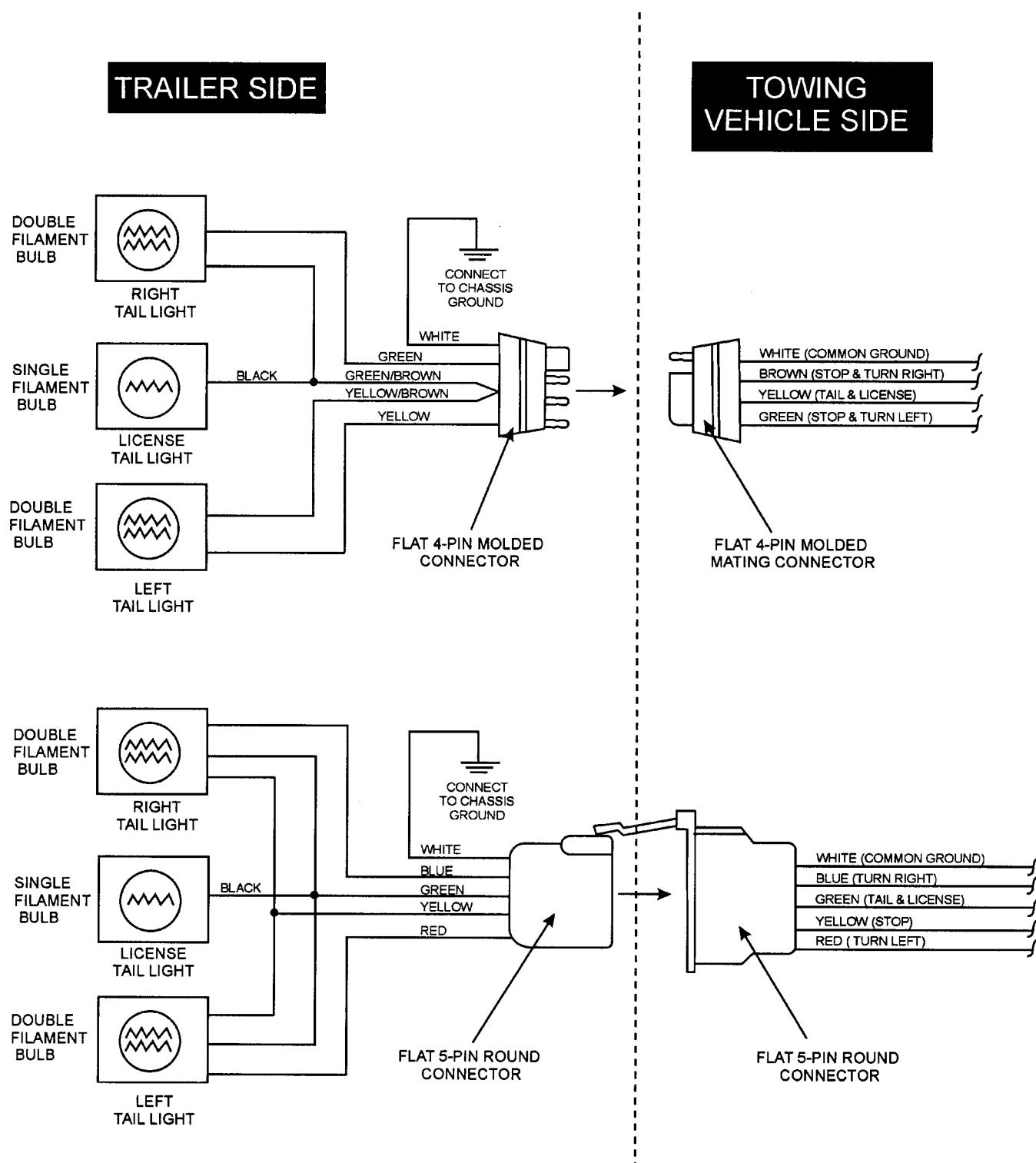


**Figure 5. Lug Nut Tightening Sequence**

### NOTE

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

# DAW-500S — TRAILER WIRING DIAGRAMS



**NOTE:**  
LIGHTS ARE ORIENTED FROM THE DRIVER'S SEAT

## Outdoor Installation

Install the welder/AC generator in a location where it will not be exposed to rain or sunshine. Make sure the welder/AC generator is on secure level ground so it cannot slide or shift around. **Do not** operate machine with inclination of more than 5 degrees. Also install the welder/AC generator so the exhaust 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.

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

## Indoor Installation

Exhaust gases from diesel 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 away from any wall. Using an exhaust pipe which is too long or too small can cause excessive back pressure and cause the engine to heat excessively.

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

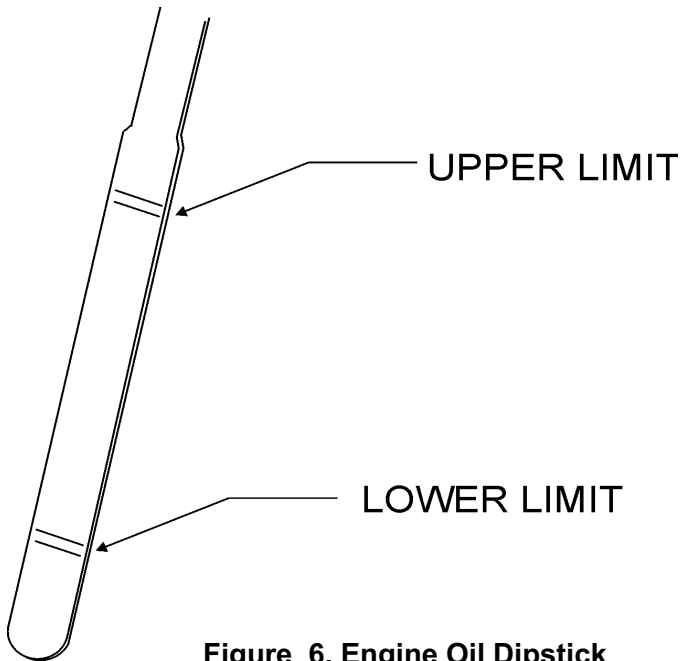
## CAUTION :



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

## Lubrication Oil

Fill the engine crankcase with lubricating oil through the filler hole, but do not overfill. Make sure the welder/AC 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 6) on the dipstick. Use grade CC or higher when refilling. See Table 6 for proper selection of engine oil.



**Figure 6. Engine Oil Dipstick**

## Fuel

Fill the fuel tank with clean diesel fuel. 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 10 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. Fuel spillage on a hot engine can cause a fire or explosion. If fuel spillage occurs, wipe up the spilled gasoline completely to prevent fire hazards.

## Coolant

Use only drinkable tap water. If hard water or water with many impurities is used, the inside of the engine and radiator may become coated with deposits and cooling efficiency will be reduced.

An anticorrosion additive added to the water will help prevent deposits and corrosion in the cooling system. See the *Kubota Engine Operator's Manual* for further details.

**Table 6. Recommended Motor Oil**

Temperature Range	Type Oil (CC class or higher)
104° F ~ 23° F (40° C ~ -5°C)	SAE 10W40
23° F ~ 5° F (-5° C ~ -15°C)	SAE 20W or SAE 10W-30
Below 5° C (-15°)	SAE 10W or SAE 10W-30

## 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 7 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 7. Coolant Capacity

Engine and Radiator	1.27 Gal. (4.8 L)
Reserve Tank	0.16 Gal. (1 L)

### Operation in Freezing Weather

When operating in freezing weather, be certain that the proper amount of antifreeze has been added. See Table 8 for antifreeze operating temperatures.

Table 8. 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. Change the radiator fluid every two years!

### Fan Belt Tension

The deflection of the 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 7) deflects 7 to 9 mm (0.28- to 0.35 in.) when depressed with the thumb as shown in Figure 5 below.

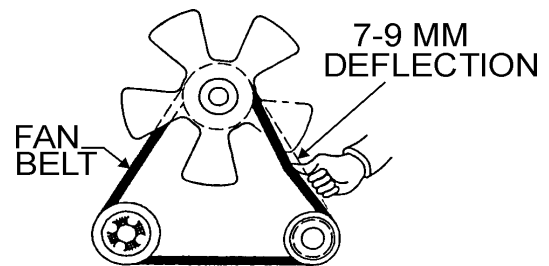


Figure 7. Fan Belt Tension

## 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 **Kubota Engine Operator's Manual**.

### Battery

Connect the battery to correct polarity. **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 welder/AC generator set.

#### Power Outlets

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

#### Single Phase

One Duplex NEMA (GFCI) 5-20R (120V, 20 Amp)

One Twist Lock NEMA L5-30R (120V, 30 Amp)

#### Main Circuit Breaker (Single-Pole)

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

#### GFCI Protection Breaker (Single-Pole)

This single-pole, 20 amp breaker protects the GFCI receptacle from short circuiting or overloading.

#### Idle Control Switch

The DAW-500S Welder/AC generator is provided with an automatic idle (engine) control capability for noise suppression and fuel cost reduction. The automatic idle control feature automatically engages under a no-load condition.

When the Idle Control Switch is placed in the "ON" position, the engine revolutions will be approximately 2000 rpm (low-speed operation). When a load is connected to one of the output receptacles, the engine speed will automatically increase to about 2800 rpm (high-speed operation) within 10 seconds. Conversely, when the load is removed, the engine speed will automatically drop back down to 2000 rpm within 10 seconds.

With AC loads of more than 150W (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 slows down.

Turn the idle control switch to the "ON" (up) position when AC loads of more than 200W are 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, or if very high quality of welding result is required.

However, when welding in CV Low, the engine will continue to run at a low speed, even when applying AC loads.

#### 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 welder/AC generator and equipment to insure the wattage, amperage and frequency requirements are satisfactorily supplied by the welder/AC 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 welder/AC generator is 1.0. See Table 9 below when connecting loads.

**Table 9. 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, change the idle control switch to the "OFF" position.

## CAUTION:

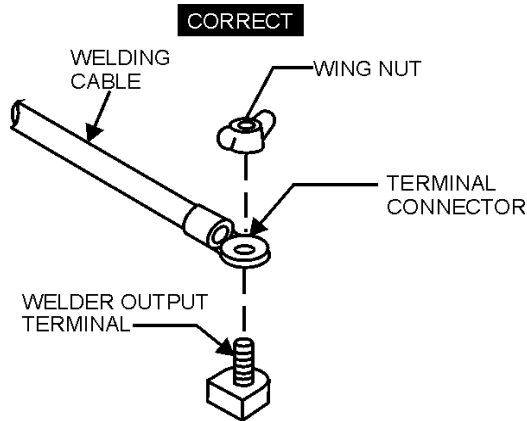


Before connecting this welder/AC generator to any building's electrical system, a licensed electrician must install an isolation (transfer) switch. Serious injury or death may result without this transfer switch.

# DAW-500S— WELDER OPERATING INSTRUCTIONS

## Welding Cables and Polarities

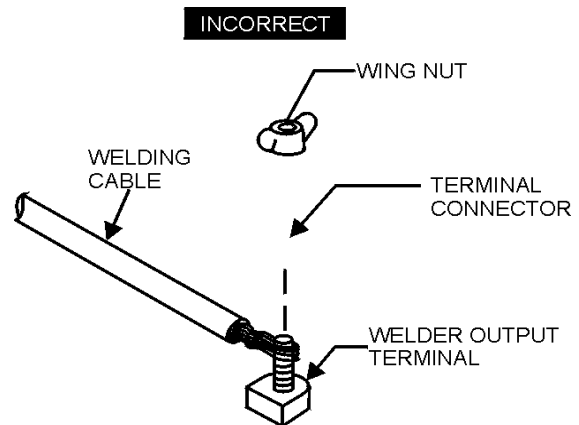
Connect the welding cables (Figure 8) to the welder's output terminals located on the control panel. The output terminals have (+) and (-) polarities. Select the appropriate polarities according to the application (See Welding Applications, Table 10).



**Figure 8. Electrode Cable Connection (Correct)**

### NOTE

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



**Figure 9. Electrode Cable Connection (Incorrect)**

**Table 10. Welding Applications**

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

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

# DAW-500S— WELDER OPERATING INSTRUCTIONS

## CAUTION :



Never turn Main or Sub Welding CV/CC Selector Switch while using welder.

### CV MODE

This mode is for use of wire feeders. Use the voltage control to adjust the feeding speed. See Table 11 for maximum voltage range in relevant to electrode size.

### CV HIGH

Adjust the CV Voltage Regulator for welding output voltage, with Main Welding CV/CC Selector Switch turned to the right side and the Sub Selector Switch to CV HIGH.

#### NOTE

The CC Current Regulator will not function in this position.

### CV LOW Position

Adjust the CV Voltage Regulator for welding output voltage, with Main Welding CV/C Selector Switch turned to the right side and the Sub Selector Switch to the center, CV LOW.

#### NOTE:

The idle control switch will not function and the engine will remain on low speed during welding operation in this mode.

### CC Mode (for stick)

This mode is for use of welding sticks. Use the current regulator to adjust the feeding speed. See Table 11 for maximum current range in relevant to electrode size.

### CC HIGH

Adjust the CC Current Regulator for welding current, with Main Welding DV/CC Selector Switch turned to the right side and the Sub Welding CV/CC Selector Switch turned to the lower position .

#### NOTE

The CV Voltage Regulator will not function in this position.

### CC LOW

Adjust the CC Current Regulator for welding current, with Main Welding CV/CC Selector Switch turned to the left side.

#### NOTE

The Sub Selector Switch and CV Voltage Regulator will not function in this mode.

Table 11. Electrode Size and Current Range

Current Range	CC Low	Minimum to 250A	CC High	200A to Maximum
Electrode Size		3/32 to 7/32 Diameter		3/16 to 5/16 Diameter

# DAW-500S — WELDER/GENERATOR USE

## Ground

The nut and ground terminal on the welder/AC generator should always be used to connect 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.

## Welding Cable

When welding, use the table below (Table 12) to measure the optimum amount of voltage and amperes when selecting the proper welding cable. The relationship between cable length and sectional area is to keep the line voltage drop within 4V.

Table 12. Welding Cable Sizes

Total Cable Length Not to Exceed in Welding Amperes	100 ft. (30m) or less	150 ft. (45m)	200 ft. (60m)	250 ft. (70m)	300 ft. (90m)	350 ft. (105m)	400 ft. (130m)
100	#4	#4	#4	#3	#2	#1/0	#1/0
150	#3	#2	#1	#1/0	#2/0	#3/0	#3/0
250	#2	#1	#1/0	#2/0	#3/0	#4/0	#4/0
300	#1	#1/0	#2/0	#3/0	#4/0	#2-2/0	#2-2/0
350	#1/0	#2/0	#3/0	#4/0	#2-2/0	#2-3/0	#2-3/0
400	#2/0	#3/0	#4/0	#2-2/0	#2-3/0	#2-3/0	#2-4/0
500	#3/0	#4/0	#2-2/0	#2-3/0	#2-4/0	#3-3/0	#3-3/0

## Welding and Auxiliary Outputs

In the position of CV Low, the engine will continue run at a low speed, even if AC load is applied. For this reason, it is recommended **not** to use AC output terminal when in this mode of welding.

The **welder** can supply a welding current of 120 amps, and the **AC generator** can supply up to 3 kW of power at 120 volts simultaneously.

## Welding/AC Power

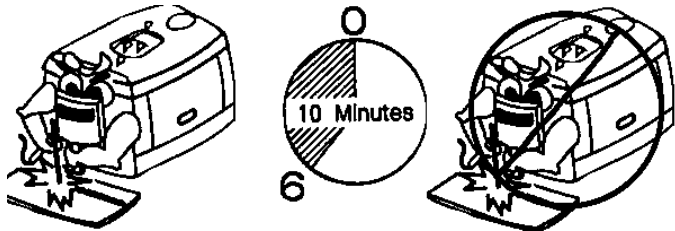
This unit will provide simultaneous use of DC welding power and AC output power. Use the table below (Table 13) when selecting electrode size for the amount of AC power available.

Table 13. DC Weldng/AC Power Capacity

WELDING ELECTRODE SIZE	AC POWER SOURCE CAPACITY
3/32" (80A)	3kVA
1/8" (130A)	2.2kVA
5/32" (170A)	2.0kVA
3/16" (220A)	1.7kVA
7/32" (270A)	1.0kVA
LESS THAN 1/4"	0

## Duty Cycle

The welder is rated at 100% duty cycle at 350 amps. Duty Cycle refers to the amount of time the user can weld and how long the machine must rest. The duty cycle depends upon the welding current being used. Select the appropriate duty cycle from Table 14 to prevent overload.



### EXAMPLE:

The 450 amp, 60% duty cycle referenced in Table 14 is for CV welding ONLY.

Table 14. Duty Cycle

Duty Cycle (%)	100	80	60
Current (Amps)	350 or less	400	450

## FIVE ESSENTIALS FOR PROPER WELDING PROCEDURES

Besides the steady sizzling sound that a correct arc produces, the shape of the molten pool and the movement of the metal at the rear of the pool serve as a guide in checking weld quality. In a correctly made deposit, the ripples produced on the bead will be uniform and the bead will be smooth, with no overlap or undercut.

### 1. Correct Electrode Size

The correct choice of electrode size involves consideration of a variety of factors. Such as the type, position, and preparation of the joint, the ability of the electrode to carry high current values without injury to the weld metal or loss of deposition efficiency. The mass of work metal and its ability to maintain its original properties after welding, the characteristics of the assembly with reference to effect of stresses set up by heat application, the practicability of heat treatment before and/or after welding, the specific requirements as to welding quality and the cost of achieving the desired results.

### 2. Correct Current

If current on equipment is too high or too low, you are certain to be disappointed in your weld. If too high, the electrode melts too fast and your molten pool is large and irregular. If too low, there is not enough heat to melt the base metal and your molten pool will be too small, will pile up, and look irregular.

### 3. Correct Arc Length

If the arc is too long or voltage too high the metal melts off the electrode in large globules which wobble from side to side as the arc wavers, giving a wide, spattered and irregular bead—with poor fusion between original metal and deposited metal.

If the arc is too short or voltage too low, there is not enough heat to melt the base metal properly and the electrode quite often sticks to the work. This gives a high, uneven bead, having irregular ripples and poor fusion.

### 4. Correct Travel Speed

When your speed is too fast: your pool does not last long enough, impurities and gas is locked in. The bead is narrow and ripples pointed. When speed is too slow: the metal piles up, the bead is high and wide, with a rather straight ripple.

### 5. Correct Electrode Angle

The electrode angle is of particular importance in fillet welding and deep groove welding. Generally speaking, when making a fillet weld, the electrode should be held so that it bisects the angle between the plates and is perpendicular to the line of weld. If under cut occurs in the vertical member lowers the angle of the arc and directs the arc toward the vertical member.

## CAUTION :



Always wear welding shield with correct filter shade when welding. Improper use, or looking directly at the arc will lead to blindness.

## CAUTION :



Use protective screens or barriers to protect others from flash and glare; warn others not to stare at the welding arc.

# DAW-500S — ENGINE OPERATING INSTRUCTIONS

## 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.

### Before Starting

1. Disconnect the electrical load and switch the main circuit breaker to the 'OFF' position.
2. Check the fuel level on the fuel gauge. If the fuel is low fill the fuel tank with clean, fresh diesel fuel.

## CAUTION:



If any diesel spillage occurs, completely wipe up the spilled diesel fuel.

3. Check the lubricating oil level. If 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 8 on page 23).
4. 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 the radiator cap is fastened securely.

### Starting

1. Turn the fuel cock lever to the "ON" position (Figure 10).

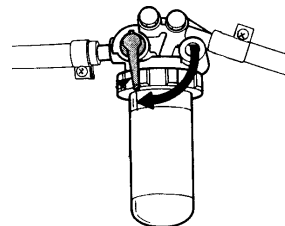


Figure 10. Fuel cock lever set to 'ON' position

2. Close doors. Operations with the doors open may cause insufficient cooling to the unit, and damage may result.
3. Insert the key into the starter switch and turn it to the "RUN" position. Check to see the oil pressure and charge lights on the "Warning Lamp Unit" are lit. If either are not lit, check the system and wiring (refer to the *Kubota Engine Operator's Manual*).
4. Turn the key to the 'HEAT' position. When the preheat light is off, turn the key to the 'START' position to start the engine (Figure 11). As soon as the engine starts, release the key. The key will automatically return to the 'ON' position.

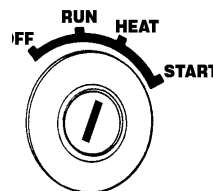


Figure 11. Key switch set to 'HEAT'

5. During winter or when the surrounding air temperature is cold, in situations where a load start is required, turn the key to the 'HEAT' position, you must wait until the preheat light goes off.
6. If the engine does not start within 10 seconds after the key is turned to the 'START' position, wait for about 30 seconds and repeat the procedure as described in step 4.

## CAUTION:



**NEVER** turn the key to the 'START' position while the engine is running.

7. When the engine starts, the *oil pressure* light and *charge* light should go out. If these lights stay on, immediately stop the engine and check the system and wiring (refer to the **Kubota Engine Operator's Manual**).
8. Let the engine idle for five minutes with the *automatic idle control switch* in the "ON" position.
9. Check the engine for abnormal vibrations, noises and oil leakage.
10. Check the generator's output voltage by referring to the DC voltmeter on the control panel.

### Shutdown

1. Remove the load from the welder/AC 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 turning the key to "**STOP**" position and remove the key. Turn the fuel cock lever to the "OFF" position.

## General Inspection

Prior to each use, the generator should be cleaned and inspected for deficiencies. Check for loose, missing or damaged nuts, bolts or other fasteners. Also check for fuel, oil, and coolant leaks.

## Engine Side (Refer to the Engine Instruction Manual)

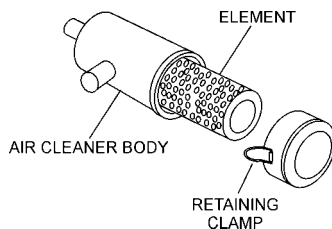
### Service Daily

If the engine is operating in very dusty or dry grass conditions, a clogged air cleaner will result. This can lead to a loss of power, excessive carbon buildup in the combustion chamber in high fuel consumption.

### Air Cleaner

Every 100 hours: The air cleaner used on this unit is a dry type. **NEVER** apply oil to the air cleaner. If welder/AC generator has been used in extreme dusty area, service air cleaner more frequently.

Release the air cleaner retaining clamps (Figure 12) and remove the air cleaner element.



**Figure 12. Air Cleaner Element**

Wipe the inside of the air cleaner with a damp cloth and remove all dust and debris that have accumulated inside the air cleaner body.

Use compressed air to clean air filter element. **DO NOT** use more than 99 psi. Blow compressed air from the inside while turning the element.

If damaged, replace with P/N 7000011081.

### Fuel Addition

Add diesel fuel (the grade may vary according to season and locations). Always pour through the mesh filter.

### Removing Condensation from the Fuel Tank

After prolonged use, condensation and other impurities accumulate in the bottom of the tank. Occasionally remove

the drain cock and drain the contents. During cold weather, the more empty volume inside the tank, the easier it is for water to condense. This can be reduced by keeping the tank full as much as possible.

### Air Removal

If air enters the fuel injection system of a diesel engine, starting becomes impossible. After running out of fuel, or after disassembling the fuel system, bleed the system according to the following procedure.

To restart after running out of fuel, turn the switch to the "ON" position for 15-30 seconds. Try again, if needed. This unit is equipped with an automatic air bleeding system.

### Cleaning the Fuel Strainer

Clean the fuel mesh strainer located under fuel cap 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. If damaged, replace with P/N 1552143160.

### Check Oil Level

Check the crankcase oil level prior to each use, or when the fuel tank is filled. Insufficient oil may cause severe damage to the engine. Make sure the generator is level. The oil level must be between the two notches on the dipstick as shown in Figure 31, page 39.

### Replacing Oil Filter

- Drain oil from engine. Use recyclable container to hold used oil. Replace cartridge with P/N 700032091.
- Detach the oil filter cartridge with a filter wrench.
- Apply a film of oil to the gasket for the cartridge.
- Screw in the cartridge by hand. When the gasket is in contact with the seal surface, tighten the cartridge one or two more times by hand.
- After the oil cartridge has been replaced, add oil according to recommended motor oil (Table 6, page 22). Run the engine for a while and check for leaks before adding more oil if needed. Clean excessive oil from engine.

### Replacing Fuel Filter

- Replace the fuel filter cartridge with new one every 200 hours or so. Use P/N 1707643010.

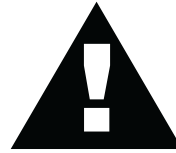


- Apply fuel oil thinly over the gasket and hand-tighten the cartridge into position.
- Vent any air.

## Flushing Out Radiator and Replacing Coolant

- Open both cocks located at the crankcase side and at the lower part of the radiator and drain coolant. Open the radiator cap while draining. Remove the overflow tank and drain.
- Check hoses for softening and kinks. Check clamps for signs of leakage.
- Flush the radiator by running clean tap water through radiator until signs of rust and dirt are removed. **DO NOT** clean radiator core with any objects, such as a screwdriver.
- Tighten both cocks and replace the overflow tank.
- Replace with coolant (see page 40, Table 12 for mixture).
- Close radiator cap tightly.

## CAUTION :



Allow engine to cool when flushing out radiator. Flushing the radiator while hot will damage engine and radiator.

## Generator Storage

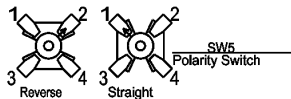
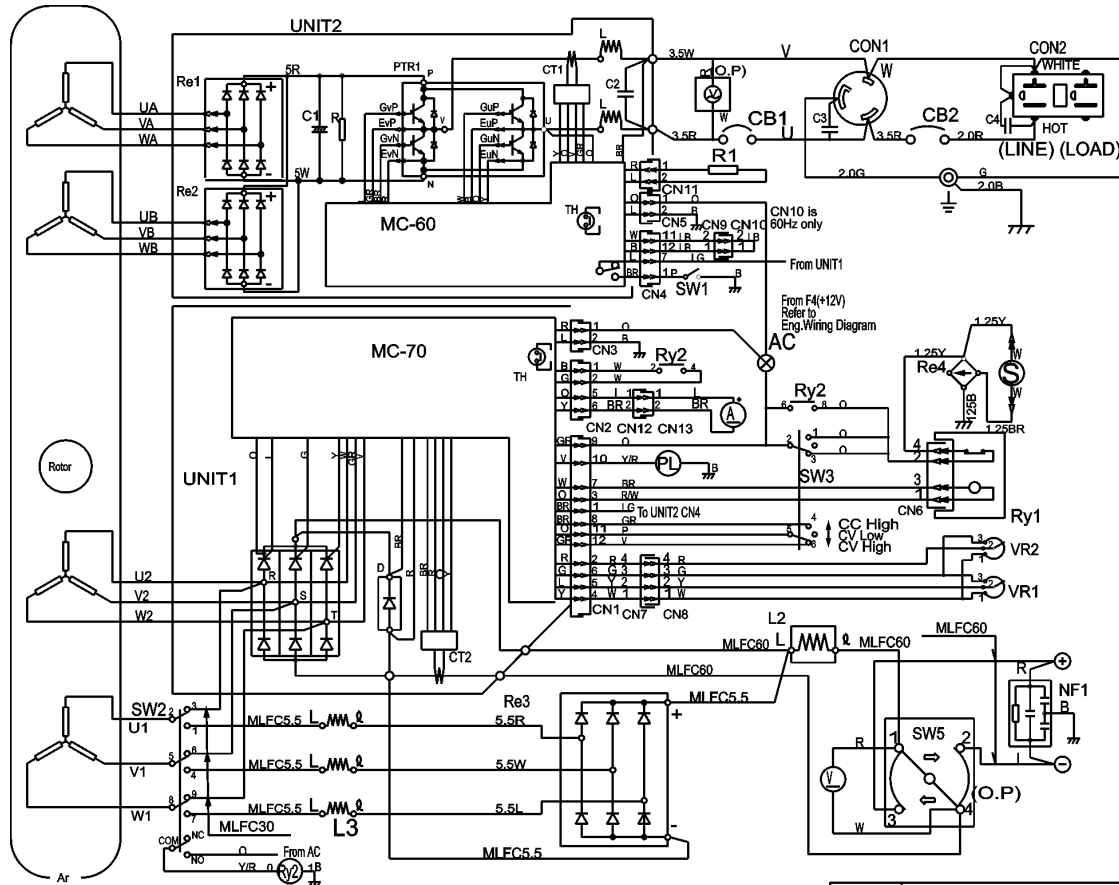
For storage of the generator for over 30 days, the following is required:

- Drain the fuel tank completely.
- Completely drain the oil from the crankcase and refill with fresh oil.
- Clean all external parts of the generator with a cloth.
- Cover the generating set and store in a clean, dry place.
- Disconnect the battery cable (+) (-) from battery.

INSPECTION / MAINTENANCE		10 Hrs DAILY	100 Hrs.	200 Hrs	400 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 *		X	X			
	Replace Oil Filter *			X			
	Clean Air Filter			X			
	Drain Bottom of Fuel Tank			X			
	Clean Unit, Inside and Outside			X			
	Change Fuel Filter *				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			

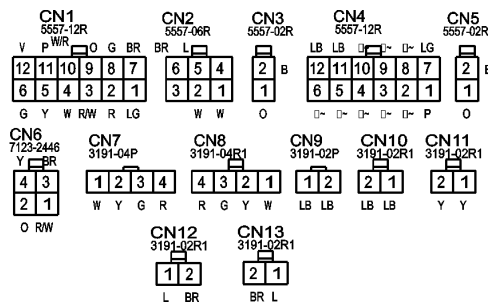
\* Replace oil, fuel filter, and oil filter after initial 50 hours of running.

# DAW-500S —GENERATOR WIRING DIAGRAM



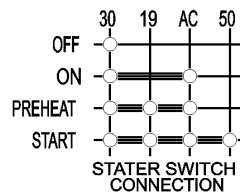
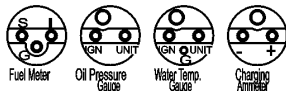
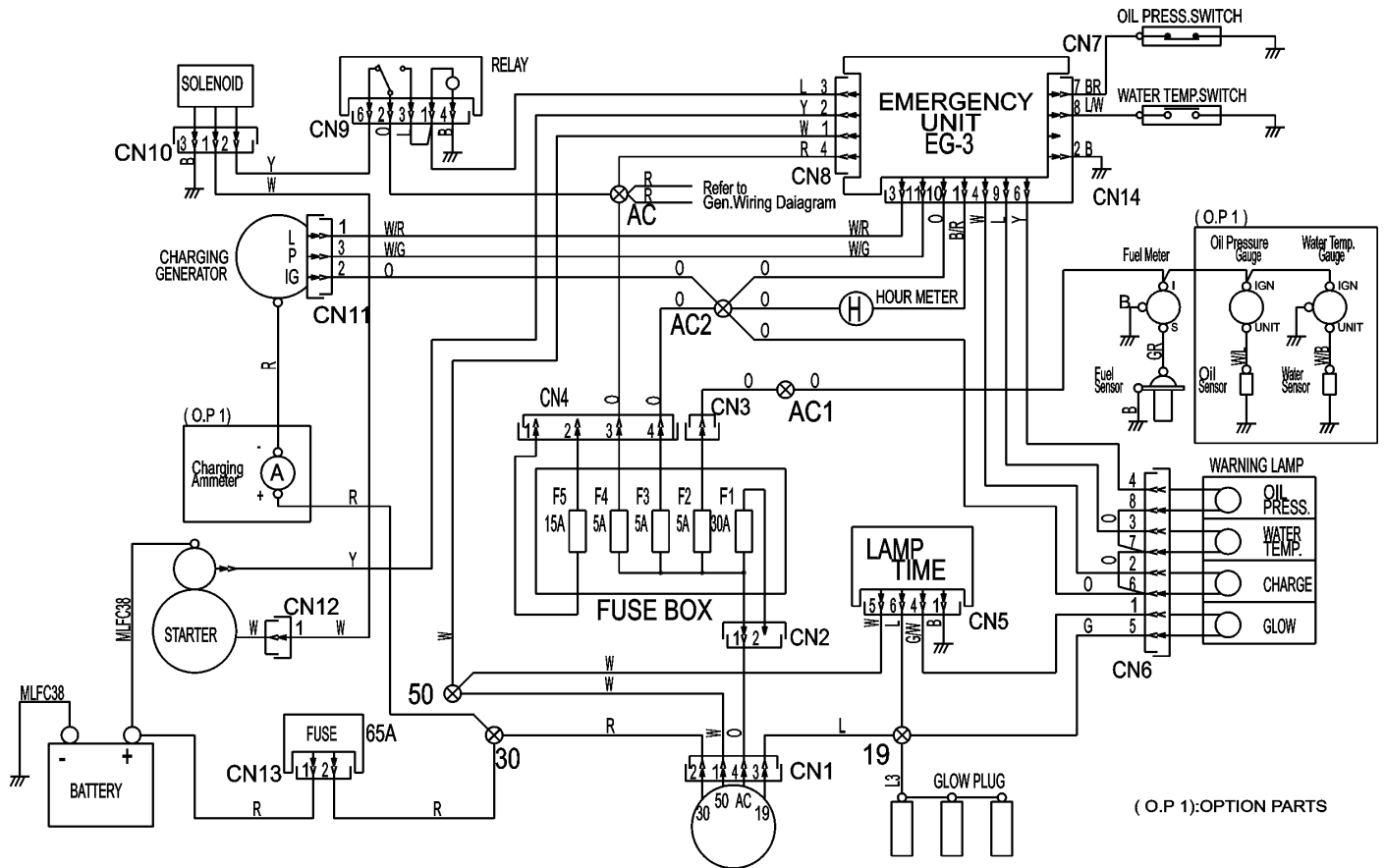
WIRING COLOR CODE			
SYMBOL	COLOR	SYMBOL	COLOR
B	BLACK	R	RED
L	BLUE	W	WHITE
BR	BROWN	Y	YELLOW
G	GREEN	LB	LIGHT BLUE
GR	GRAY	LG	LIGHT GREEN
V	VIOLET	O	ORANGE
P	PINK		

Connector  
(View from Inserting Wire side)



SYMBOL	PARTS NAME
Ar	Armature Ass'y
Rotor	Rotor
UNIT1	Control Unit CA-50 MC-70 Control Board SCR 123 Thyristor D Diode TH Thermostat Switch CT1 Current Transformer
UNIT2	Control Unit CA-41(100V CLASS) MC-60 Control Board PTR1 Transistor Re1,2 Rectifier C1 Condenser L Reactor
C3,4	Condenser
S	Rotary Solenoid
SW1	Switch, Idle Control
SW2	Welding Main Selector(CC LOW/ CC HIGH, CV HIGH&LOW)
SW3	Welding Sub Selector(CV HIGH/ CV LOW/CC HIGH)
VR1	CC Current Regulator
VR2	CV Voltage Regulator
PL	Warning Lamp(for Over Load)
L2	DC Reactor
L3	AC Reactor
RY1,2	Relay
Re3	Rectifier
Re4	Rectifier
NF1	Surge Filter
⊕	Output Terminal,Welding
CB1	AC Circuit Breaker(for main)
CB2	AC Circuit Breaker(for GFCI)
CON1	AC Output Receptacle
CON2	AC Output Receptacle(GFCI)
R1	Resistor
⊙	Ground Terminal(for GFCI)
⊖	DC Voltmeter
⊖	DC Ammeter
OPTION	
⊖	AC Voltmeter
SW5	Switch,Polarity Change Over

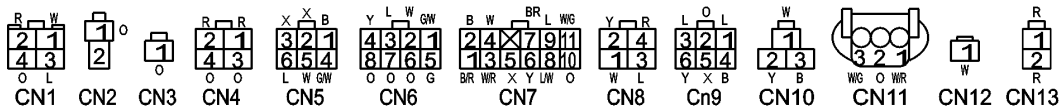
# DAW-500S —ENGINE WIRING DIAGRAM



STARTER SWITCH

WIRING COLOR CODE			
SYMBOL	COLOR	SYMBOL	COLOR
B	BLACK	R	RED
L	BLUE	W	WHITE
BR	BROWN	Y	YELLOW
G	GREEN	LB	LIGHT BLUE
GR	GRAY	LG	LIGHT GREEN
V	VIOLET	O	ORANGE
P	PINK		

Connector  
(View from Inserting Wire side)



# DAW-500S — 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 15) information shown below . If the problem cannot be remedied, please leave the unit just as it is and consult our company's business office or service plant.

**TABLE 15. 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.

## DAW-500S — 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 and Generator Troubleshooting (Table 16) information shown below and on the proceeding page. If the problem cannot be remedied, please leave the unit just as it is and consult our company's business office or service plant.

**TABLE 16. 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.

# DAW-500S — TROUBLESHOOTING (ENGINE)

**TABLE 16. 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.

**TABLE 16. 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 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

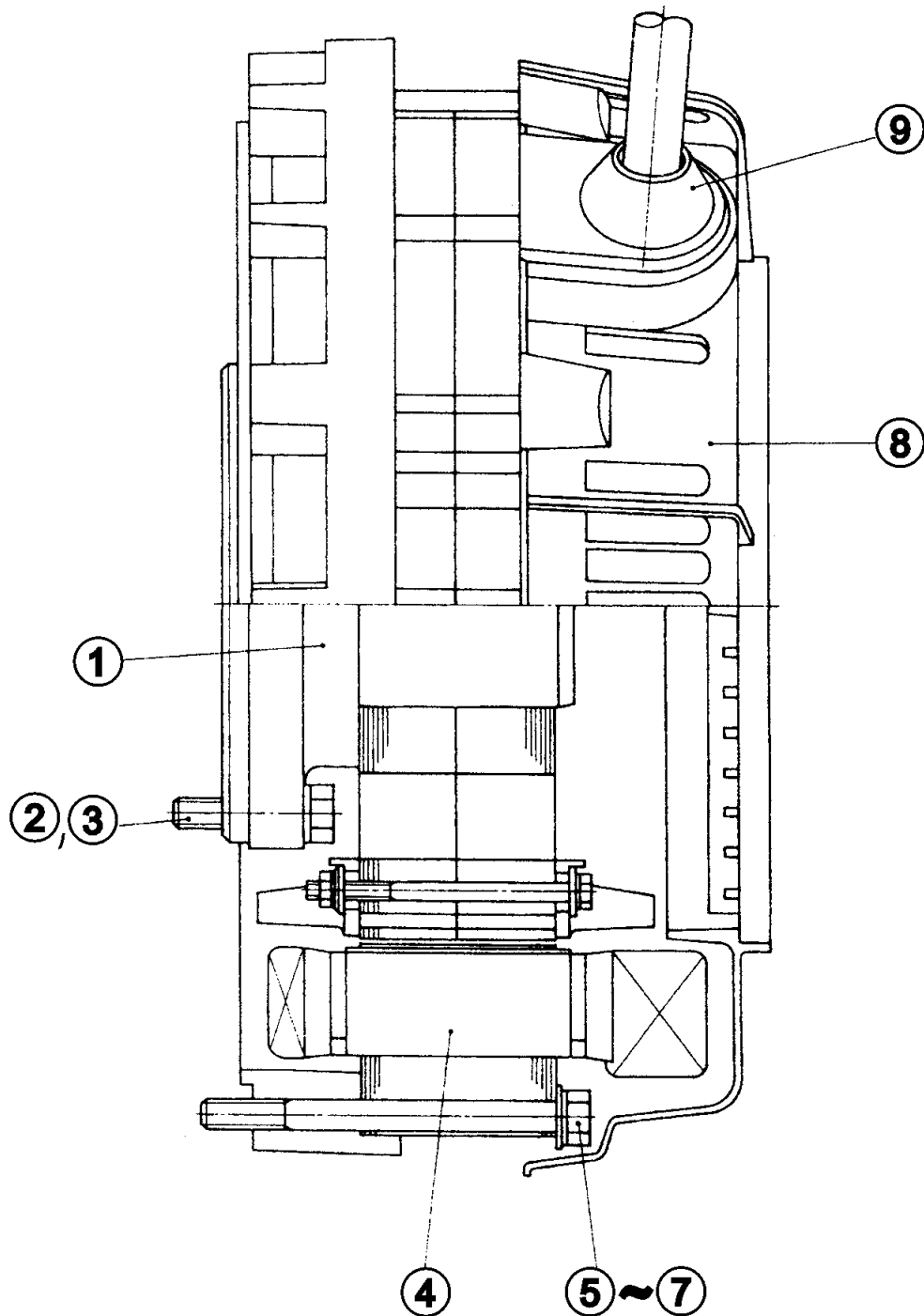
*The contents of this parts catalog are subject to change without notice.*



## DAW-500S W/KUBOTA D1703-EB DIESEL ENGINE 1 TO 3 UNITS

Qty.	P/N	Description
5 .....	7000011081 .....	AIR FILTER
5 .....	1552143160 .....	FUEL FILTER
5 .....	7000032091 .....	OIL FILTER
2 .....	1711297010 .....	FAN BELT
1 .....	3741059110 .....	STARTER SWITCH
5 .....	3741055151 .....	IGNITION KEY
2 .....	1584139010 .....	OIL SENDING UNIT
1 .....	D6312500803 .....	RADIATOR HOSE (UPPER)
1 .....	D6312500713 .....	RADIATOR HOSE (LOWER)
1 .....	0810105900 .....	FUEL CAP
1 .....	0602200467 .....	EMERGENCY UNIT
1 .....	0601842464 .....	RESISTOR
1 .....	0601807454 .....	MAIN CIRCUIT BREAKER
1 .....	1982639003 .....	SOLENOID, ROTARY
4 .....	1907765510 .....	GLOW PLUG
2 .....	1554383040 .....	SWITCH, WATER TEMP.
1 .....	0602201378 .....	REGULATOR
2 .....	0601821391 .....	RECTIFIER
1 .....	0601803071 .....	CV/CC SELECTOR SWITCH
2 .....	D1233000004 .....	OUTPUT TERMINAL
2 .....	0801880004 .....	INSULATOR WASHER
4 .....	0039510000 .....	HEX NUT
4 .....	0045110000 .....	LOCK WASHER
4 .....	0042710000 .....	PLAIN WASHER
2 .....	0000000002 .....	WING NUT
1 .....	D9925800104 .....	CONTROL UNIT
1 .....	D9925800184 .....	CONTROL UNIT

GENERATOR ASSY.

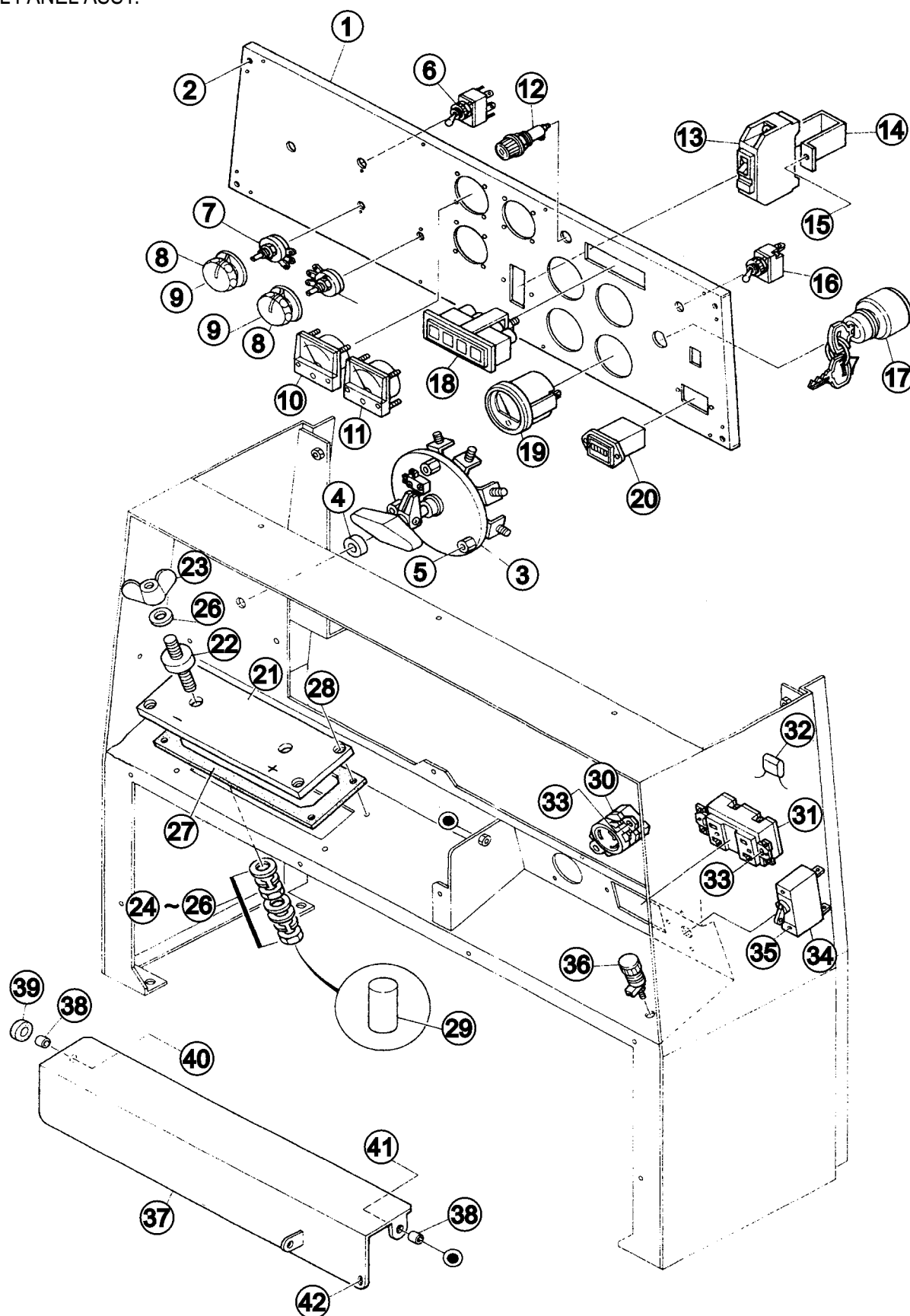


## GENERATOR ASSY.

<b><u>NO</u></b>	<b><u>PART NO</u></b>	<b><u>PART NAME</u></b>	<b><u>QTY.</u></b>	<b><u>REMARKS</u></b>
1	D6110000202	ROTOR ASSY.	1	
2	0340010045	HEX. HEAD BOLT	6	
3	030210250	LOCK WASHER .....	6 .....	REPLACES 0042510000
4	D6130200103	STATOR ASSY.	1	
5	0012110120	HEX. HEAD BOLT	6	
6	030210250	LOCK WASHER .....	6 .....	REPLACES 0042510000
7	031110160	PLAIN WASHER .....	6 .....	REPLACES 0041210000
8	D6153400102	COVER	1	
9	D6153300113	GROMMET	2	

# DAW-500S — CONTROL PANEL ASSY.

## CONTROL PANEL ASSY.



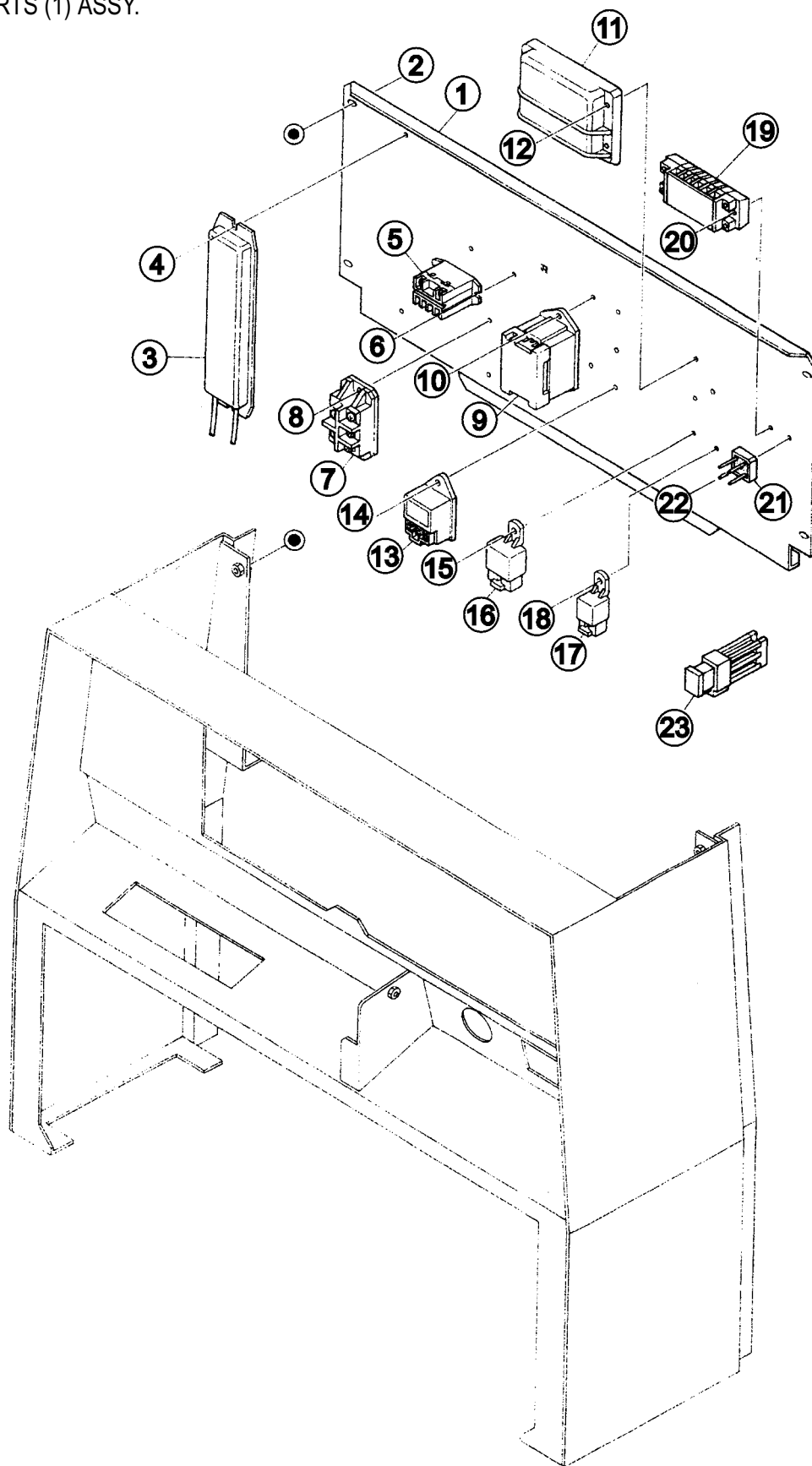
# DAW-500S — CONTROL PANEL ASSY.

## CONTROL PANEL ASSY.

NO	PART NO	PART NAME	QTY.	REMARKS
1	D6225000603	CONTROL PANEL	1	
2	0021806030	MACHINE SCREW	5	
3	0601803071	WELDING MAIN SELECTOR .....	1	SK2533MS
4	8705945004	SEAL	1	
5	0016906016	HEX. HEAD BOLT	3	
6	0601830704	WELDING SUB SELECTOR .....	1	S7B
7	0601840214	RHEOSTAT (CURRENT AND VOLT. REG.) .....	2	RV24YN20SB5025KOHM
8	0601840103	KNOB	2	
9	0023304008	SET SCREW	2	
10	0601800387	DC VOLTMETER .....	1	DCF50~100V
11	0601800179	DC AMMETER .....	1	DCF50~750A/6mA
12	0602103098	PILOT OPERATING LAMP	1	
	0601810248	BULB	1	
13	0601807454	CIRCUIT BREAKER .....	1	KM51B25A
14	3011816004	CIRCUIT BREAKER BAND SET .....	1	S1B
15	0027404010	MACHINE SCREW	2	
16	0601830771	IDLE CONTROL SWITCH	1	
17	3741059110	STARTER SWITCH .....	1	REPLACES 0602100059
18	0601810523	INDICATOR ASSY.	1	
	0601810830	BULB	4	
19	0602125055	FUEL GAUGE	1	
20	0601800682	HOUR METER	1	
21	D6235400014	SET BOARD, OUTPUT TERMINAL	1	
22	D6235100004	OUTPUT TERMINAL, WELDING	2	
23	000000000 2	WING NUT .....	4	REPLACES 0801884004
24	0039312000	HEX. NUT .....	4	REPLACES 0039512000
25	0040012000	LOCK WASHER	4	
26	0041412000	PLAIN WASHER	8	
27	D6235500214	RUBBER SEAL	1	
28	0021106020	MACHINE SCREW	1	
29	0601825115	SURGE FILTER	1	
30	0601811031	RECEPTACLE .....	1	REPLACES 0601811035
31	0601812597	RECEPTACLE .....	1	REPLACES 0601812598
32	0601826150	CONDENSER	1	
33	0027404015	MACHINE SCREW	4	
	0038704000	HEX. NUT	4	
34	0601806420	CIRCUIT PROTECTOR	1	
35	0021003005	MACHINE SCREW	2	
36	0601815109	GROUND TERMINAL	1	
37	D6238100514	COVER, OUTPUT TERMINAL	1	
38	D6238400404	RUBBER SEAL	2	
39	0805088004	STAY RUBBER	2	
40	011206020	HEX. HEAD BOLT .....	1	REPLACES 0017106020
	0017106000	HEX. NUT	1	
41	011206020	HEX. HEAD BOLT .....	1	REPLACES 0017106020
42	0017106016	HEX. HEAD BOLT	1	

## DAW-500S — ELECTRIC PARTS (1) ASSY.

ELECTRIC PARTS (1) ASSY.



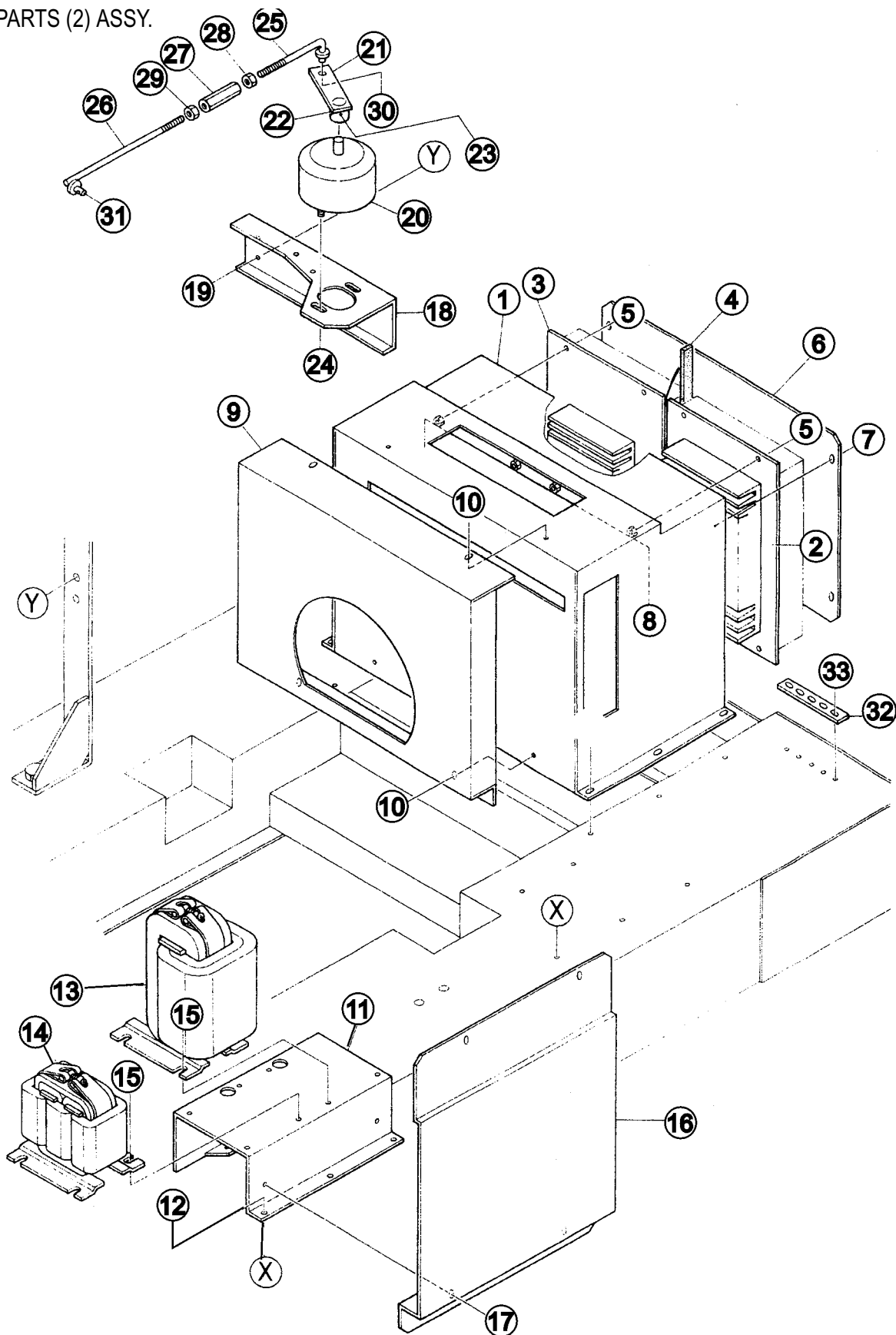
# DAW-500S — ELECTRIC PARTS (1) ASSY.

## ELECTRIC PARTS (1) ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	D6353600133	SET PANEL, ELEC. PARTS .....	1	
2	0017406016	HEX.HEAD BOLT	4	
3	0601842464	RESISTOR	1	
4	0027104016	MACHINE SCREW	2	
5	0601827619	RELAY .....	1	G7L2ABUBDC12V
6	0027104016	MACHINE SCREW	2	
7	0601821391	RECTIFIER .....	1	DF100BA40; REPLACES 0601821359
8	0027105016	MACHINE SCREW	2	
9	8701899004	FUSE BOX .....	1	FB6PS
	0601806642	FUSE, 5A	4	
	0601806643	FUSE, 15A	2	
	0601806644	FUSE, 30A	2	
10	0027105020	MACHINE SCREW	2	
11	0602200467	EMERGENCY UNIT .....	1	1746260601
12	0027106025	MACHINE SCREW	4	
13	1569465990	LAMP TIMER .....	1	REPLACES 0602201273 AND 1569465992
14	0027105016	MACHINE SCREW	1	
15	0601823707	RELAY .....	1	ACA3213CA1DC12VN; REPLACES 0601824527
16	0027105016	MACHINE SCREW	1	
17	0601824525	RELAY .....	1	ACA22136CAIBDC12VN
18	0027105016	MACHINE SCREW	1	
19	0601815759	TERMINAL BOARD .....	1	KT206P
	D9522000104	DECAL; SYMBOL MARK	1	
20	0027105025	MACHINE SCREW	2	
21	0601823204	RECTIFIER .....	1	S5VB60
22	0027103016	MACHINE SCREW	1	
23	0601806640	FUSE, 65A	1	

# DAW-500S — ELECTRIC PARTS (2) ASSY.

ELECTRIC PARTS (2) ASSY.





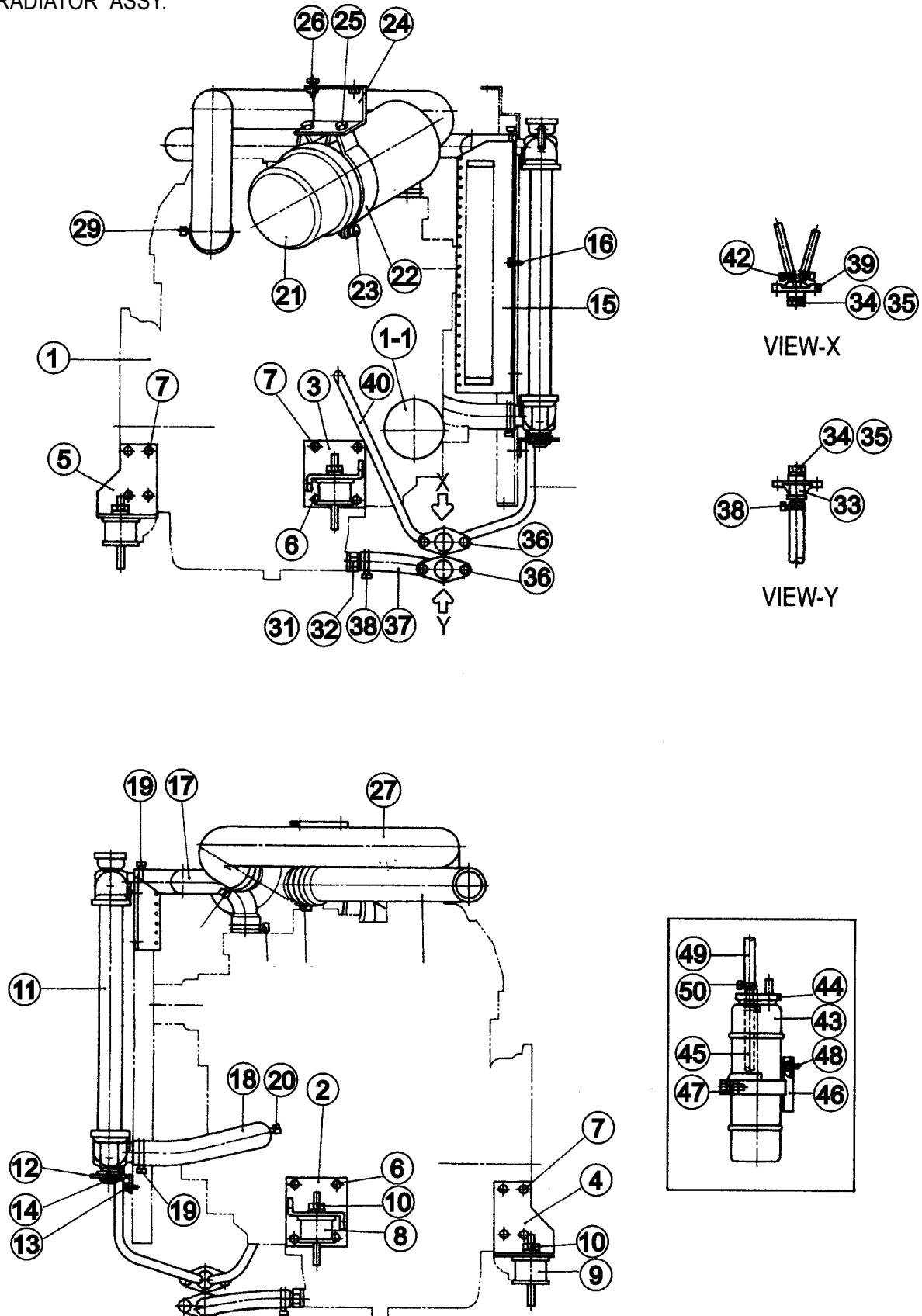
# DAW-500S — ELECTRIC PARTS (2) ASSY.

## ELECTRIC PARTS (2) ASSY.

NO	PART NO	PART NAME	QTY.	REMARKS
1	D6215000413	BOX, ELECT. PARTS .....	1 .....	UP TO S/N5428475
	D6215000423	BOX, ELECT. PARTS .....	1 .....	S/N5428476~
2	D9925800104	DC CONTROL UNIT ASSY. ....	1 .....	CA50
3	D9925800184	AC CONTROL UNIT ASSY. ....	1 .....	CA41
4	0221900245	RUBBER SEAL	1	
5	011206020	HEX. HEAD BOLT .....	8 .....	REPLACES 0016906020
6	D6215400214	COVER .....	1 .....	UP TO S/N5428475
	D4515400224	COVER .....	1 .....	S/N5428476~
7	0017106016	HEX. HEAD BOLT	4	
8	0017106016	HEX. HEAD BOLT	6	
9	D6485400504	AIR DUCT	1	
10	0017106016	HEX. HEAD BOLT	4	
11	D6485500303	BRACKET	1	
12	0017106016	HEX. HEAD BOLT	5	
13	D6265500303	DC REACTOR .....	1 .....	L2
14	D6265500403	AC REACTOR .....	1 .....	L3
15	0017106016	HEX. HEAD BOLT	8	
16	D6262700614	COVER	1	
17	0017106016	HEX. HEAD BOLT	4	
18	D6262600204	BRACKET, ROT. SOLENOID	1	
19	011008020	HEX. HEAD BOLT .....	2 .....	REPLACES 0017108020
20	1982639003	ROTARY SOLENOID .....	1 .....	REPLACES 1790150203
21	D6388100104	ARM SOLENOID	1	
22	011606025	HEX. HEAD BOLT .....	1 .....	REPLACES 0010106025
	020106050	HEX. NUT .....	1 .....	REPLACES 0030006000
23	0050403020	SPRING PIN	1	
24	0207006000	HEX. NUT	1	
25	D6356300104	GOVERNOR ROD	1	
26	8702151004	GOVERNOR ROD	1	
27	1552154004	SCREW JOIINT	1	
28	0031008000	HEX. NUT	1	
29	0039308000	HEX. NUT .....	1 .....	REPLACES 0036508000
30	031108160	PLAIN WASHER .....	1 .....	REPLACES 0041208000
	0605010503	SNAP PIN	1	
31	952404470	PLAIN WASHER .....	1 .....	REPLACES 0041206000
	505015300	SNAP PIN .....	1 .....	REPLACES 0605010502
32	8511864601A	PLATE .....	1 .....	REPLACES 8511864604
33	0017106016	HEX. HEAD BOLT	5	

# DAW-500S — ENGINE & RADIATOR ASSY.

ENGINE & RADIATOR ASSY.

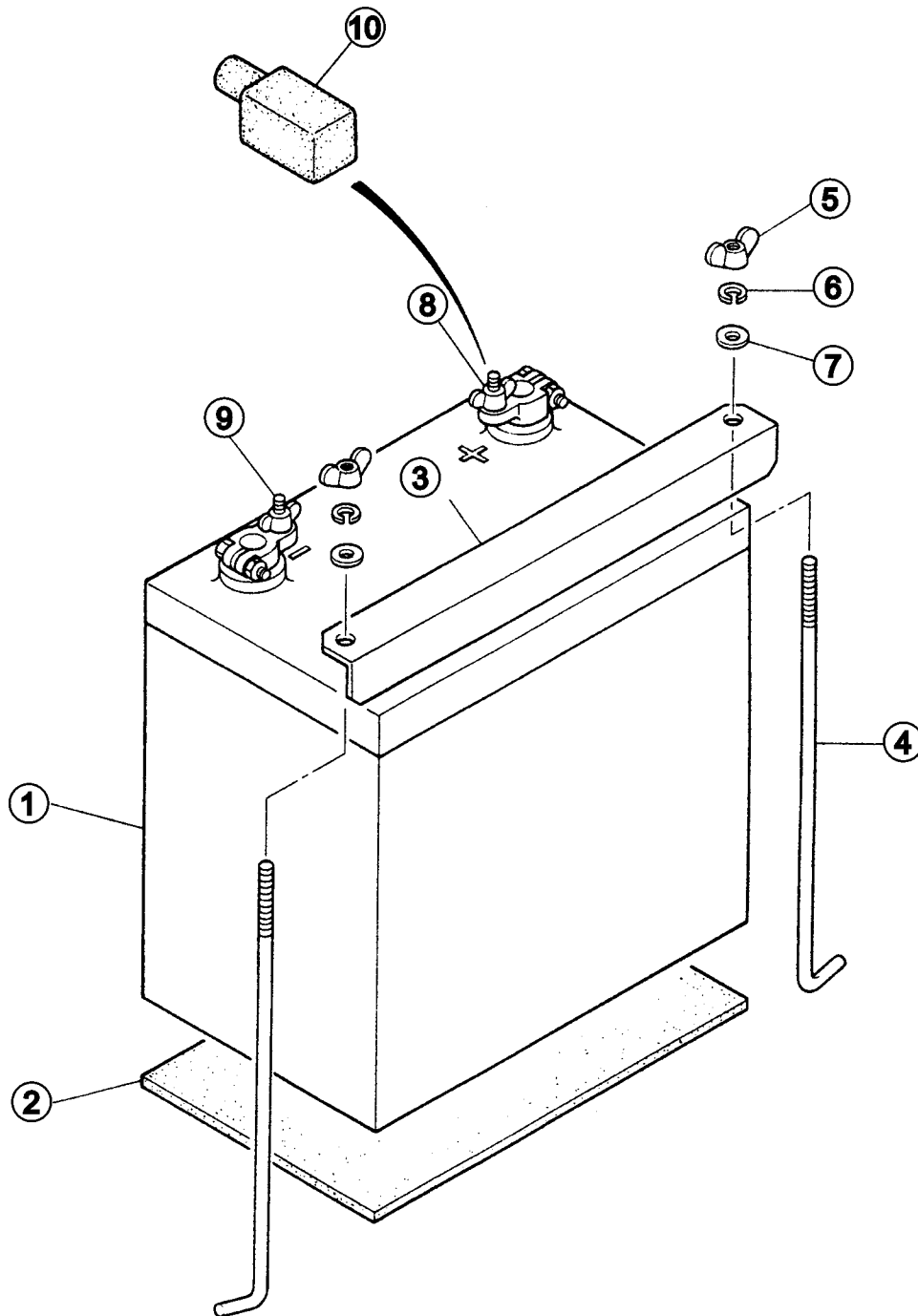


# DAW-500S — ENGINE & RADIATOR ASSY.

## ENGINE & RADIATOR ASSY.

NO	PART NO	PART NAME	QTY.	REMARKS
1	D692520034	ENGINE .....	1	KUBOTA D1703
1-1	7000032091	CARTRIDGE, OIL FILTER .....	1	REPLACES 0602041173
2	D6305200104	ENGINE FOOT	1	
3	D6305200004	ENGINE FOOT	1	
4	D6133100104	ENGINE FOOT	1	
5	D6133100004	ENGINE FOOT	1	
6	012212025	HEX. HEAD BOLT .....	7	REPLACES 0012412025
7	0012410025	HEX. HEAD BOLT	9	
8	7605419004A	RUBBER SUSPENSION .....	2	REPLACES 7605419004
9	7725419004	RUBBER SUSPENSION	2	
10	0207010000	HEX. HEAD BOLT	4	
11	0602012730	RADIATOR .....	1	4324221318920
	0602011064	RADIATOR CAP	1	
12	D6312100624	BRACKET, RADIATOR	1	
13	0017106016	HEX. HEAD BOLT	2	
14	D6312600304	RUBBER MOUNT	2	
15	D6312200213	FAN GUARD	1	
16	0017106016	HEX. HEAD BOLT	5	
17	D6312500803	RADIATOR HOSE	1	
18	D6312500713	RADIATOR HOSE	1	
19	0605515134	HOSE BAND	2	
20	0605515016	HOSE BAND	2	
21	0602046262	AIR CLEANER .....	1	IK3111T012
	7000011081	ELEMENT, AIR CLEANER .....	1	REPLACES 1540111081 AND 0602046372
22	1538111250	BAND, AIR CLEANER .....	1	REPLACES 0602040573
23	011208025	HEX. HEAD BOLT .....	1	REPLACES 0017108025
24	D6485500214	BRACKET, AIR CLEANER .....	1	UP TO S/N5421717
	D6485500224	BRACKET, AIR CLEANER .....	1	S/N5421718~
25	011008020	HEX. HEAD BOLT	2	REPLACES 0017108020
26	0017106016	HEX. HEAD BOLT	2	
27	D6375100613	HOSE, AIR CLEANER .....	1	UP TO S/N5421717
	D6375100623	HOSE, AIR CLEANER .....	1	S/N5421718~
28	D6375100714	HOSE, AIR CLEANER .....	1	UP TO S/N5421717
	D6375100724	HOSE, AIR CLEANER .....	1	S/N5421718~
29	0605515027	HOSE BAND	1	
30	0605515001	HOSE BAND	2	
31	1502025004	DRAIN JOINT	1	
32	0602021193	PACKING	1	
33	1502025103C	DRAIN JOINT .....	1	REPLACES 1502025103
34	0802011104	PLUG	2	
35	0150000018	O RING	2	
36	0017106016	HEX. HEAD BOLT	4	
37	0192200550	DRAIN HOSE	1	
38	0605515158	HOSE BAND	2	
39	1622014103	DRAIN JOINT	1	
40	0199900700	DRAIN HOSE	1	
41	0199900600	DRAIN HOSE	1	
42	0605515094	HOSE BAND	4	
43	0802081403	RESERVE TANK	1	
44	0802081104	CAP, RESERVE TANK	1	
45	0199100215	HOSE	1	
46	8702082004	BRACKET, RESERVE TANK	1	
47	011606025	HEX. HEAD BOLT .....	1	REPLACES 0017106025
48	0017106016	HEX. HEAD BOLT	2	
49	0199900500	HOSE	1	
50	0605515094	HOSE BAND	2	

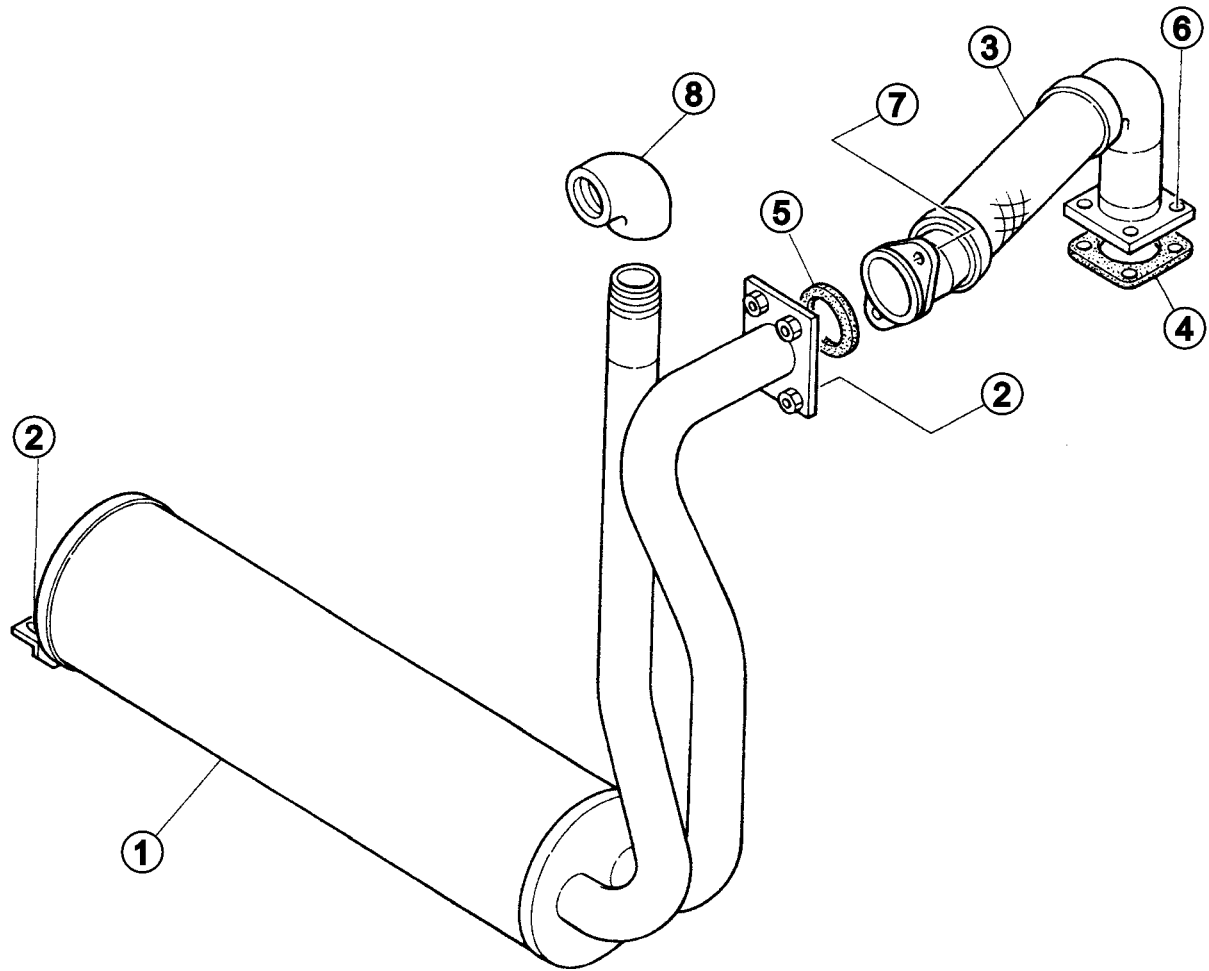
BATTERY ASSY.



**BATTERY ASSY.**

<b><u>NO</u></b>	<b><u>PART NO</u></b>	<b><u>PART NAME</u></b>	<b><u>QTY.</u></b>	<b><u>REMARKS</u></b>
1	0167306531	BATTERY .....	1 .....	65D31R
2	7612251004	BATTERY SHEET	1	
3	D6345200004	BATTERY BAND	1	
4	1742251004	BATTERY BOLT	2	
5	0037806000	WING NUT	2	
6	0040006000	LOCK WASHER	2	
7	952404470	PLAIN WASHER .....	2 .....	REPLACES 0041206000
8	0602220310	TERMINAL ASSY. ....	1 .....	NO 9P
9	0602220311	TERMINAL ASSY. ....	1 .....	NO. 9N
10	2845040414	TERMINAL CAP .....	1 .....	TC7R; REPLACES 0602220600

MUFFLER ASSY.

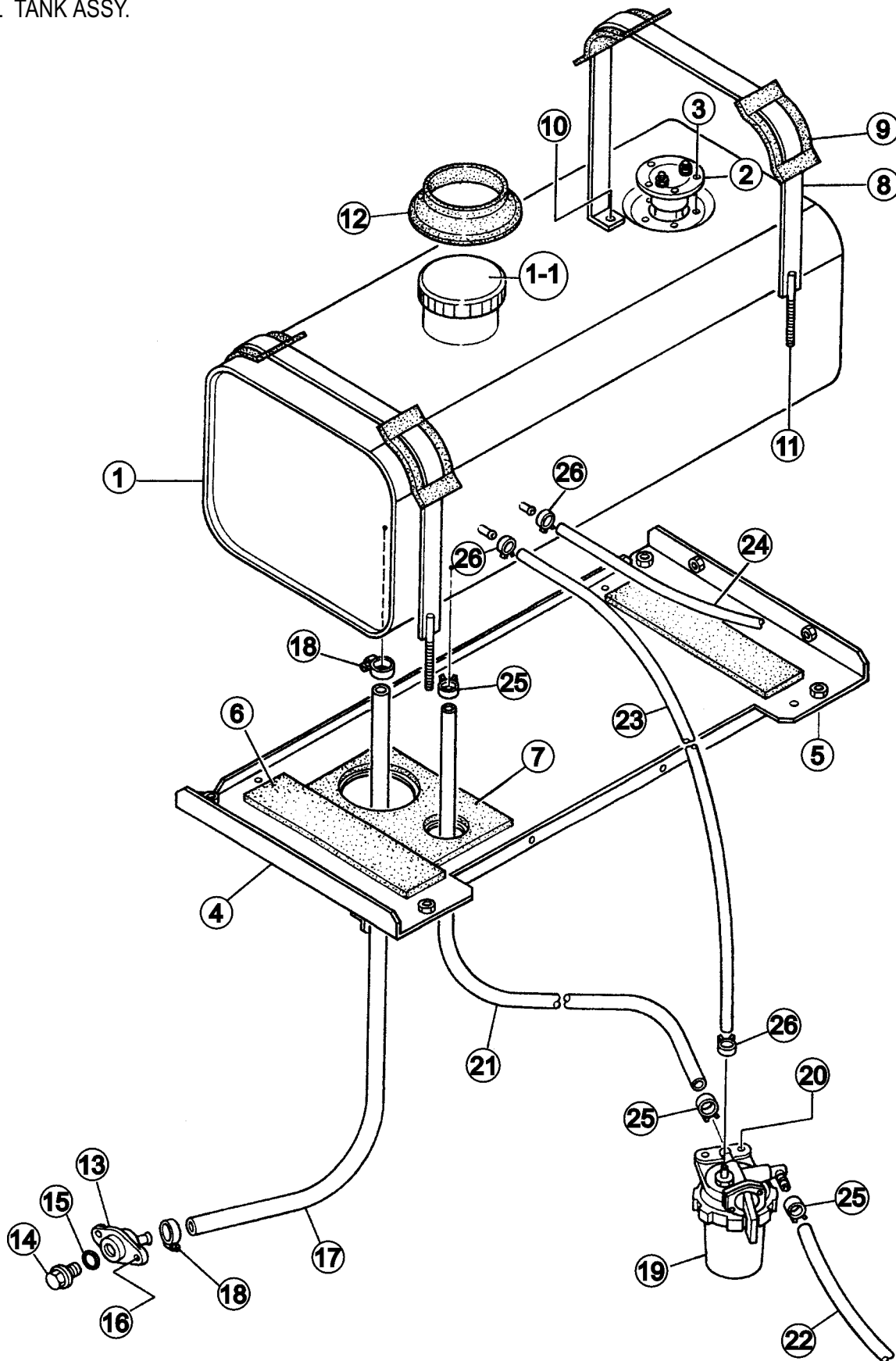


## MUFFLER ASSY.

<b><u>NO</u></b>	<b><u>PART NO</u></b>	<b><u>PART NAME</u></b>	<b><u>QTY.</u></b>	<b><u>REMARKS</u></b>
1	D6332000322	MUFFLER	1	
2	0017108020	HEX. HEAD BOLT	4	
3	D6335000523	EXHAUST PIPE	1	
4	1526312370	GASKET .....	1	REPLACES 0602320153
5	1502336004	GASKET	1	
6	0207008000	HEX. NUT	4	
7	0017108035	HEX. HEAD BOLT	2	
8	0130012000	ELBOW JOINT	1	

## DAW-500S — FUEL TANK ASSY.

FUEL TANK ASSY.



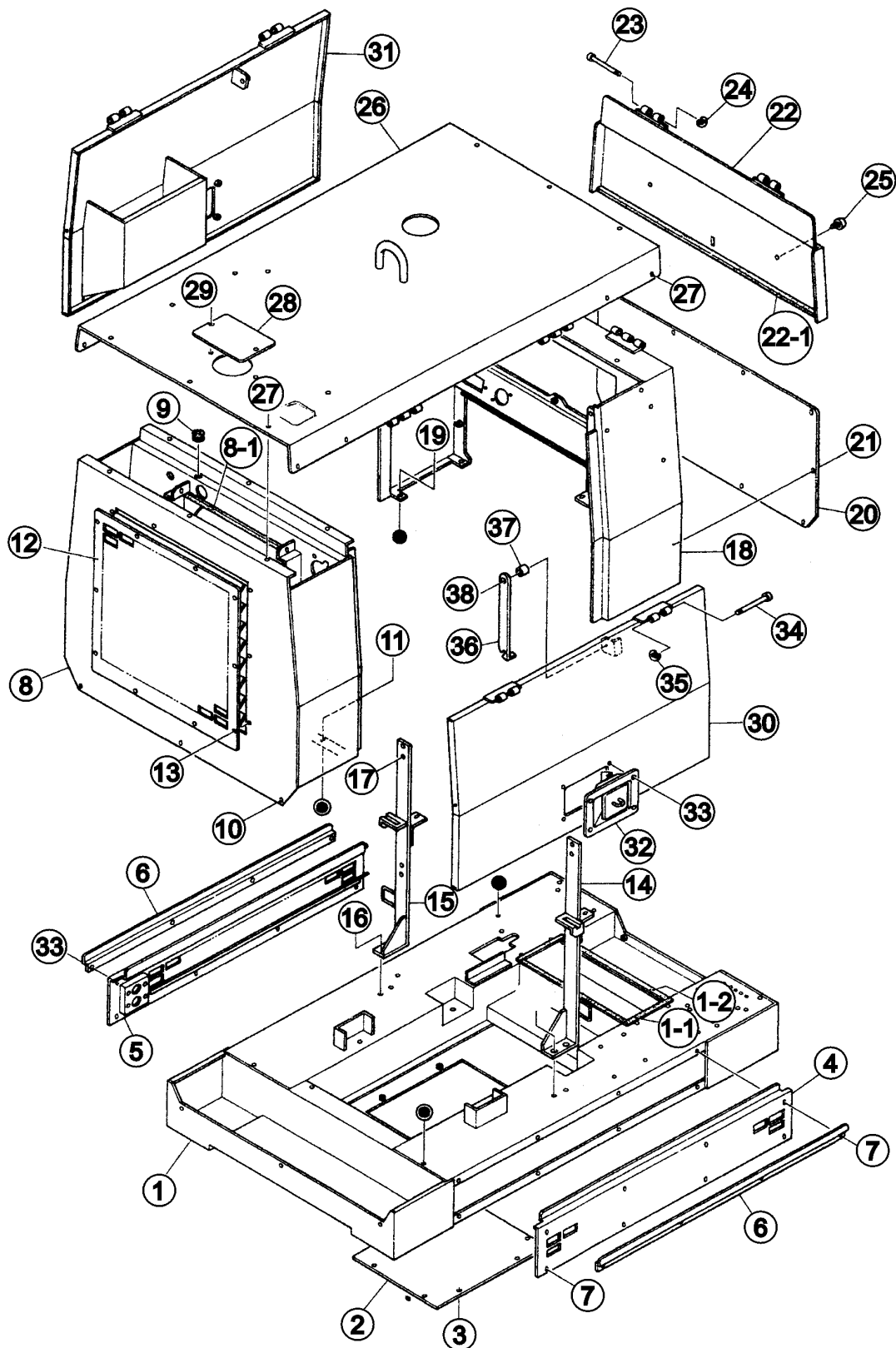


**FUEL TANK ASSY.**

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
1	B6365000423	FUEL TANK	1	
1-1	0810105900	CAP, FUEL TANK .....	1 .....	REPLACES 0810105800
2	E1924300164	SENDER, FUEL GAUGE	1	
3	0022905015	MACHINE SCREW	5	
4	D6365300613	BRACKET, FUEL TANK	1	
5	0017108020	HEX. HEAD BOLT	4	
6	1555527004	TANK SHEET	2	
7	D6492700104	RUBBER SEAL	1	
8	D6365200104	TANK BAND	2	
9	D6365300504	PAD, TANK BAND	4	
10	0017106016	HEX. HEAD BOLT	2	
11	0207208000	HEX. NUT	2	
12	1615511204	RUBBER SEAL	1	
13	7812014003	DRAIN JOINT	1	
14	0802011104	PLUG	1	
15	0150000018	O RING .....	2 .....	AP18
16	0017106016	HEX. HEAD BOLT	2	
17	0199900750	DRAIN HOSE	1	
18	0605515094	HOSE BAND	2	
19	1707643010	FUEL FILTER .....	1 .....	REPLACES 0602042077
	1552143160	ELEMENT, FUEL FILTER .....	1 .....	REPLACES 0602042174
20	0017108035	HEX. HEAD BOLT	2	
21	0605513152	SUCTION HOSE .....	1 .....	0966180300
22	0966180180	SUCTION HOSE .....	1 .....	REPLACES 0605513116
23	0605514064	RETURN HOSE .....	1 .....	0966140280
24	0605514022	RETURN HOSE .....	1 .....	0966140170
25	0605515179	HOSE BAND .....	4 .....	1430142753
26	1024442320	HOSE BAND .....	4 .....	REPLACES 0605515072

# DAW-500S — ENCLOSURE ASSY.

## ENCLOSURE ASSY

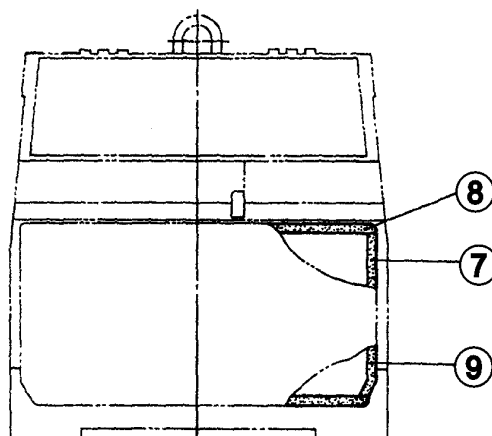
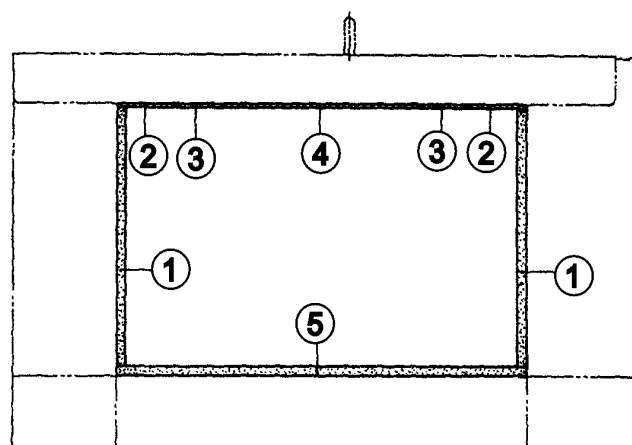
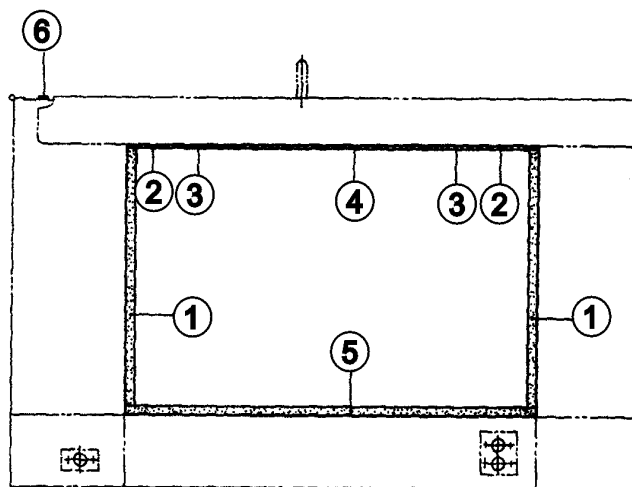


**ENCLOSURE ASSY.**

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
1	D6415000722	BASE	1	
	D6492100104	RUBBER SHEET	1	
1-1	0221700150	RUBBER SEAL	2	
1-2	0221700365	RUBBER SEAL	2	
2	D6415100104	FLOOR PANEL	2	
3	0017106016	HEX. HEAD BOLT	16	
4	D6455200603	SPLASHER PANEL	1	
5	D6455200713	SPLASHER PANEL	1	
6	D6415500003	GUIDE	2	
7	0017106016	HEX. HEAD BOLT	16	
8	D6425000832	FRONT FRAME	1	
8-1	0221900410	RUBBER SEAL	2	
9	0601850262	GROMMET	1	
10	0017106016	HEX. HEAD BOLT	3	
11	011008020	HEX. HEAD BOLT .....	2	REPLACES 0017108020
12	D6425200314	COVER, FRONT FRAME	1	
13	0017106016	HEX. HEAD BOLT	10	
14	D6435300823	HANGER	1	
15	D6435300923	HANGER	1	
16	012212030	HEX. HEAD BOLT .....	4	REPLACES 0017112030
17	012010030	HEX. HEAD BOLT .....	4	REPLACES 0017110030
18	D6445000632	REAR FRAME	1	
19	011008020	HEX. HEAD BOLT .....	4	REPLACES 0017108020
20	D6445300824	COVER, REAR FRAME	1	
21	0017106016	HEX. HEAD BOLT	10	
22	D6445200113	DOOR, REAR FRAME	1	
22-1	0226900785	EDGE COVER	1	
23	0810014704	PIN	2	
24	0080200004	SNAP RING	2	
25	0601851613	STOPPER	2	
26	D6465000722	ROOF PANEL .....	1	UP TO S/N5421717
	D6465000732	ROOF PANEL .....	1	S/N5421718~
27	0017106016	HEX. HEAD BOLT	17	
28	D6465400204	COVER	1	
29	0017106016	HEX. HEAD BOLT	2	
30	D6455001513	SIDE DOOR	1	
31	D6455001433	SIDE DOOR	1	
32	B9114000002	DOOR HANDLE	2	
33	0021806016	MACHINE SCREW	1	
34	0810014704	PIN	4	
35	0080200004	SNAP RING	4	
36	8705164004	DOOR STAY	2	
37	7835088004	COLLAR	2	
38	011208025	HEX. HEAD BOLT .....	2	REPLACES 0017108025

## DAW-500S — ENCLOSURE (RUBBER SEALS)

### ENCLOSURE (RUBBER SEALS)



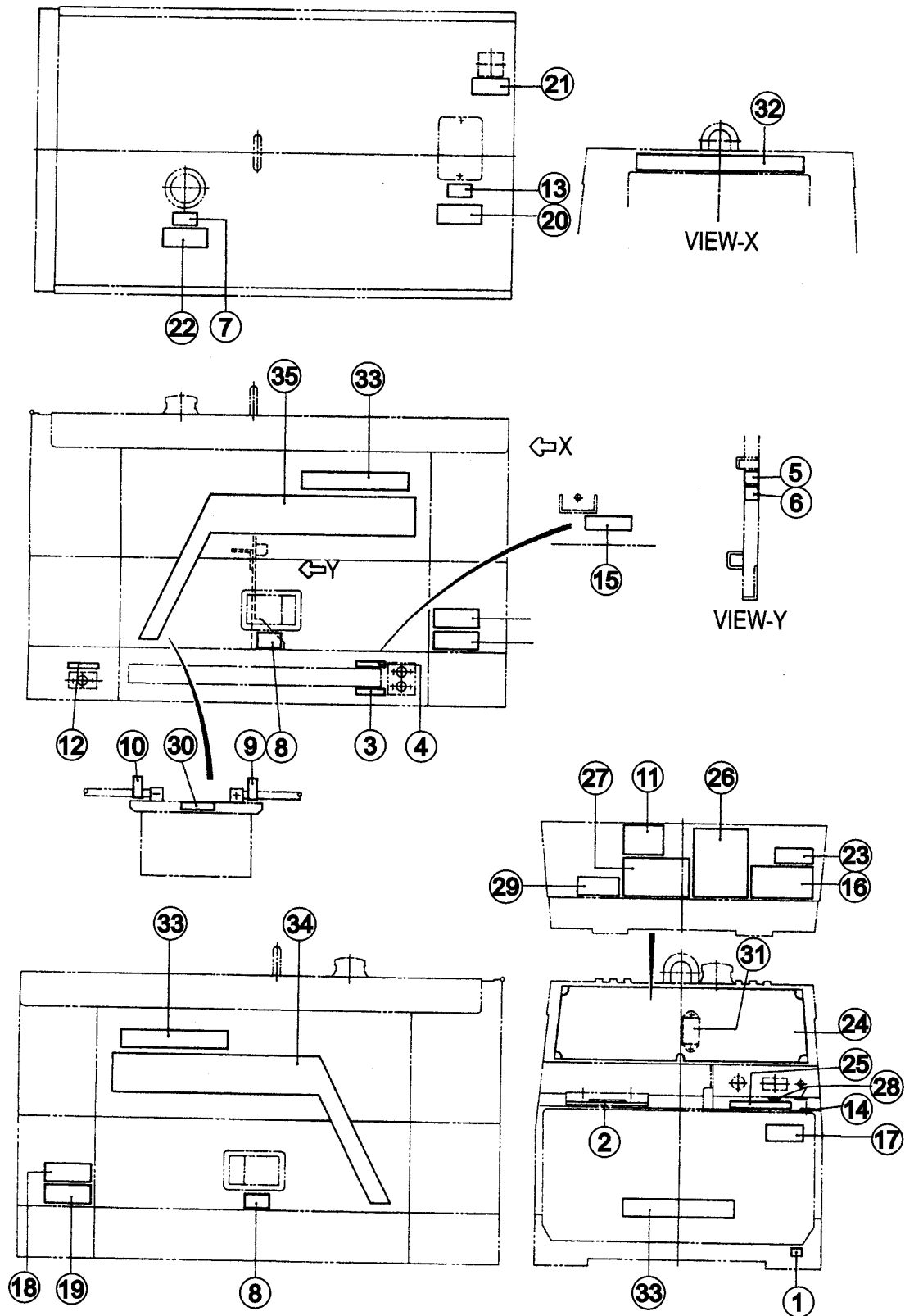
## DAW-500S — ENCLOSURE (RUBBER SEALS)

### ENCLOSURE (RUBBER SEALS)

<b><u>NO</u></b>	<b><u>PART NO</u></b>	<b><u>PART NAME</u></b>	<b><u>QTY.</u></b>	<b><u>REMARKS</u></b>
1	0228800530	RUBBER SEAL	4	
2	0221900125	RUBBER SEAL	4	
3	0221600100	RUBBER SEAL	4	
4	0221900410	RUBBER SEAL	2	
5	0228800870	RUBBER SEAL	2	
6	0228300730	RUBBER SEAL	1	
7	0228300330	RUBBER SEAL	2	
8	0228300755	RUBBER SEAL	1	
9	0228300700	RUBBER SEAL	1	

# DAW-500S — NAMEPLATE AND DECALS

## NAMEPLATE AND DECALS



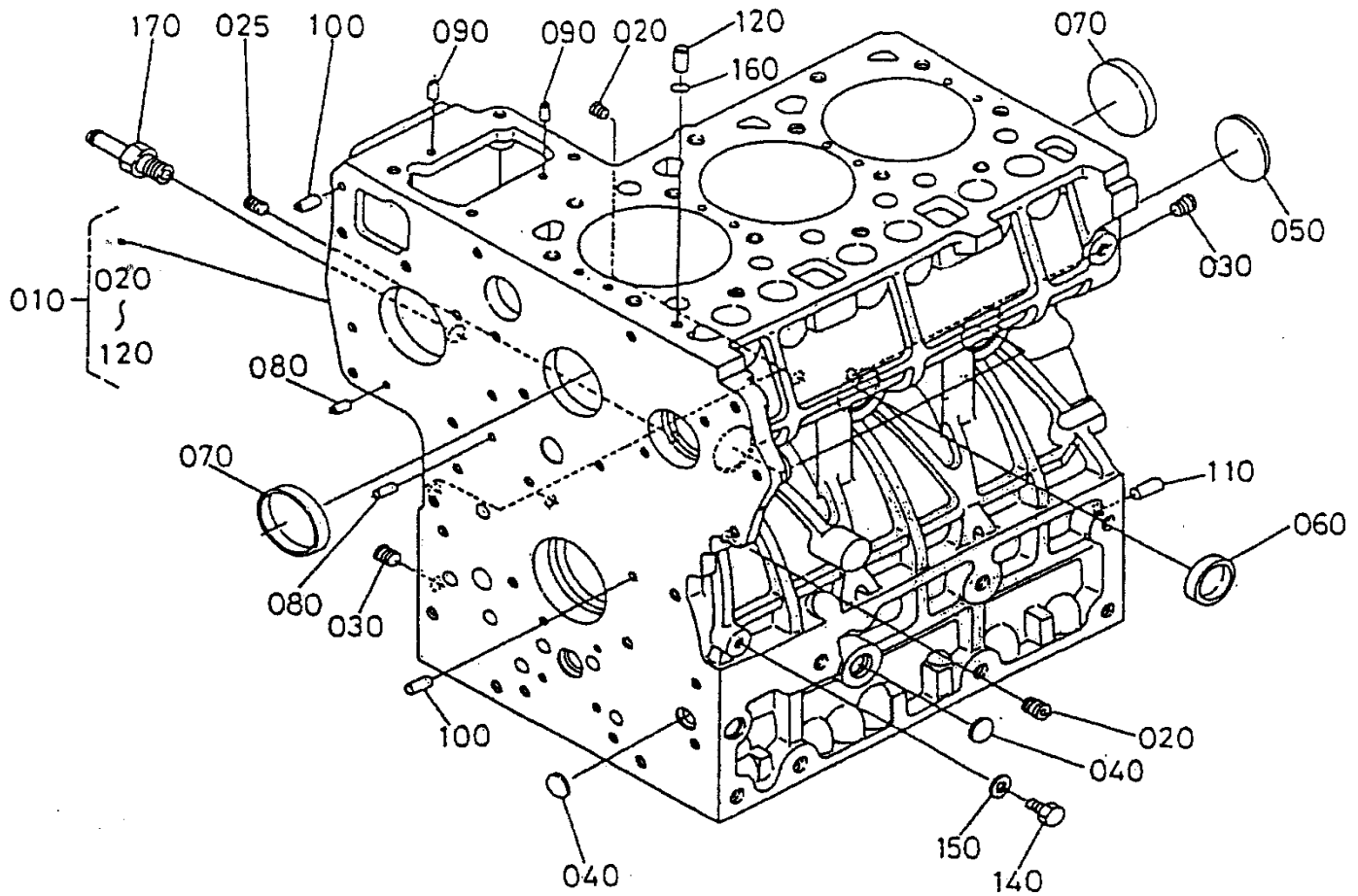
# DAW-500S — NAMEPLATE AND DECALS

## NAMEPLATE AND DECALS

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0800628504	DECAL; GROUND .....	4 .....	S1123
2	0800690804	DECAL; WELDING OUTPUT TERMINAL ...	4 .....	S1238A
3	1630645004	DECAL; OIL DRAIN .....	4 .....	S1403
4	1630647004	DECAL; COOLANT DRAIN .....	2 .....	S1404
5	1630610404	DECAL; CAUTION .....	2 .....	S1406
6	1630680104	DECAL; FUEL COCK .....	1 .....	S1407
7	1630680004	DECAL; USE #2 DIESEL FUEL ONLY .....	2 .....	S1408
8	1630610504	DECAL; CAUTION .....	2 .....	S1409
9	0800689404	DECAL;+ .....	1 .....	S2090
10	0800689504	DECAL;- .....	1 .....	S2091
11	6390671104	DECAL; IMPORTANT "CHECK DAILY" .....	1 .....	S2377
12	7810680104	DECAL; FUEL DRAIN .....	1 .....	S3060
13	7810680204	DECAL; WATER .....	1 .....	S3061
14	7670624004	DECAL; GROUND .....	1 .....	S3821
15	8700611524	DECAL; CAUTION .....	1 .....	S4926B
16	8700611603	DECAL; OPERATING PROCEDURE .....	1 .....	S4937
17	8700611904	DECAL; DANGER ELECTRICAL SHOCK ..	1 .....	S4985
18	B9504000304	CAUTION; HOT PARTS .....	2 .....	B90400030
19	B9504000404	DECAL; CAUTION MOVING PARTS .....	2 .....	B90400040
20	B9504100104	DECAL; WARNING HOT COOLANT .....	1 .....	B90410010
21	B9504200004	DECAL; WARNING ENGINE EXHAUST ....	1 .....	B90420000
22	B9504500004	DECAL; DIESEL FUEL .....	1 .....	B90450000
23	B9511100304	DECAL; WARNING .....	1 .....	B91110030
24	D6512201202	DECAL; CONTROL PANEL .....	1 .....	D61220120
25	D6552000703	DECAL; AC POWER OUTPUT .....	1 .....	D65200070
26	D6552000803	DECAL; WORKING CURRENT TO DUTY ..	1 .....	D65200080
27	D9512100203	DECAL; DANGER CAUTION .....	1 .....	D91210020
28	D9522001004	DECAL; G.F.C.I. ....	1 .....	D92200100
29	DCL160	DECAL; PROP 65 WARNING .....	1 .....	D92210020
30	0820650604	DECAL; DANGER EXPLOSIVE GASES	1	
31	8700625504	DECAL; FUSE BOX	1	
32	D2562200004	DECAL; WHISPERWELD	1	
33	D2562200104	DECAL; MQ POWER	2	
34	D5562100002	STRIPE	1	
35	D5562100102	STRIPE	1	

## KUBOTA D1703-EB ENGINE — CRANKCASE ASSY.

### CRANKCASE ASSY.





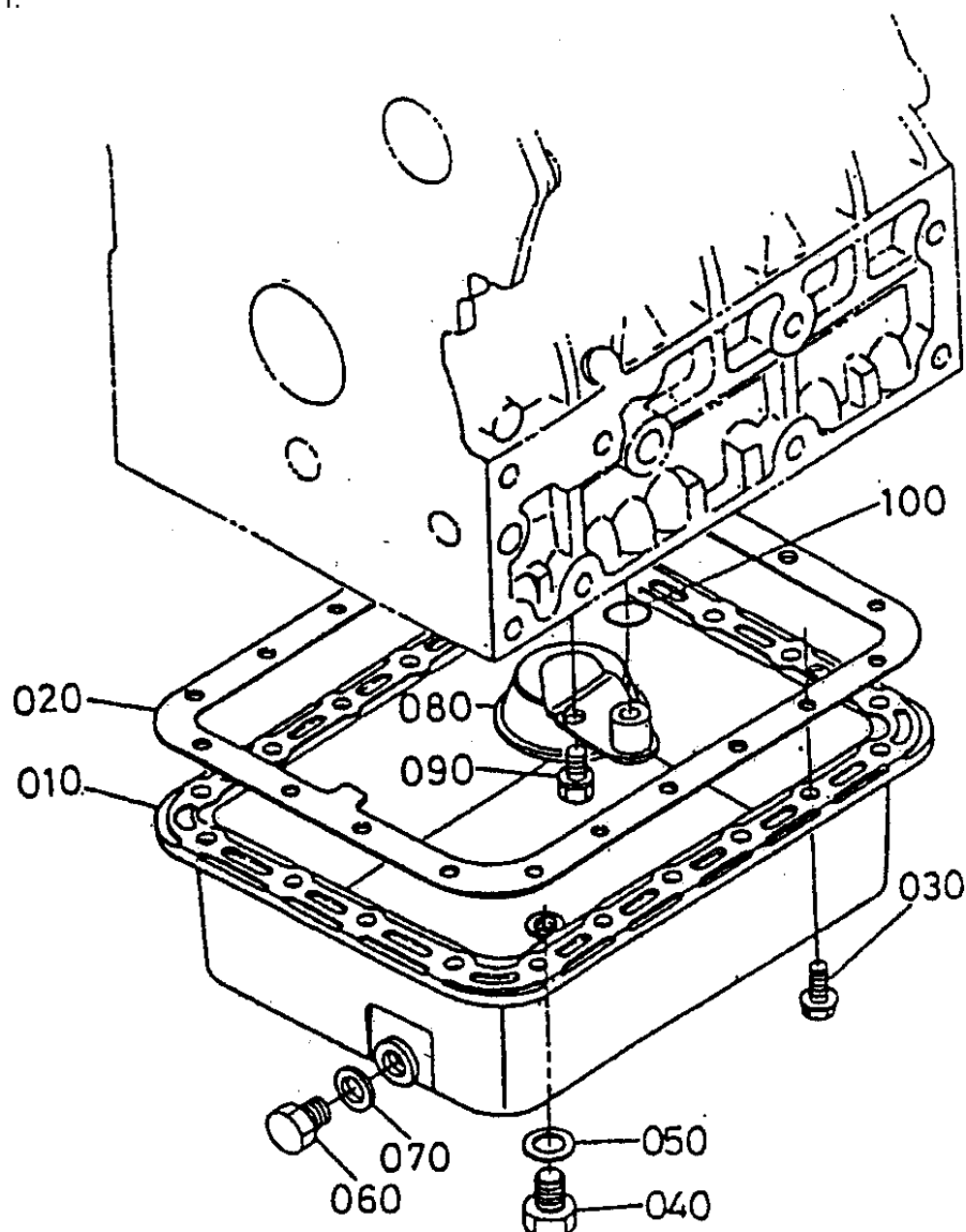
# KUBOTA D1703-EB ENGINE — CRANKCASE ASSY.

## CRANKCASE ASSY.

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
010	1K33201010	CRANKCASE COMP. ....	1	INCL. ITEMS W/#
020#	1552196020	PLUG	4	
025#	1669196020	PLUG	1	
030#	1552196030	PLUG	2	
040#	1739196160	PLUG, EXPANSION	3	
050#	0631175045	PLUG, EXPANSION	1	
060#	1522103383	SEALING CAP .....	5	REPLACES 1522103380
070#	1522103392	SEALING CAP .....	2	REPLACES 1522103390
080#	0501200408	STRAIGHT PIN	2	
090#	0501200609	STRAIGHT PIN	2	
100#	0501200612	STRAIGHT PIN	2	
110#	0501201018	STRAIGHT PIN	1	
120#	1522133650	PIPE PIN	1	
140	1522133610	PLUG	1	
150	1502133660	GASKET	1	
160	1522133700	O RING	1	
170	1584773130	JOINT, DRAIN PIPE	1	

## KUBOTA D1703-EB ENGINE — OIL PAN ASSY.

OIL PAN ASSY.



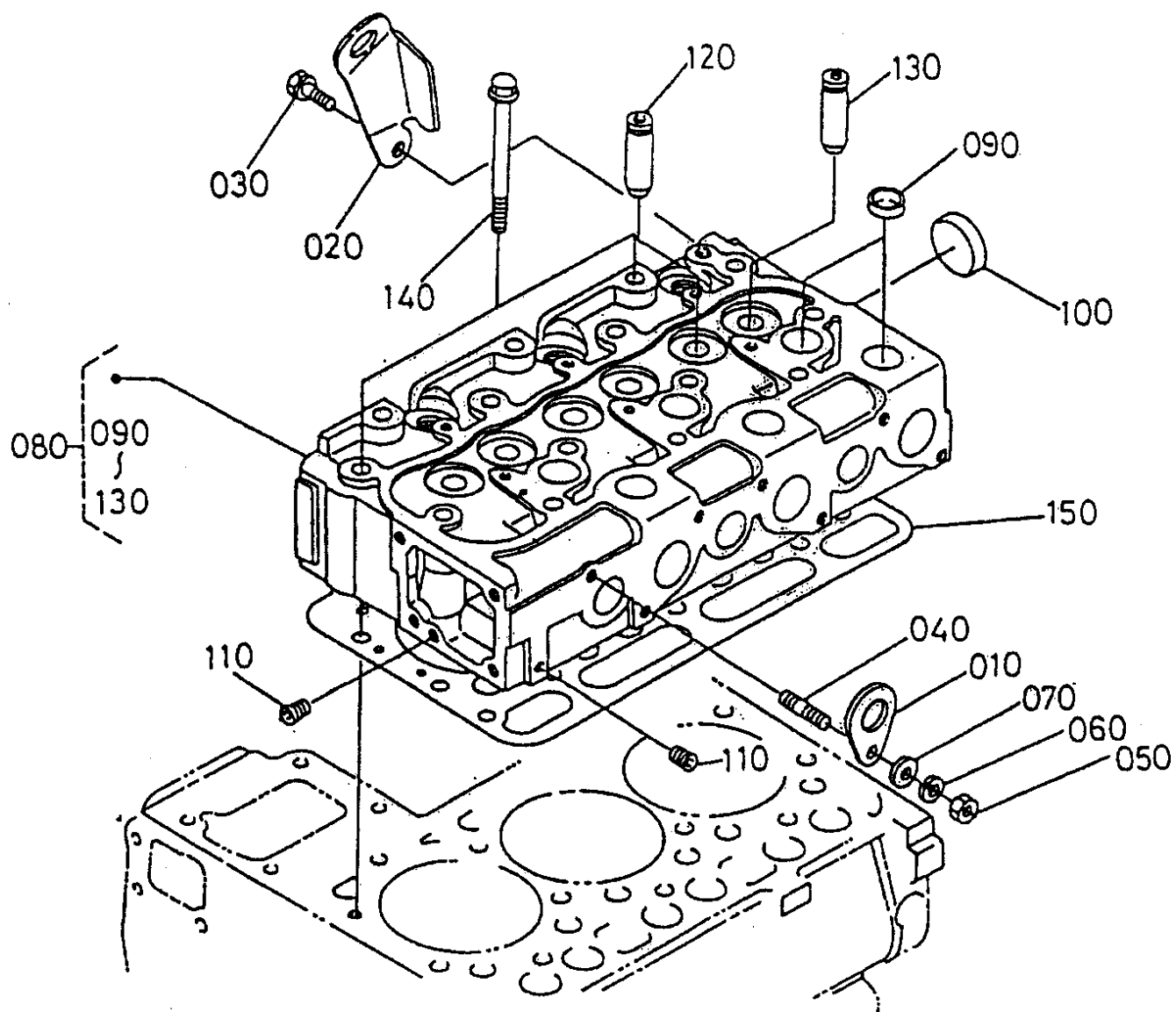
## KUBOTA D1703-EB ENGINE — OIL PAN ASSY.

### OIL PAN ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1929901613	OIL PAN	1	
020	1531301620	GASKET, OIL PAN	1	
030	1733391010	FLANGE BOLT	20	
040	1522133750	PLUG	1	
050	7000065259	GASKET .....	1	REPLACES 1510933660
060	1595133750	DRAIN PLUG	1	
070	0472400160	GASKET	1	
080	1562832110	OIL FILTER	1	
090	0112360814	BOLT	1	
100	0481100160	O RING	1	

## KUBOTA D1703-EB ENGINE — CYLINDER HEAD ASSY.

CYLINDER HEAD ASSY.



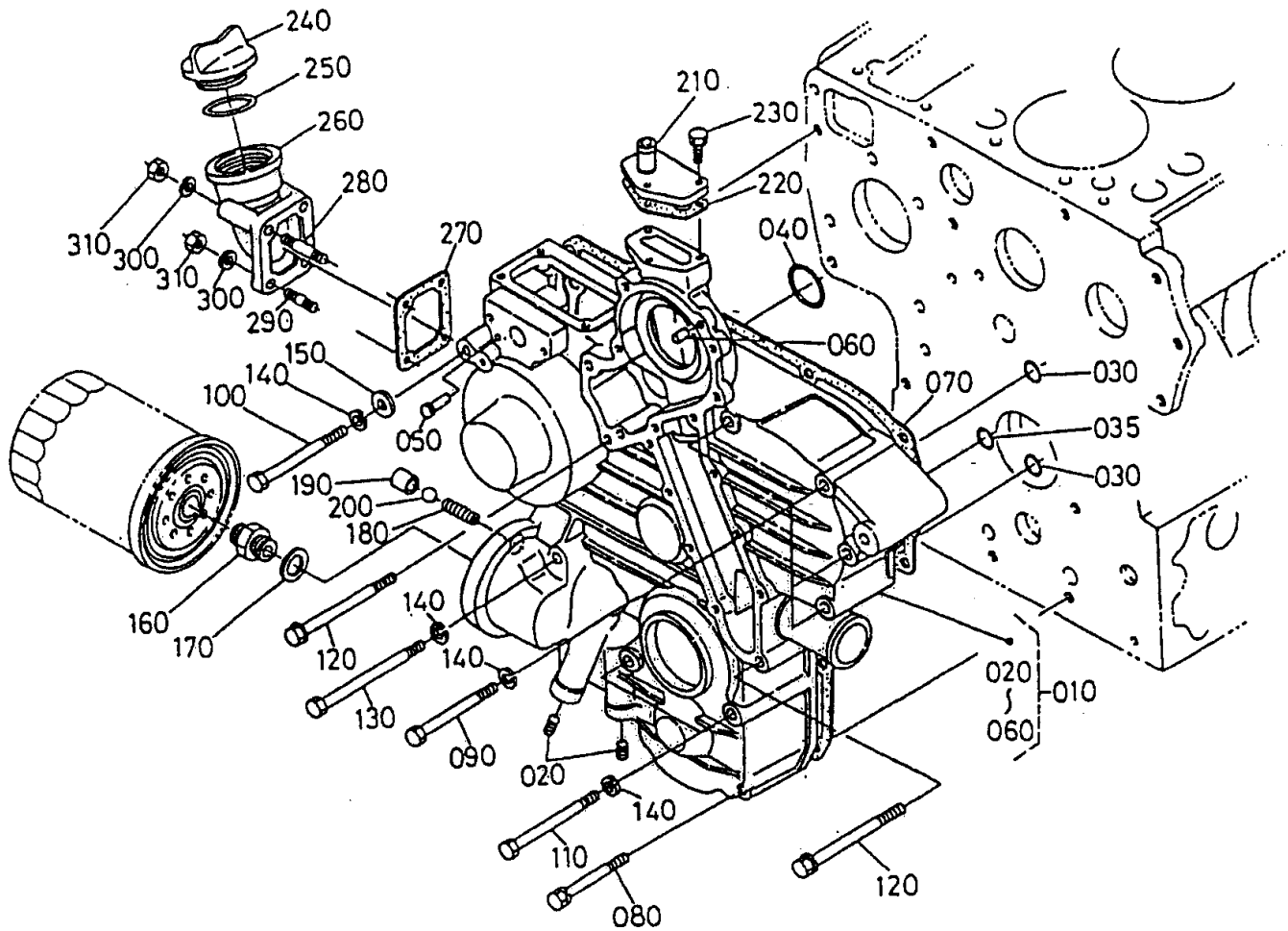
# KUBOTA D1703-EB ENGINE — CYLINDER HEAD ASSY.

## CYLINDER HEAD ASSY.

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
010	1522101750	ENGINE HOOK	1	
020	1641501752	ENGINE HOOK	1	
030	0112360816	BOLT	1	
040	1547191530	STUD	1	
050	0215650080	NUT	1	
060	0451260080	LOCK WASHER	1	
070	0401250080	PLAIN WASHER	1	
080	1644403040	CYLINDER HEAD COMP. ....	1	..... INCL. ITEMS W/#
090#	1522103370	SEALING CAP	9	
100#	1522103490	SEALING CAP	1	
110#	1526196010	PLUG	2	
120#	1732113580	INLET VALVE GUIDE	3	
130#	1732113560	EXHAUST VALVE GUIDE	3	
140	1901303450	CYLINDER HEAD BOLT	14	
150	1648703310	CYLINDER HEAD GASKET	1	

## KUBOTA D1703-EB ENGINE — GEAR CASE ASSY.

GEAR CASE ASSY.



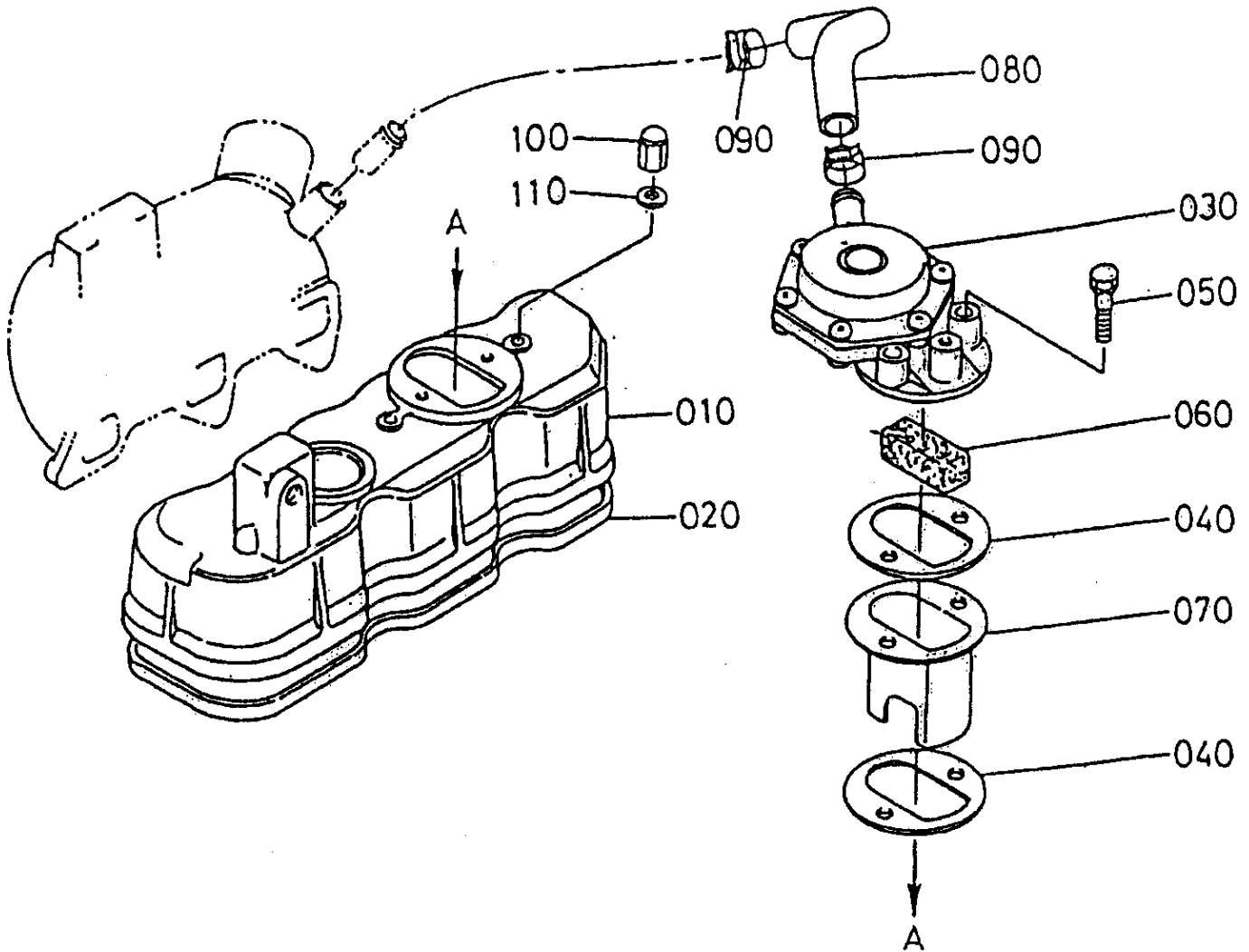
# KUBOTA D1703-EB ENGINE — GEAR CASE ASSY.

## GEAR CASE ASSY.

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
010	1749004012	GEAR CASE ASSY. ....	1	..... INCL. ITEMS W/#
020#	1685196010	PLUG	2	
030#	0481400150	O RING	2	
035#	0481100200	O RING	1	
040#	0481400360	O RING	1	
050#	1522156280	START SPRING PIN	1	
060#	0501200612	STRAIGHT PIN	2	
070	1708904130	GEAR CASE GASKET	1	
080	0112350860	BOLT	2	
090	0115350870	BOLT	5	
100	1736791010	BOLT	1	
110	0115350880	BOLT	2	
120	1736791020	BOLT	3	
130	0115350895	BOLT	2	
140	0451290080	LOCK WASHER .....	9	..... REPLACES 0451260080
150	0401250080	PLAIN WASHER	1	
160	1552132290	PIPE JOINT	1	
170	0401150180	PLAIN WASHER	1	
180	1524136950	SPRING	1	
190	1552136930	VALVE SEAT	1	
200	0771503213	BALL	1	
210	1552173320	WATER RETURN FLANGE	1	
220	1576673330	WATER FLANGE GASKET	1	
230	0102350620	BOLT	3	
240	1585233140	OIL FILLER PLUG	1	
250	0481150300	O RING	1	
260	1641433110	FLANGE, OIL FILLER	1	
270	1547254550	GASKET	1	
280	1718291510	STUD	2	
290	164149151	STUD	2	
300	0451260060	LOCK WASHER	4	
310	0205650060	NUT	4	

# KUBOTA D1703-EB ENGINE — HEAD COVER ASSY.

## HEAD COVER ASSY.





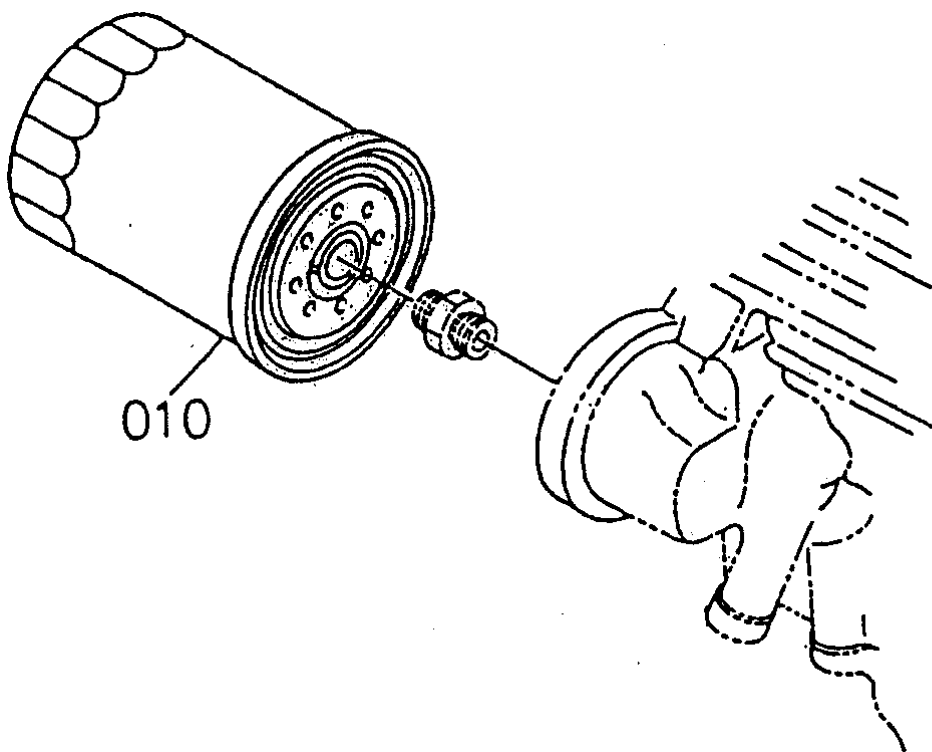
## KUBOTA D1703-EB ENGINE — HEAD COVER ASSY.

### HEAD COVER ASSY.

<b><u>NO</u></b>	<b><u>PART NO</u></b>	<b><u>PART NAME</u></b>	<b><u>QTY.</u></b>	<b><u>REMARKS</u></b>
010	1718214510	HEAD COVER	1	
020	1552114520	HEAD COVER GASKET	1	
030	1718205020	BREATHER COMP.	1	
040	1711405130	BREATHER GASKET	2	
050	0112350840	BOLT	2	
060	1624105670	BREATHER ELEMENT	1	
070	1718214490	PLATE	1	
080	1718205510	BREATHER TUBE	1	
090	0931888200	HOSE CLAMP	2	
100	1545192330	CAP NUT	3	
110	1502133660	GASKET	3	

## KUBOTA D1703-EB ENGINE — OIL FILTER ASSY.

OIL FILTER ASSY.



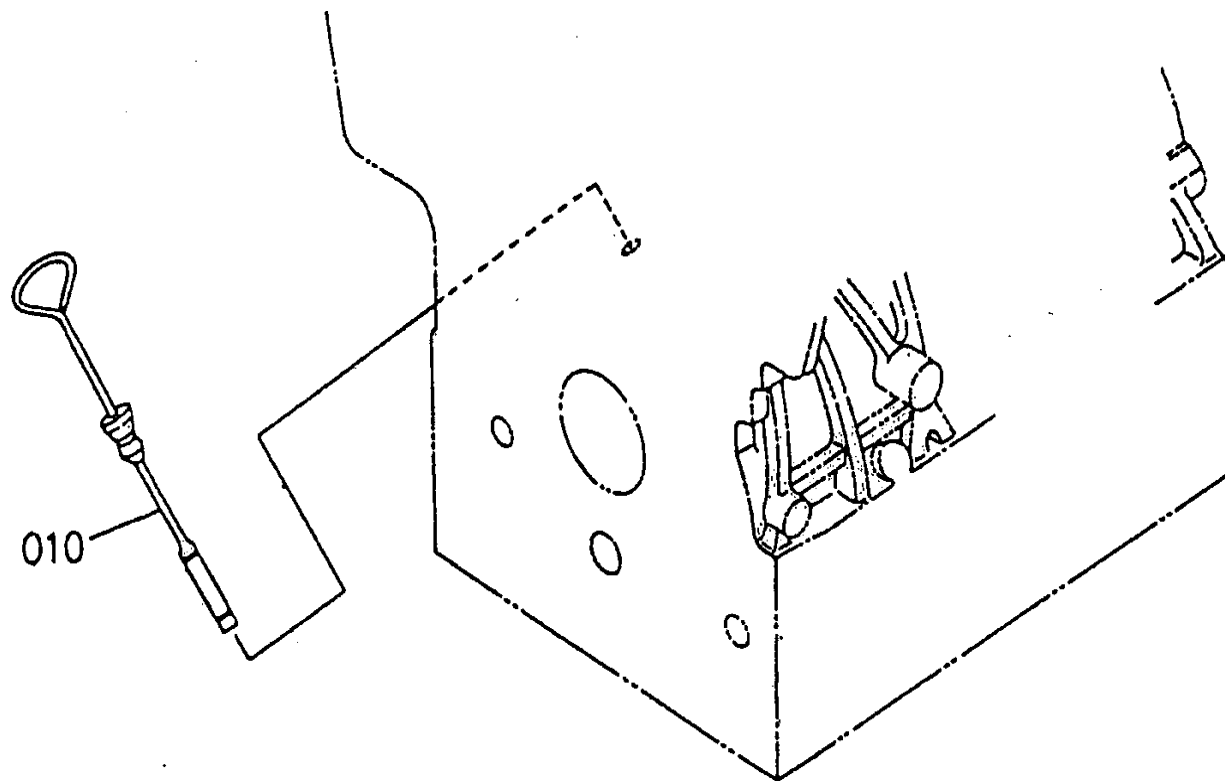
## KUBOTA D1703-EB ENGINE — OIL FILTER ASSY.

OIL FILTER ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	700032091	CARTRIDGE, OIL FILTER.....	1.....	REPLACES 1732132430

## KUBOTA D1703-EB ENGINE — DIPSTICK & GUIDE ASSY.

DIPSTICK & GUIDE ASSY.



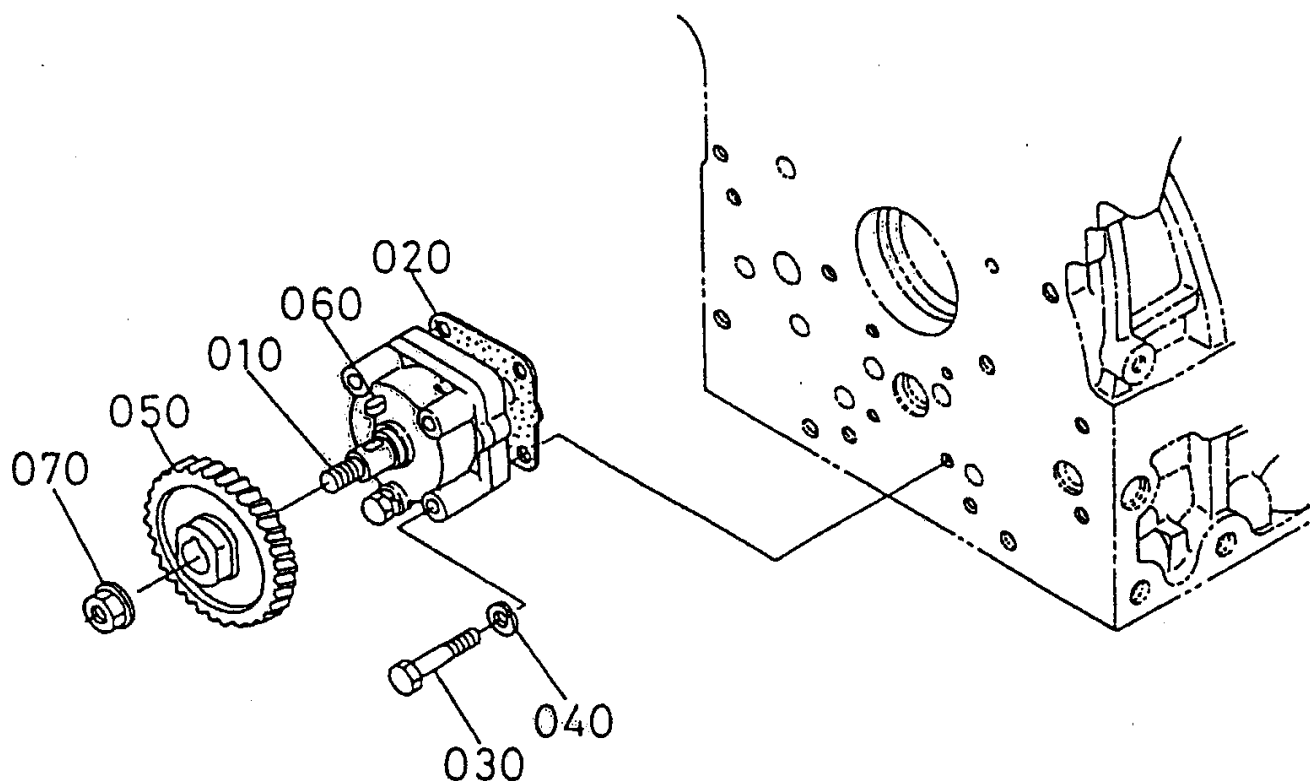
## KUBOTA D1703-EB ENGINE — DIPSTICK & GUIDE ASSY.

DIPSTICK & GUIDE ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1711136410	GAUGE, OIL	1	

## KUBOTA D1703-EB ENGINE — OIL PUMP ASSY.

OIL PUMP ASSY.



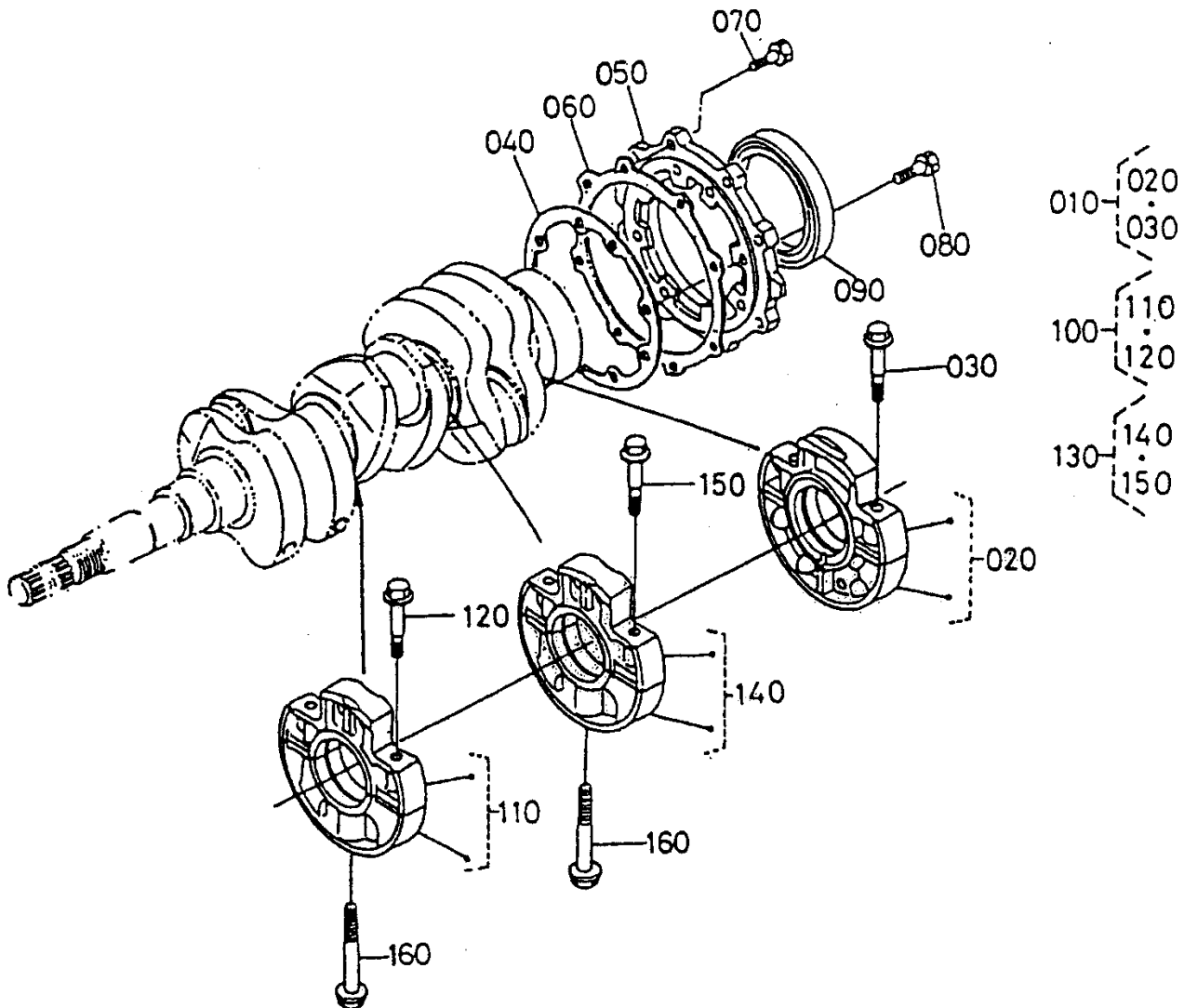
## KUBOTA D1703-EB ENGINE — OIL PUMP ASSY.

### OIL PUMP ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1547135012	OIL PUMP ASSY.	1	
020	1529635150	OIL PUMP GASKET	1	
030	0105350650	BOLT	4	
040	0451260060	LOCK WASHER	4	
050	1920235660	OIL PUMP DRIVE GEAR	1	
060	0571200410	FEATHER KEY		
070	1522135682	FLANGE NUT	1	

# KUBOTA D1703-EB ENGINE — MAIN BEARING CASE ASSY.

## MAIN BEARING CASE ASSY.





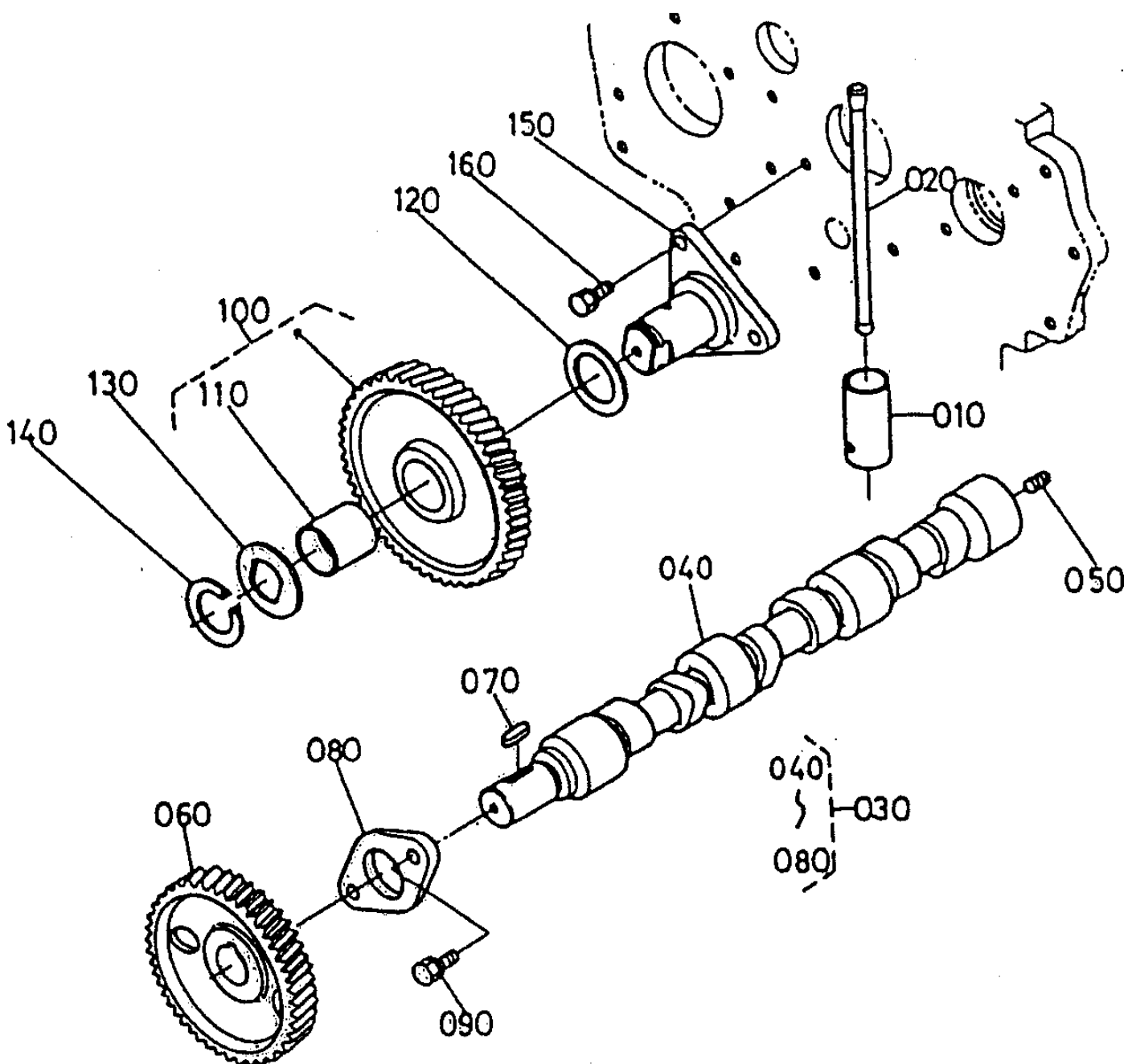
# KUBOTA D1703-EB ENGINE — MAIN BEARING CASE ASSY.

## MAIN BEARING CASE ASSY.

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
010	1901307090	BEARING WHEEL CASE ASSY.....	1	INCL. ITEMS W/#
020#	1901304090	MAIN BEARING CASE ASSY.	1	
030#	1901304540	BEARING CASE BOLT	2	
040	1907704360	BEARING CASE GASKET	1	
050	1901304813	BEARING CASE COVER	1	
060	1711804830	CASE COVER GASKET	1	
070	0112350825	BOLT	8	
080	0112350828	BOLT	8	
090	1920204460	OIL SEAL	1	
100	1901307040	MAIN BEARING CASE ASSY. ....	1	INCL. ITEMS W/&
110&	1901304040	MAIN BEARING CASE ASSY.	1	
120&	1901304540	BEARING CASE BOLT	2	
130	1901307050	MAIN BEARING CASE ASSY. ....	1	INCL. ITEMS W/\$
140\$	1901304050	MAIN BEARING CASE ASSY.	1	
150\$	1901304540	BEARING CASE BOLT	2	
160	1560104560	BEARING CASE BOLT	2	

**KUBOTA D1703-EB ENGINE — CAMSHAFT & IDLE GEAR ASSY.**

### CAMSHAFT & IDLE GEAR SHAFT ASSY.



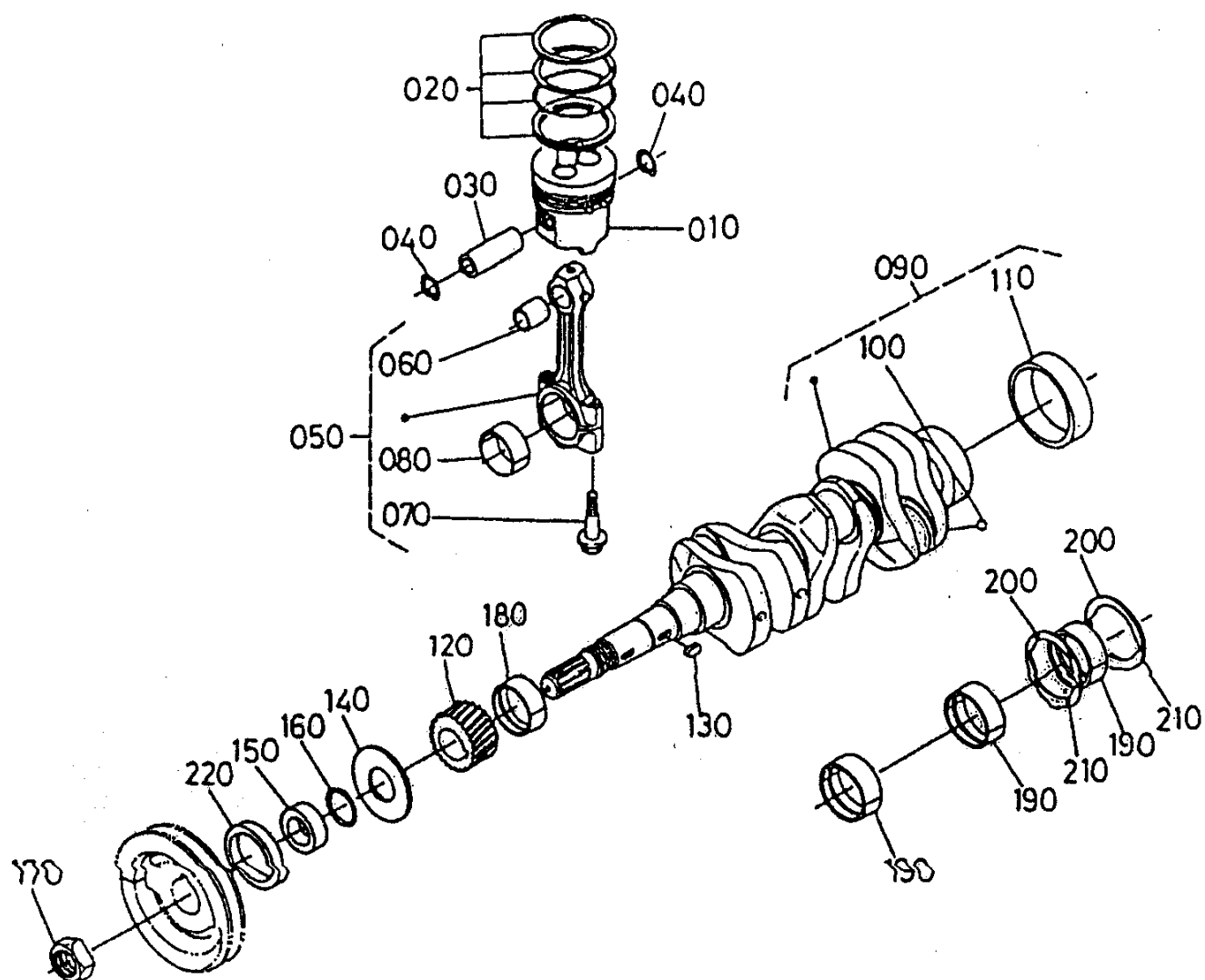
# KUBOTA D1703-EB ENGINE — CAMSHAFT & IDLE GEAR ASSY.

## CAMSHAFT & IDLE GEAR SHAFT ASSY.

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
010	1560115550	TAPPET	6	
020	1901315110	PUSH ROD	6	
030	1733316010	CAMSHAFT ASSY. ....	1	INCL. ITEMS W/#
040#	1733316150	CAMSHAFT	1	
050#	1552193610	SET SCREW	1	
060#	1552116510	CAM GEAR	1	
070#	0571200720	FEATHER KEY	1	
080#	1522116270	CAMSHAFT STOPPER	1	
090	0112350818	BOLT	2	
100	1642724010	IDLE GEAR COMP. ....	1	INCL. ITEM W/&
110&	1642724980	IDLE GEAR BUSHING	1	
120	1642724360	COLLAR	1	
130	1642724370	COLLAR	1	
140	1545195400	EXT. CIRCULAR CLIP	1	
150	1642724250	IDLE GEAR SHAFT	1	
160	0112350818	BOLT	3	

## KUBOTA D1703-EB ENGINE — PISTON & CRANKSHAFT ASSY.

PISTON & CRANKSHAFT ASSY.



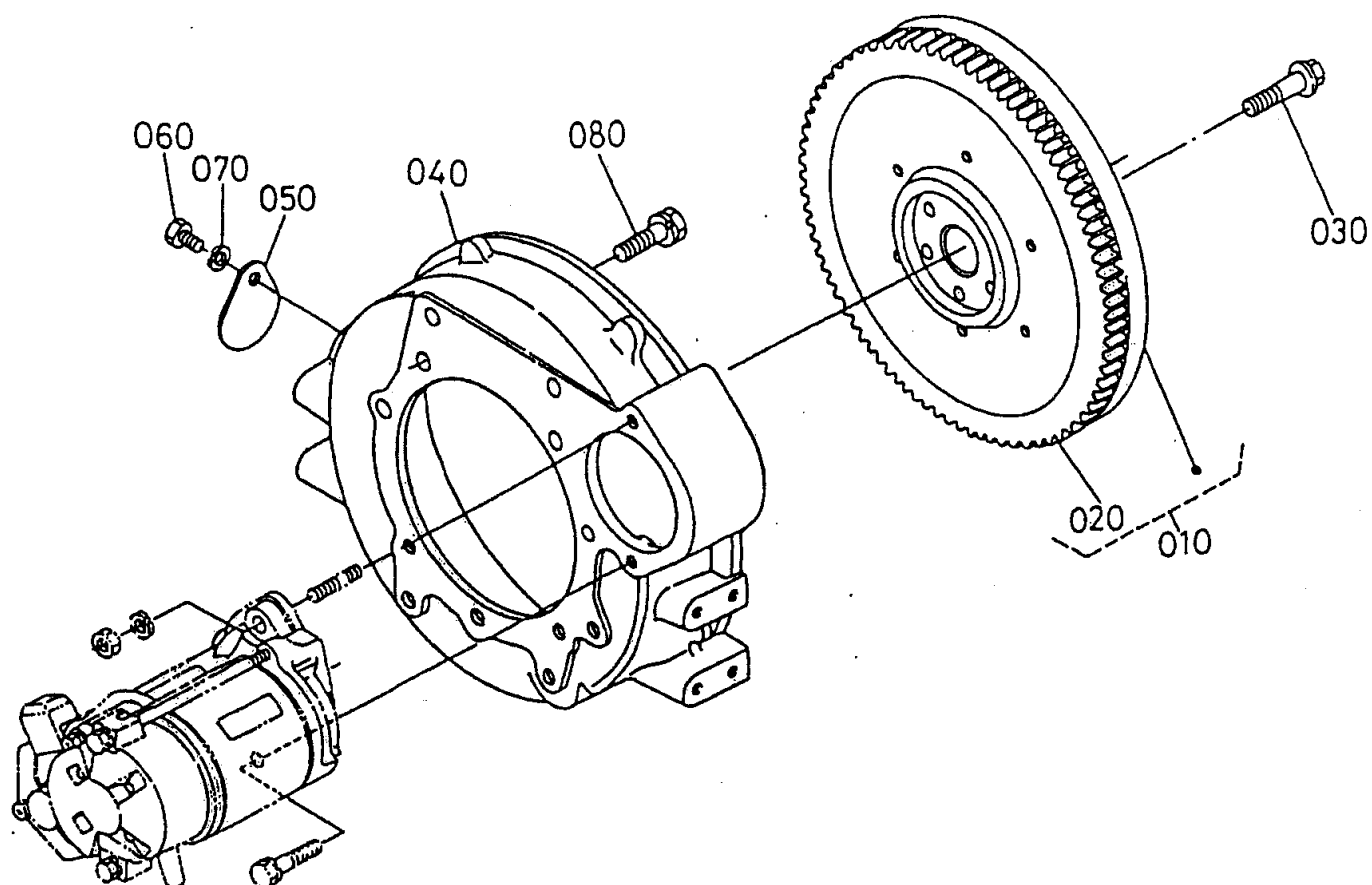
# KUBOTA D1703-EB ENGINE — PISTON & CRANKSHAFT ASSY.

## PISTON & CRANKSHAFT ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1642321110	PISTON .....	3.....	STD.
010	1642321910	PISTON .....	3.....	+0.50MM
020	1733121050	PISTON RING ASSY .....	3.....	STD.
020	1733121090	PISTON RING ASSY. ....	2.....	+0.50MM
030	1490121310	PISTON PIN	3	
040	1410921330	INT. CIRCULAR CLIP	6	
050	173112201	CONNECTING ROD ASSY. ....	2.....	INCL. ITEMS W/#
060#	1733121980	PISTON PIN BUSHING	3	
070#	1552122142	CONNECTING ROD BOLT	6	
080#	1731122310	CRANKPIN METAL .....	3.....	STD.
080#	1733122970	CRANKPIN METAL .....	3.....	-0.20MM, SET
080#	1733122980	CRANKPIN METAL .....	3.....	-0.40MM, SET
090	1641423010	CRANKSHAFT COMP. ....	1.....	INCL. ITEMS W/&
100&	0771500401	BALL	3	
110&	1920223280	CRANKSHAFT BUSHING	1	
120	1547124110	CRANK GEAR	1	
130	0571200720	FEATHER KEY	1	
140	1547123312	OIL SLINGER	1	
150	1920223250	CRANKSHAFT COLLAR	1	
160	0481110300	O RING	1	
170	1522123360	CRANKSHAFT NUT	1	
180	1731123470	CRANKSHAFT METAL .....	1.....	STD.
180	1731123910	CRANKSHAFT METAL .....	1.....	-0.20MM
180	1731123920	CRANKSHAFT METAL .....	1.....	-0.40MM
190	1731123480	CRANKSHAFT METAL .....	3.....	STD., SET
190	1731123930	CRANKSHAFT METAL .....	3.....	-0.20MM
190	1731123940	CRANKSHAFT METAL .....	3.....	-0.40MM
200	1552123530	SIDE METAL .....	2.....	STD.
200	1522123950	METAL SIDE .....	2.....	+0.2MM
200	1522123960	METAL SIDE .....	2.....	+0.4MM
210	1920223540	METAL SIDE .....	2.....	STD.
210	1920223970	METAL SIDE .....	2.....	+0.2MM
210	1920223980	METAL SIDE .....	2.....	+0.4MM
220	1920204140	OIL SEAL	1	

## KUBOTA D1703-EB ENGINE — FLYWHEEL ASSY.

FLYWHEEL ASSY.



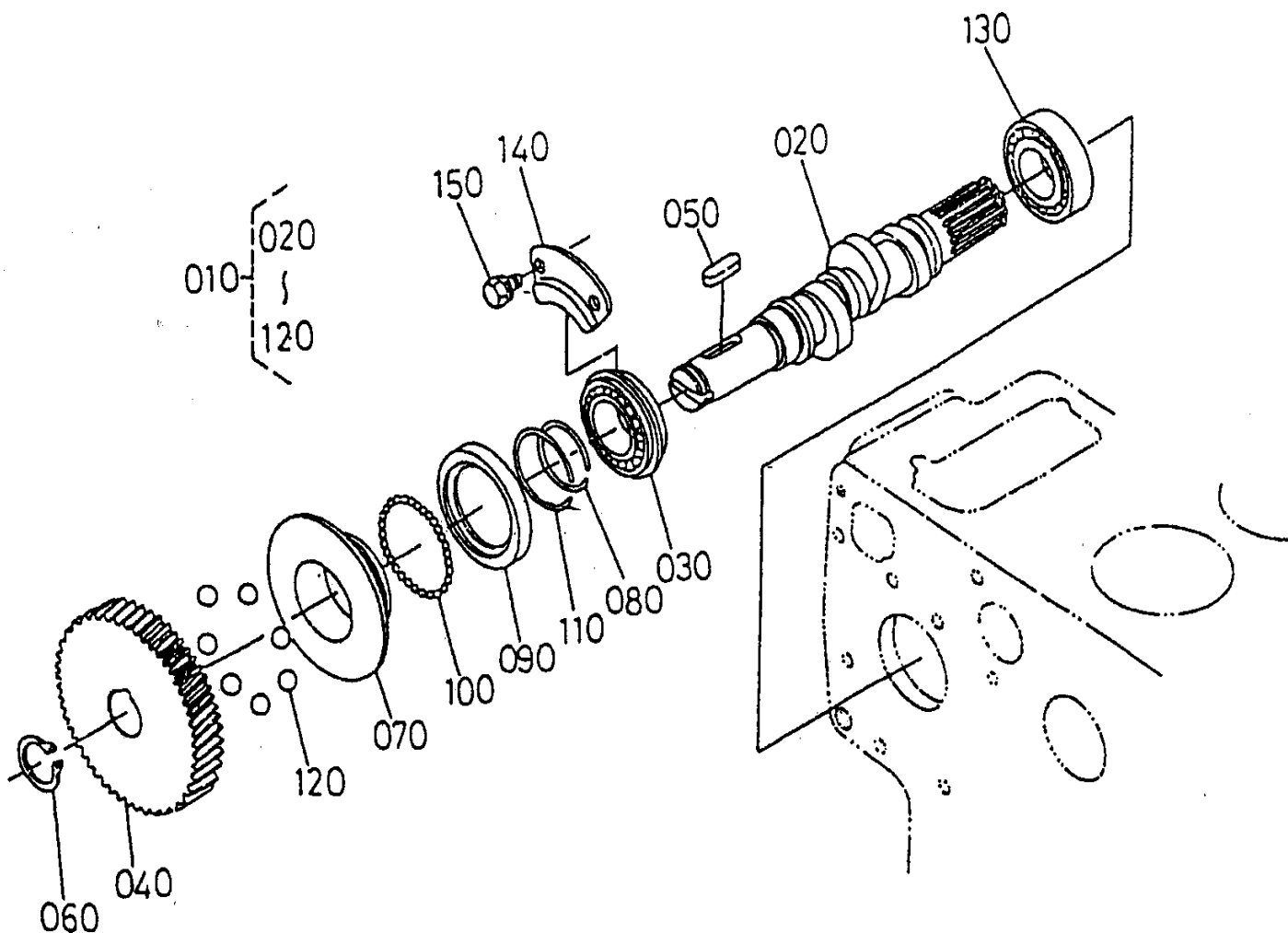
# KUBOTA D1703-EB ENGINE — FLYWHEEL ASSY.

## FLYWHEEL ASSY.

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
010	1K33225010	FLYWHEEL COMP. ....	1 .....	INCL. ITEM W/#
020#	1522163820	RING GEAR	1	
030	1532125163	FLYWHEEL BOLT	6	
040	1K33204610	FLYWHEEL HOUSING	1	
050	3122014172	COVER .....	1 .....	REPLACES 3122014170
060	0115350812	BOLT	1	
070	0451290080	LOCK WASHER .....	1 .....	REPLACES 0451260080
080	1642791010	BOLT	11	

# KUBOTA D1703-EB ENGINE — FUEL CAMSHAFT & GOV. SHAFT ASSY.

FUEL CAMSHAFT & GOVERNOR SHAFT ASSY.





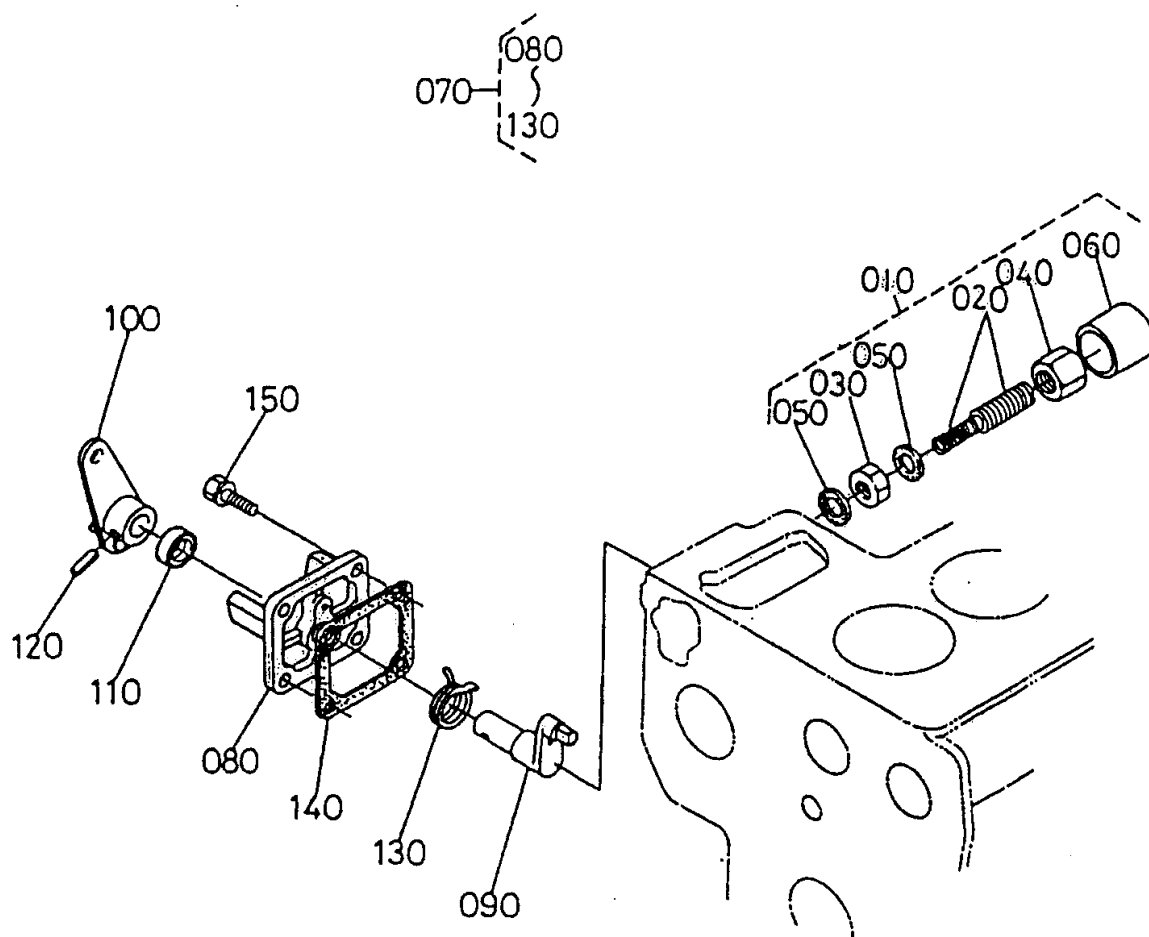
# KUBOTA D1703-EB ENGINE — FUEL CAMSHAFT & GOV. SHAFT ASSY.

## FUEL CAMSHAFT & GOVERNOR SHAFT ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1642716020	FUEL CAMSHAFT ASSY. ....	1	INCL. ITEMS W/#
020#	1642716173	FUEL CAMSHAFT	1	
030#	0815306205	BALL BEARING	1	
040#	1641551150	INJECTION PUMP GEAR	1	
050#	0571200525	FEATHER KEY	1	
060#	0461200240	EXT. CIRCULAR CLIP	1	
070#	1561155450	GOVERNOR SLEEVE	1	
080#	1522155470	GOV. SLEEVE CIR. CLIP	1	
090#	1561155690	GOVERNOR BALL CASE	1	
100#	0771503205	BALL	39	
110#	1522155740	CIRCULAR CLIP	1	
120#	0771500403	BALL	7	
130	0810306205	BALL BEARING	1	
140	1666116320	FUEL CAMSHAFT STOPPER	1	
150	0112360814	BOLT	2	

## KUBOTA D1703-EB ENGINE — ENGINE STOP LEVER ASSY.

ENGINE STOP LEVER ASSY.



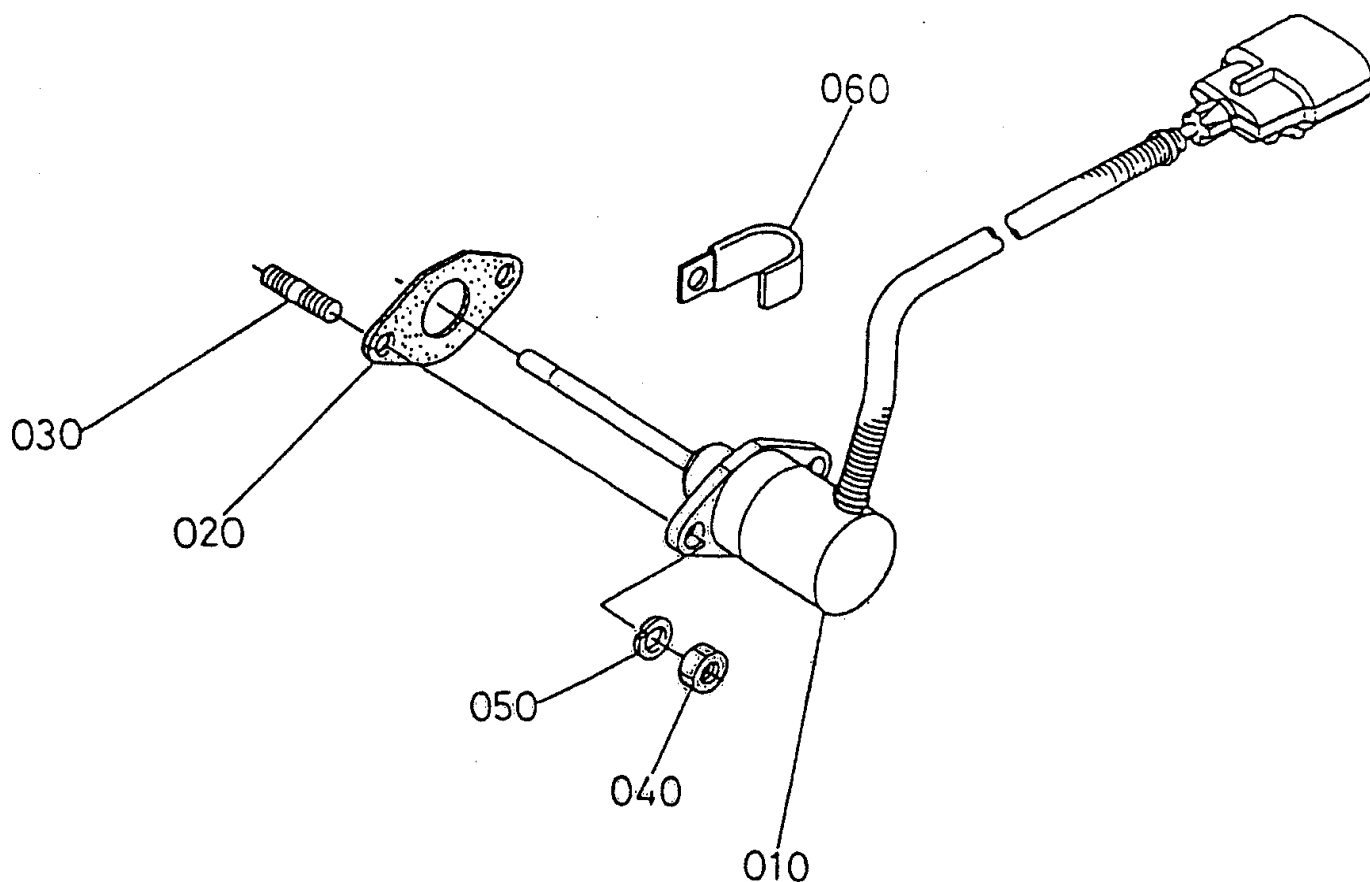
## KUBOTA D1703-EB ENGINE — ENGINE STOP LEVER ASSY.

### ENGINE STOP LEVER ASSY.

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
010	1552154090	IDLING APPARATUS .....	1 .....	INCL. ITEMS W/#
020#	1552154100	ADJUSTING BOLT ASSY.	1	
030#	1540192010	NUT	1	
040#	1552192330	CAP NUT	1	
050#	1502133660	GASKET	2	
060#	1552154270	CAP	1	
070	1666157702	ENGINE STOP LEVER ASSY. ....	1 .....	INCL. ITEMS W&
080&	1666151650	INJ. PUMP COVER	1	
090&	1733157740	LEVER SHAFT	1	
100&	1920257725	ENGINE STOP ROD	1	
110&	1547157980	OIL SEAL	1	
120&	0541100420	SPRING PIN	1	
130	1547157920	RETURN SPRING	1	
140	1529651660	PUMP COVER GASKET	1	
150	0102350618	BOLT	4	

## KUBOTA D1703-EB ENGINE — STOP SOLENOID ASSY.

STOP SOLENOID ASSY.



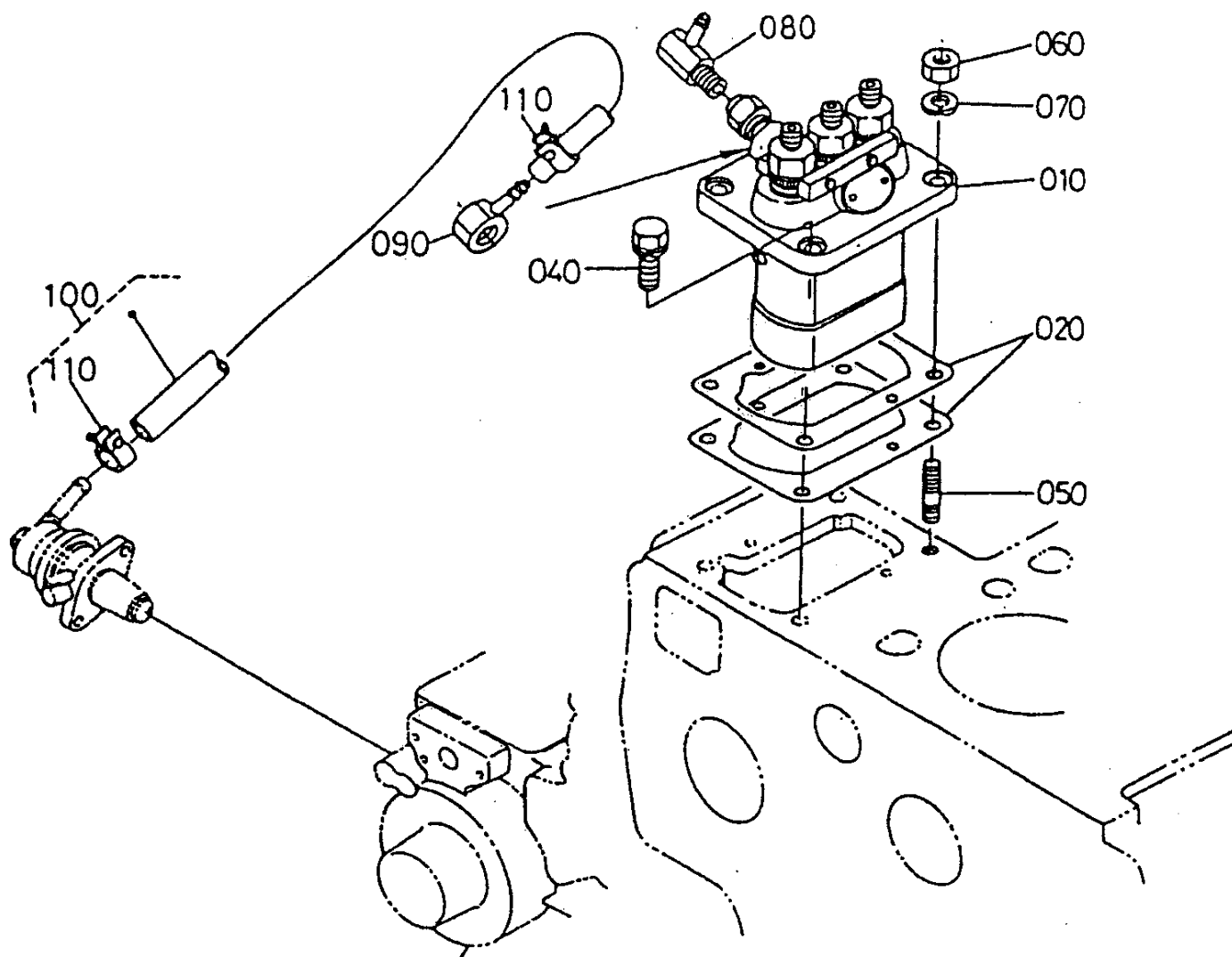
## KUBOTA D1703-EB ENGINE — STOP SOLENOID ASSY.

STOP SOLENOID ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1749060010	SOLENOID ASSY.	1	
020	1666160150	SOLENOID GASKET COVER	1	
030	1522188210	STUD	2	
040	0205650060	NUT	2	
050	0451260060	LOCK WASHER	2	
060	166167580	CORD CLAMP	1	

## KUBOTA D1703-EB ENGINE — INJECTION PUMP ASSY.

INJECTION PUMP ASSY.



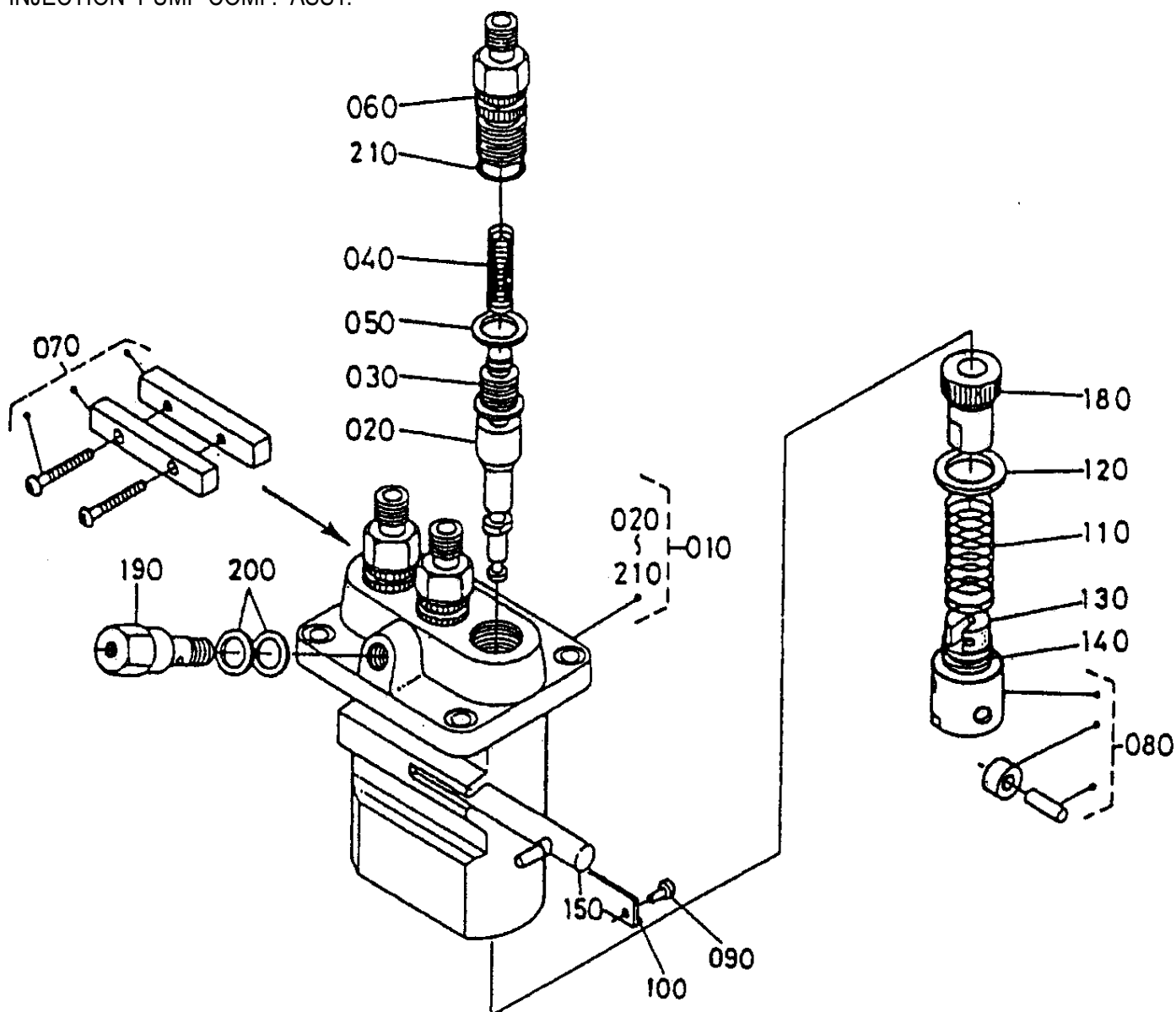
# KUBOTA D1703-EB ENGINE — INJECTION PUMP ASSY.

## INJECTION PUMP ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1G70251010	INJECTION PUMP ASSY. ....	1	INCL. ITEM W/#
020#	1641452090	INJ. PUMP SHIM,0.20MM	1	
020	1641452110	INJ. PUMP SHIM,0.25MM	1	
020	1641452120	INJ. PUMP SHIM,0.30MM	1	
040	011008020	BOLT .....	2	REPLACES 0112350822
050	1522191530	STUD	2	
060	0215650080	NUT	2	
070	0451290080	LOCK WASHER .....	2	REPLACES 0451260080
080	1574860570	ORIFICE ASSY.	1	
090	1411142410	EYE JOINT	1	
100	1468142010	FUEL PIPE ASSY.	1	
110	1430142750	PIPE CLIP	2	

# KUBOTA D1703-EB ENGINE — INJECTION PUMP COMP. ASSY.

INJECTION PUMP COMP. ASSY.





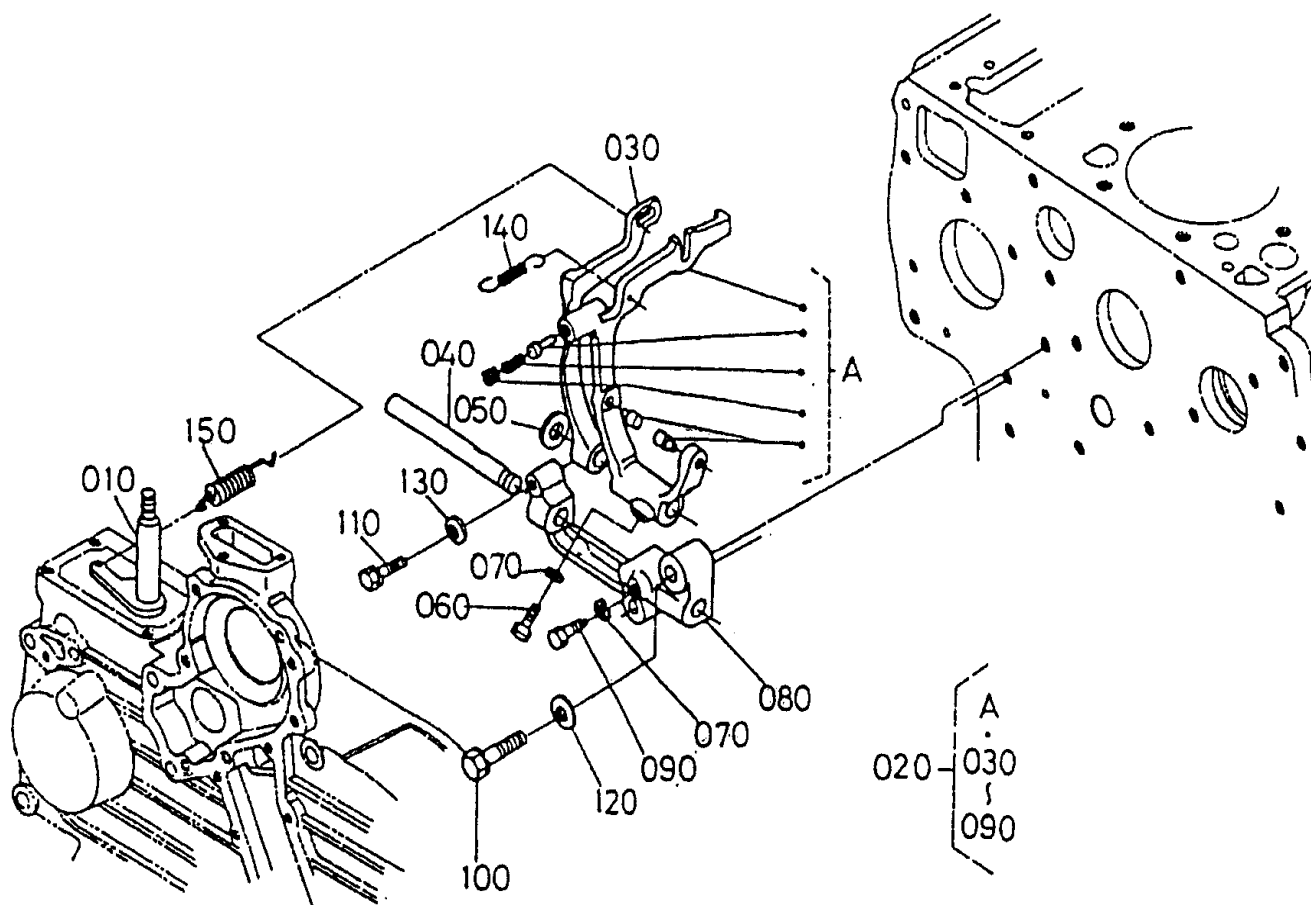
# KUBOTA D1703-EB ENGINE—INJECTION PUMP COMP. ASSY.

## INJECTION PUMP COMP. ASSY.

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
010	1G70251010	INJECTION PUMP ASSY.....	1	INCL. ITEMS W/#
020#	1647551050	PUMP PLUNGER	3	
030#	1647551030	DELIVERY VALVE	3	
040#	1647551230	DELIVERY VALVE SPRING	3	
050#	1522151240	DELIVERY VALVE GASKET	3	
060#	1641551220	DELIVERY VALVE HOLDER	3	
070#	1641551610	PLATE LOCK ASSY.	1	
080#	1522151070	TAPPET ASSY.	3	
090#	1461151250	TAPPET GUIDE PIN	3	
100#	1948451460	PLATE	1	
110#	1522151280	PLUNGER SPRING	3	
120#	1522151270	UPPER SEAT SPRING	3	
130#	1502151290	LOWER SEAT SPRING	3	
140#	1907751490	SHIM	3	
150#	1532151060	CONTROL RACK	1	
180#	1522151382	CONTROL SLEEVE	3	
190#	1552151320	FOLLOW SCREW	1	
200#	1522196650	GASKET	2	
210#	1461151200	O RING	3	

## KUBOTA D1703-EB ENGINE — GOVERNOR ASSY.

### GOVERNOR ASSY.



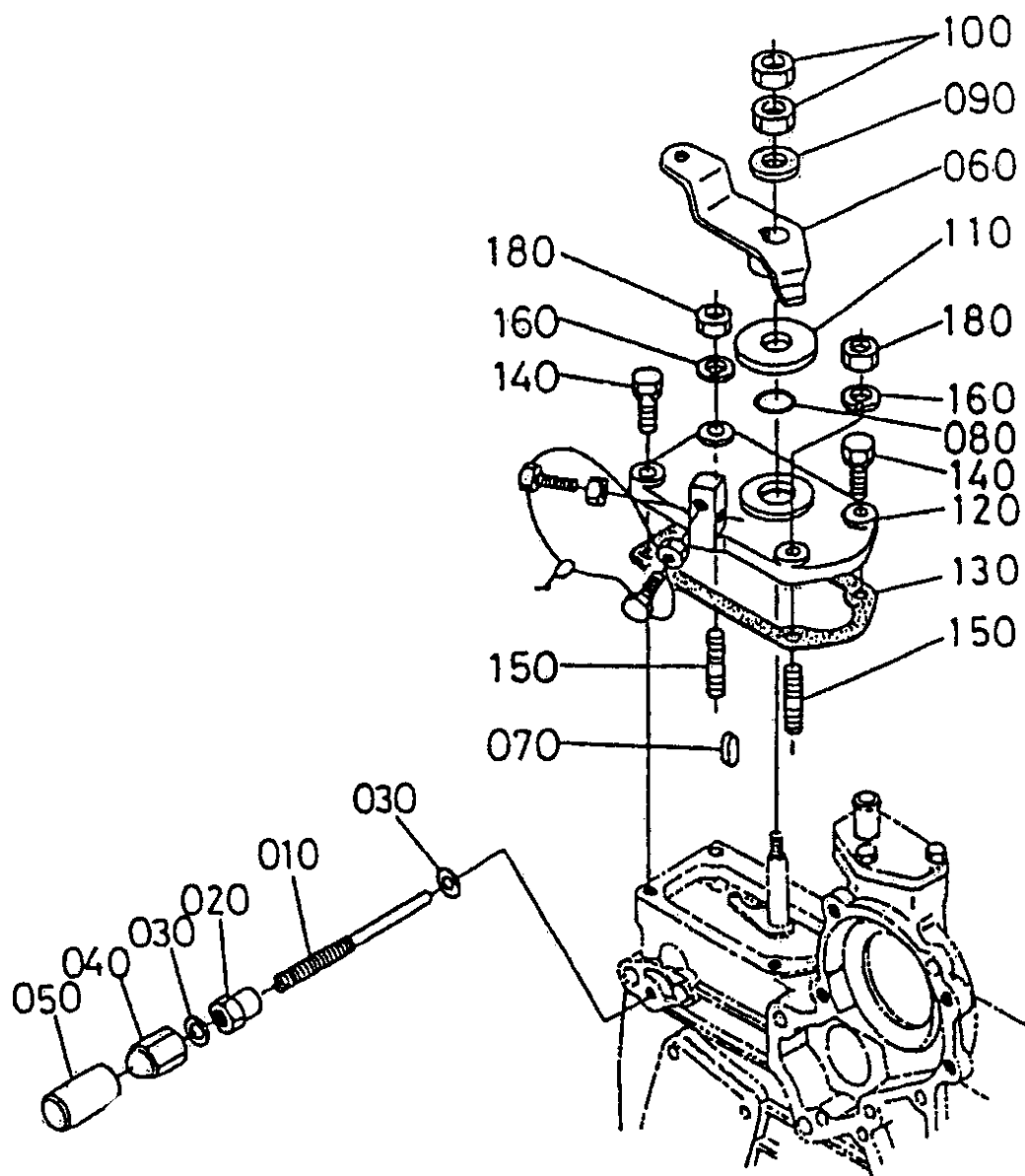
# KUBOTA D1703-EB ENGINE —GOVERNOR ASSY.

## GOVERNOR ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1666156020	GOVERNOR LEVER ASSY.	1	
020	1909017830	FORK LEVER ASSY. ....	1	INCL. ITEMS W/#
030#	1560156130	FORK LEVER	1	
040#	1522156150	FORK LEVER SHAFT	1	
050#	1624194010	PLAIN WASHER	1	
060#	1502156240	LEVER SHAFT BOLT	1	
070#	0451260060	LOCK WASHER	3	
080#	1981856230	FORK LEVER HOLDER	1	
090#	1522166410	BOLT	1	
100	0112350832	BOLT	2	
110	0102350628	BOLT	1	
120	0401250080	PLAIN WASHER	2	
130	0401250060	C CLIP	1	
140	1981856480	START SPRING	1	
150	1909017820	GOVERNOR SPRING	1	

## KUBOTA D1703-EB ENGINE — SPEED CONTROL PLATE ASSY.

SPEED CONTROL PLATE ASSY.



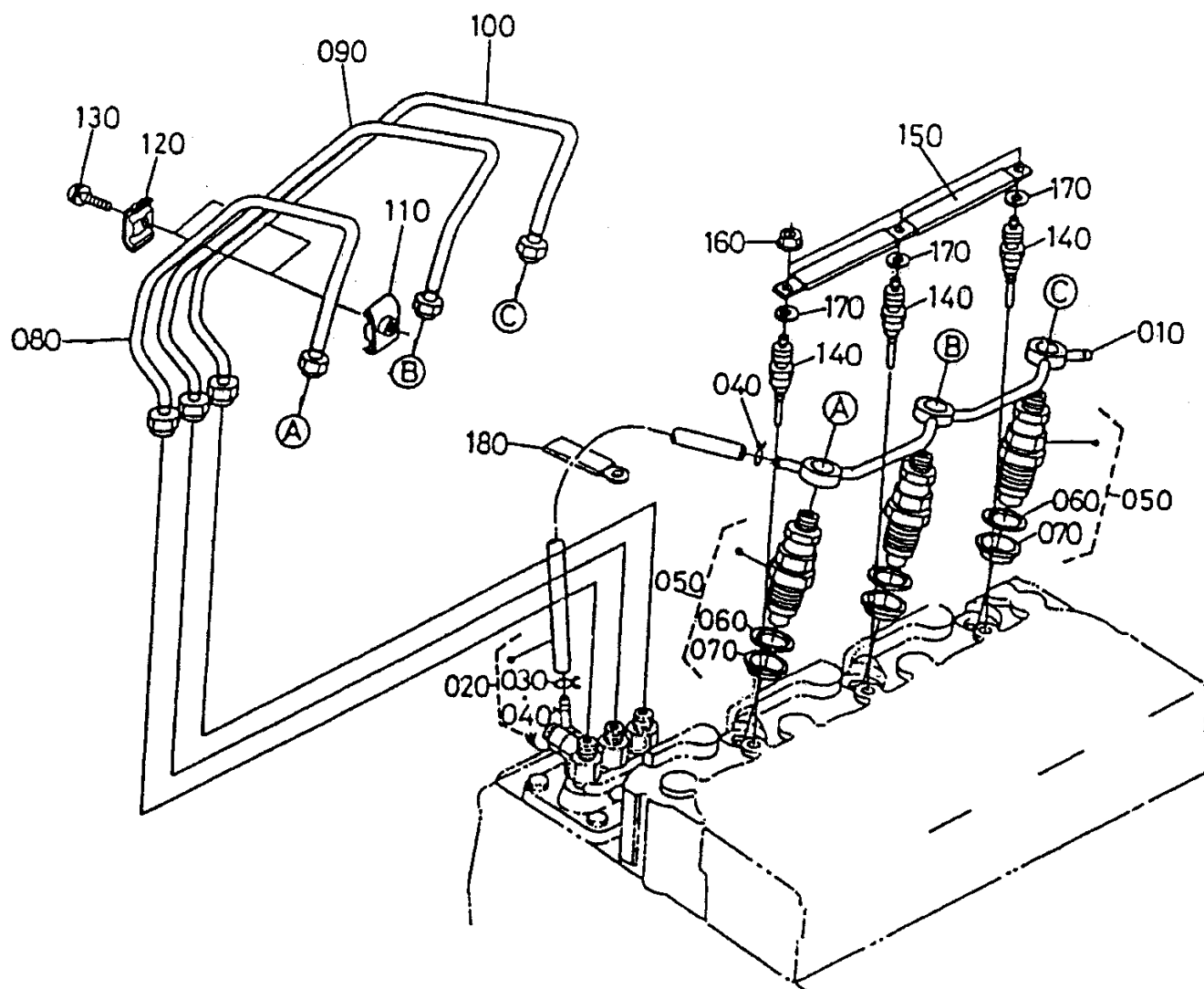
# KUBOTA D1703-EB ENGINE — SPEED CONTROL PLATE ASSY.

## SPEED CONTROL PLATE ASSY.

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
010	1560154120	ADJUSTING BOLT	1	
020	1560192012	NUT	1	
030	1560196650	GASKET	2	
040	1584114620	CAP NUT	1	
050	1622154420	CAP	1	
060	1547157150	SPEED CONTROL LEVER	1	
070	0571200408	FEATHER KEY	1	
080	0481100120	O RING	1	
090	0401360080	PLAIN WASHER	1	
100	0211250080	NUT	2	
110	1552157240	COLLAR	1	
120	1552157115	SPEED CONTROL PLATE	1	
130	1543957210	GASKET	1	
140	0102350620	BOLT	2	
150	1522188210	STUD	2	
160	0451260060	LOCK WASHER	2	
180	0205650060	NUT	2	

## KUBOTA D1703-EB ENGINE — NOZZLE HOLDER & GLOW ASSY.

NOZZLE HOLDER & GLOW PLUG ASSY.



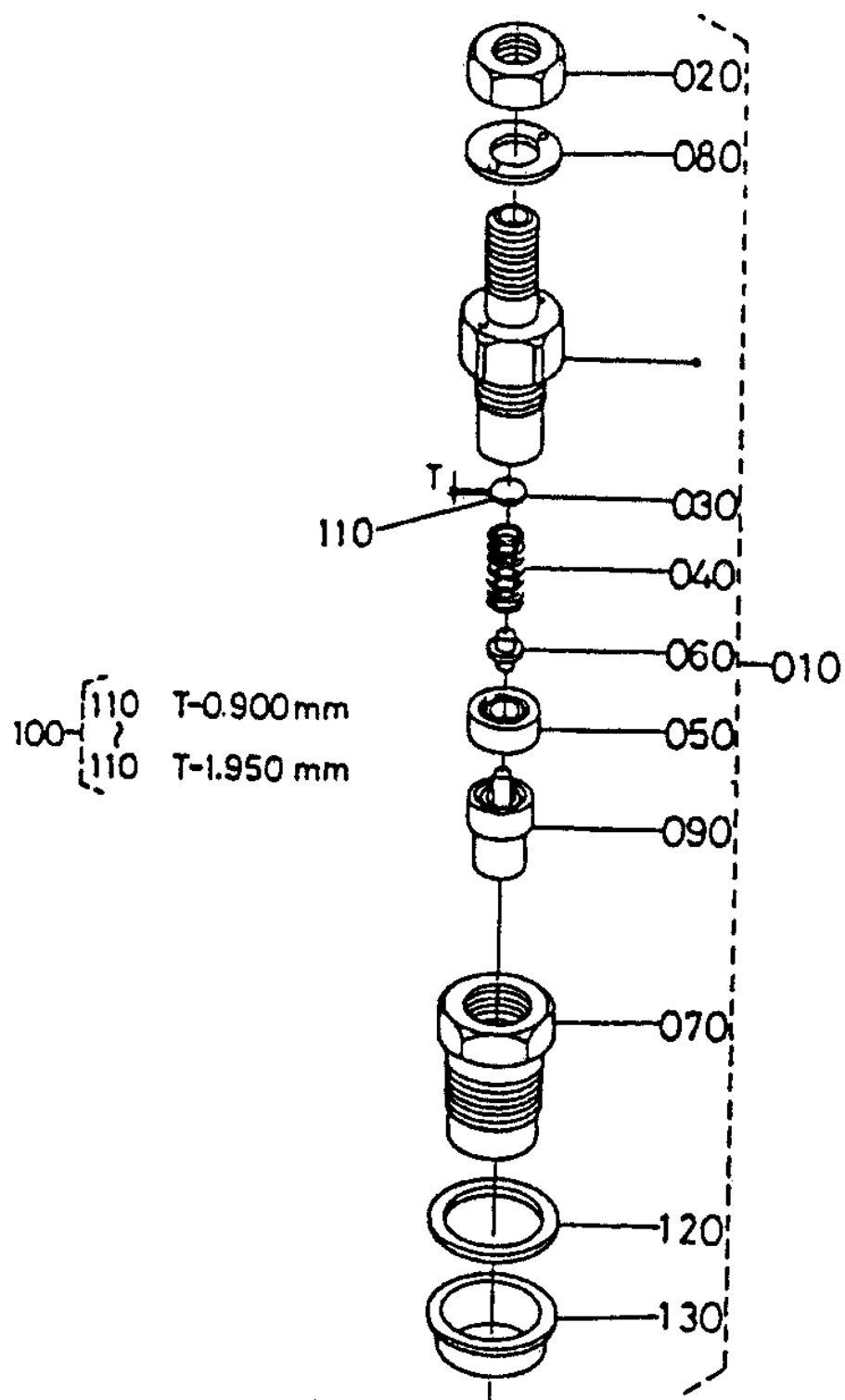
# KUBOTA D1703-EB ENGINE — NOZZLE HOLDER & GLOW ASSY.

## NOZZLE HOLDER & GLOW PLUG ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1646742502	OVERFLOW PIPE ASSY.	1	
020	1733142500	OVERFLOW PIPE ASSY. ....	1	INCL. ITEMS W/#
030#	1024442320	PIPE CLIP	1	
040#	1497142750	PIPE CLIP	1	
050	1608253900	NOZZLE HOLDER KIT .....	3	INCL. ITEMS W/&
060&	1584153622	GASKET	3	
070&	1907753650	HEAT SEAL	3	
080	1907753714	INJECTION PIPE, 1	1	
090	1718253720	INJECTION PIPE, 2	1	
100	1907753733	INJECTION PIPE, 3	1	
110	1584153850	PIPE CLAMP	2	
120	1584153860	PIPE CLAMP	2	
130	0302450520	SCREW W/WASHER	2	
140	1907765510	GLOW PLUG	3	
150	1641565560	GLOW PLUG CORD	1	
160	0276150040	FLANGE NUT	3	
170	0401360040	PLAIN WASHER	3	
180	1524167580	CORD CLAMP	1	

# KUBOTA D1703-EB ENGINE — NOZZLE HOLDER ASSY.

NOZZLE HOLDER ASSY.





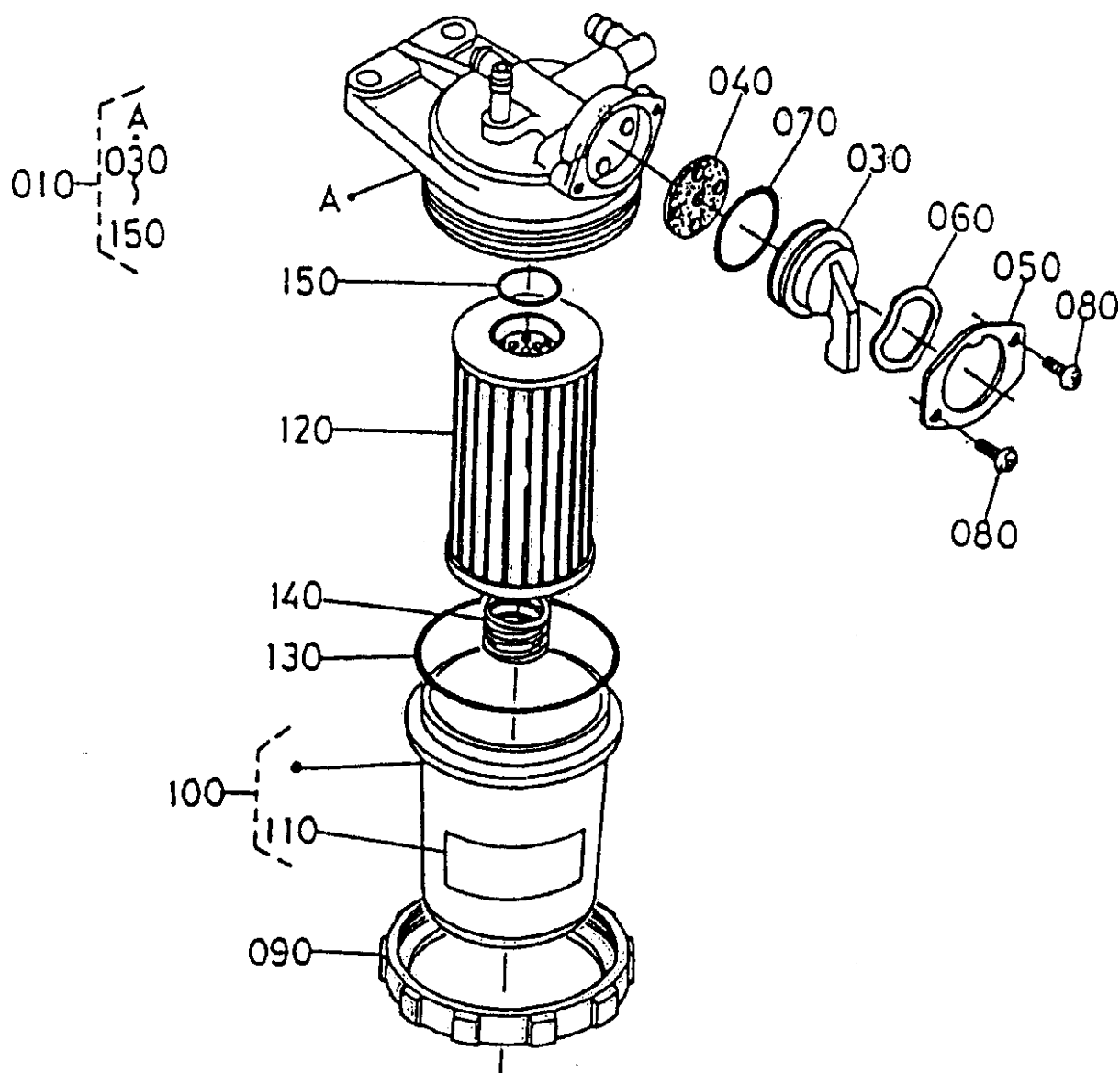
# KUBOTA D1703-EB ENGINE — NOZZLE HOLDER ASSY.

## NOZZLE HOLDER ASSY.

NO	PART NO	PART NAME	QTY.	REMARKS
010	1608253900	ASSY. HOLDER, NOZZLE .....	3	INCLUDES ITEMS W/#
020#	1584192030	NUT	3	
030#	1584153230	WASHER, ADJUSTING	3	
040#	1584153170	SPRING, NOZZLE	3	
050#	1584153350	PIECE, DISTANCE	3	
060#	1584153160	PUSH ROD	3	
070#	1647553280	NUT, NOZZLE	3	
080#	1584194040	WASHER	3	
090#	1685153610	PIECE NOZZLE	3	
100	1584198100	ASSY. WASHER, ADJUST	3	INCL. ITEM W/&
110&	1584153230	WASHER, ADJUSTING .....	3	0.900MM
110&	1584198510	WASHER, ADJUSTING .....	3	0.925MM
110&	1584198520	WASHER, ADJUSTING .....	3	0.950MM
110&	1584198530	WASHER, ADJUSTING .....	3	0.975MM
110&	1584198540	WASHER, ADJUSTING .....	3	1.000MM
110&	1584198550	WASHER, ADJUSTING .....	3	1.025MM
110&	1584198560	WASHER, ADJUSTING .....	3	1.050MM
110&	1584198570	WASHER, ADJUSTING .....	3	1.075MM
110&	1584198580	WASHER, ADJUSTING .....	3	1.100MM
110&	1584198590	WASHER, ADJUSTING .....	3	1.125MM
110&	1584198600	WASHER, ADJUSTING .....	3	1.150MM
110&	1584198610	WASHER, ADJUSTING .....	3	1.175MM
110&	1584198620	WASHER, ADJUSTING .....	3	1.200MM
110&	1584198630	WASHER, ADJUSTING .....	3	1.225MM
110&	1584198640	WASHER, ADJUSTING .....	3	1.250MM
110&	1584198650	WASHER, ADJUSTING .....	3	1.275MM
110&	1584198660	WASHER, ADJUSTING .....	3	1.300MM
110&	1584198670	WASHER, ADJUSTING .....	3	1.325MM
110&	1584198680	WASHER, ADJUSTING .....	3	1.350MM
110&	1584198690	WASHER, ADJUSTING .....	3	1.375MM
110&	1584198700	WASHER, ADJUSTING .....	3	1.400MM
110&	1584198710	WASHER, ADJUSTING .....	3	1.425MM
110&	1584198720	WASHER, ADJUSTING .....	3	1.450MM
110&	1584198730	WASHER, ADJUSTING .....	3	1.475MM
110&	1584198740	WASHER, ADJUSTING .....	3	1.500MM
110&	1584198750	WASHER, ADJUSTING .....	3	1.525MM
110&	1584198760	WASHER, ADJUSTING .....	3	1.550MM
110&	1584198770	WASHER, ADJUSTING .....	3	1.575MM
110&	1584198780	WASHER, ADJUSTING .....	3	1.600MM
110&	1584198790	WASHER, ADJUSTING .....	3	1.625MM
110&	1584198800	WASHER, ADJUSTING .....	3	1.650MM
110&	1584198810	WASHER, ADJUSTING .....	3	1.675MM
110&	1584198820	WASHER, ADJUSTING .....	3	1.700MM
110&	1584198830	WASHER, ADJUSTING .....	3	1.725MM
110&	1584198840	WASHER, ADJUSTING .....	3	1.750MM
110&	1584198850	WASHER, ADJUSTING .....	3	1.775MM
110&	1584198860	WASHER, ADJUSTING .....	3	1.800MM
110&	1584198870	WASHER, ADJUSTING .....	3	1.825MM
110&	1584198880	WASHER, ADJUSTING .....	3	1.850MM
110&	1584198890	WASHER, ADJUSTING .....	3	1.875MM
110&	1584198900	WASHER, ADJUSTING .....	3	1.900MM
110&	1584198910	WASHER, ADJUSTING .....	3	1.925MM
110&	1584198920	WASHER, ADJUSTING .....	3	1.950MM
120#	1584153622	GASKET	3	
130#	1907753650	HEAT SEAL	3	

## KUBOTA D1703-EB ENGINE — FUEL FILTER ASSY.

### FUEL FILTER ASSY



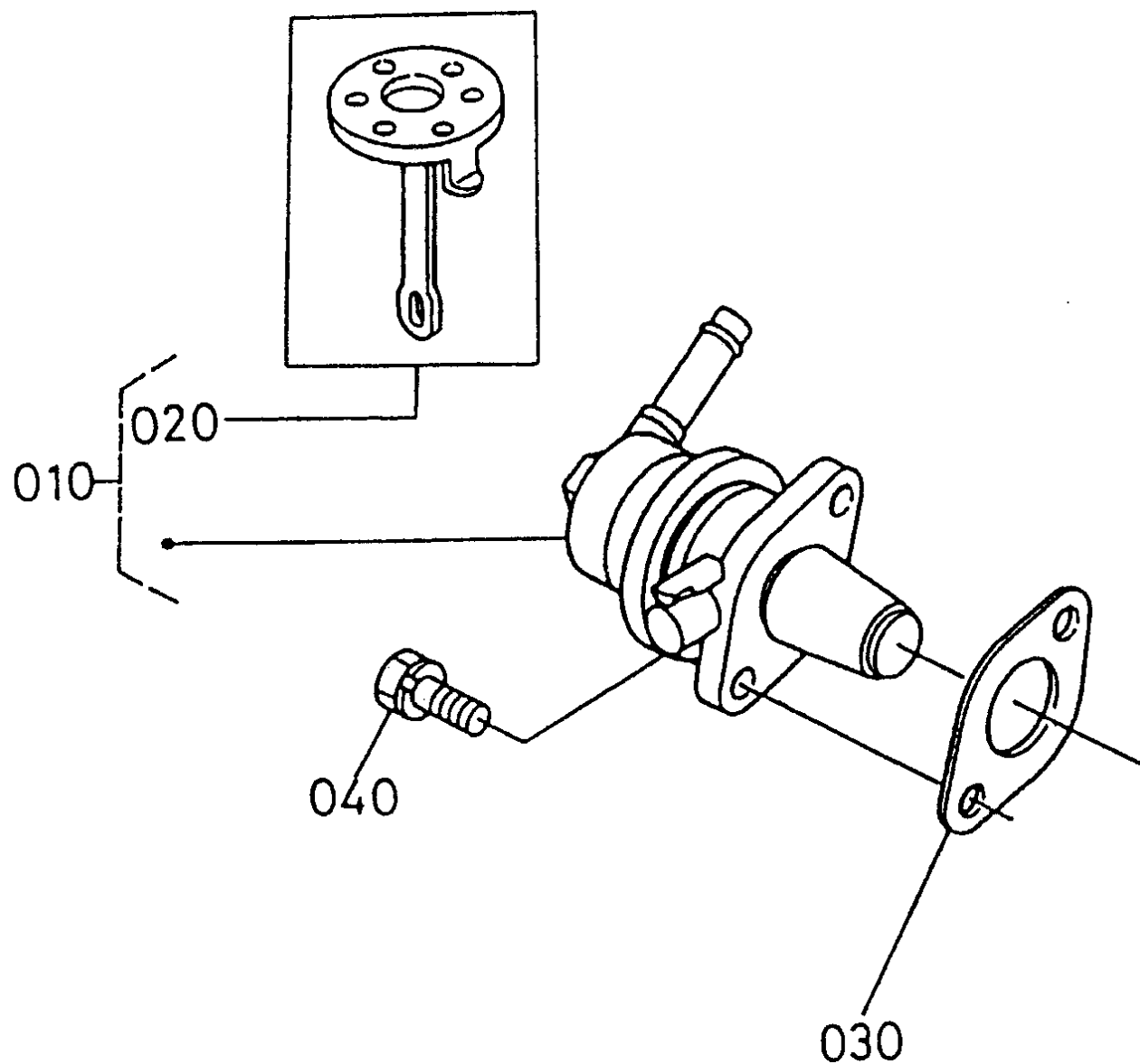
# KUBOTA D1703-EB ENGINE — FUEL FILTER ASSY.

## FUEL FILTER ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1707643012	FUEL FILTER ASSY. ....	1 .....	INCL. ITEMS W/#
030#	1552143522	FILTER HANDLE	1	
040#	1552143672	GASKET	1	
050#	1552143552	HANDLE RETAINER	1	
060#	1552143542	THRUST PLATE	1	
070#	0481110290	O RING	1	
080#	1552193310	SCREW W/WASHER	2	
090#	1552143150	RETAINER RING	1	
100#	1552143100	FILTER CUP ASSY. ....	1 .....	INCL. ITEM W/&
110#&	1687388430	FUEL LABEL	1	
120#	1552143160	FILTER ELEMENT	1	
130#	0481150650	O RING	1	
140#	1552143930	SPRING	1	
150#	0481100160	O RING	1	

## KUBOTA D1703-EB ENGINE — FUEL PUMP ASSY.

FUEL PUMP ASSY.



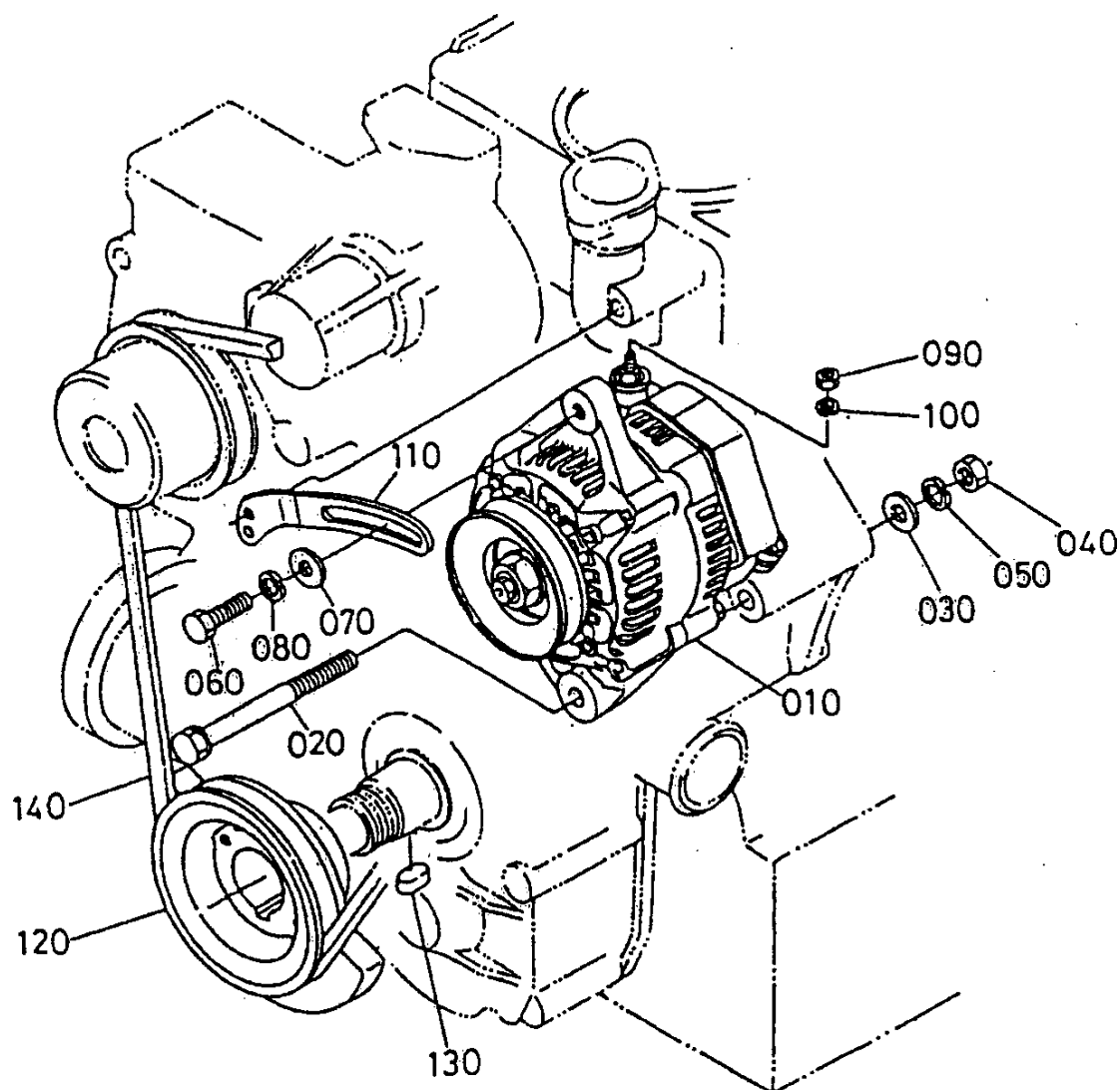
## KUBOTA D1703-EB ENGINE — FUEL PUMP ASSY.

FUEL PUMP ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1712152030	FUEL PUMP ASSY. ....	1 .....	INCL. ITEM W/#
020#	1984452040	DIAPHRAGM COMP.	1	
030	1526352140	FUEL PUMP GASKET	1	
040	0102350616	BOLT	2	

## KUBOTA D1703-EB ENGINE — ALTERNATOR & PULLEY ASSY.

ALTERNATOR & PULLEY ASSY.



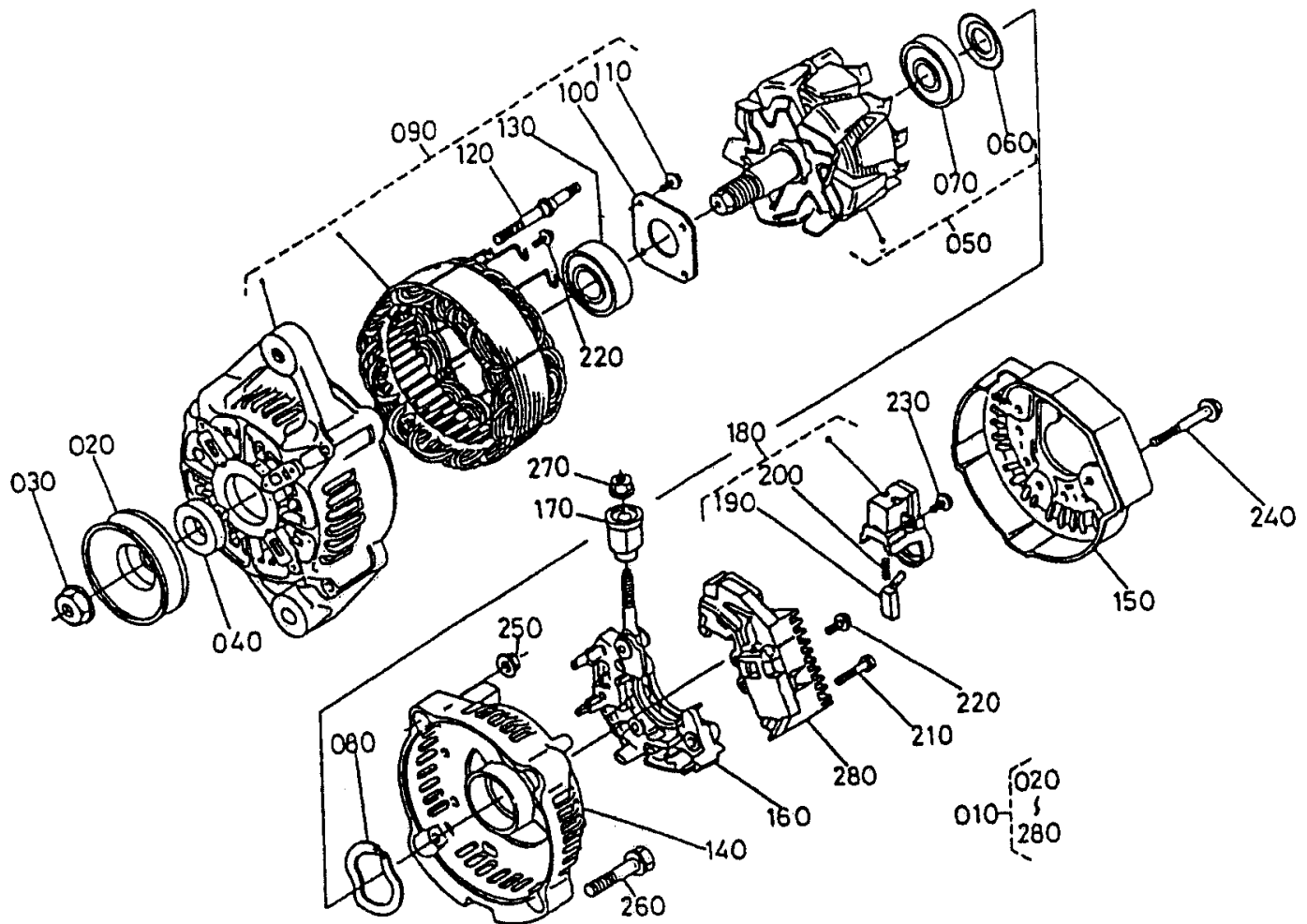
# KUBOTA D1703-EB ENGINE — ALTERNATOR & PULLEY ASSY.

## ALTERNATOR & PULLEY ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1640464010	ALTERNATOR ASSY.	1	
020	0117351000	BOLT	1	
030	0401150100	PLAIN WASHER	1	
040	0215650100	NUT	1	
050	0451260100	LOCK WASHER	1	
060	0115360830	BOLT	1	
070	0401560080	PLAIN WASHER	1	
080	0451290080	LOCK WASHER .....	1	REPLACES 0451260080
090	0205650060	NUT	1	
100	0451260060	LOCK WASHER	1	
100	TA04074020	ALTERNATOR ADJ. PLATE	1	
120	1642774282	FAN DRIVE PULLEY	1	
130	0571200720	FEATHER KEY	1	
140	1711297010	V BELT .....	1	RPF3400

## KUBOTA D1703-EB ENGINE —ALTERNATOR COMP.ASSY.

## ALTERNATOR COMP. ASSY.





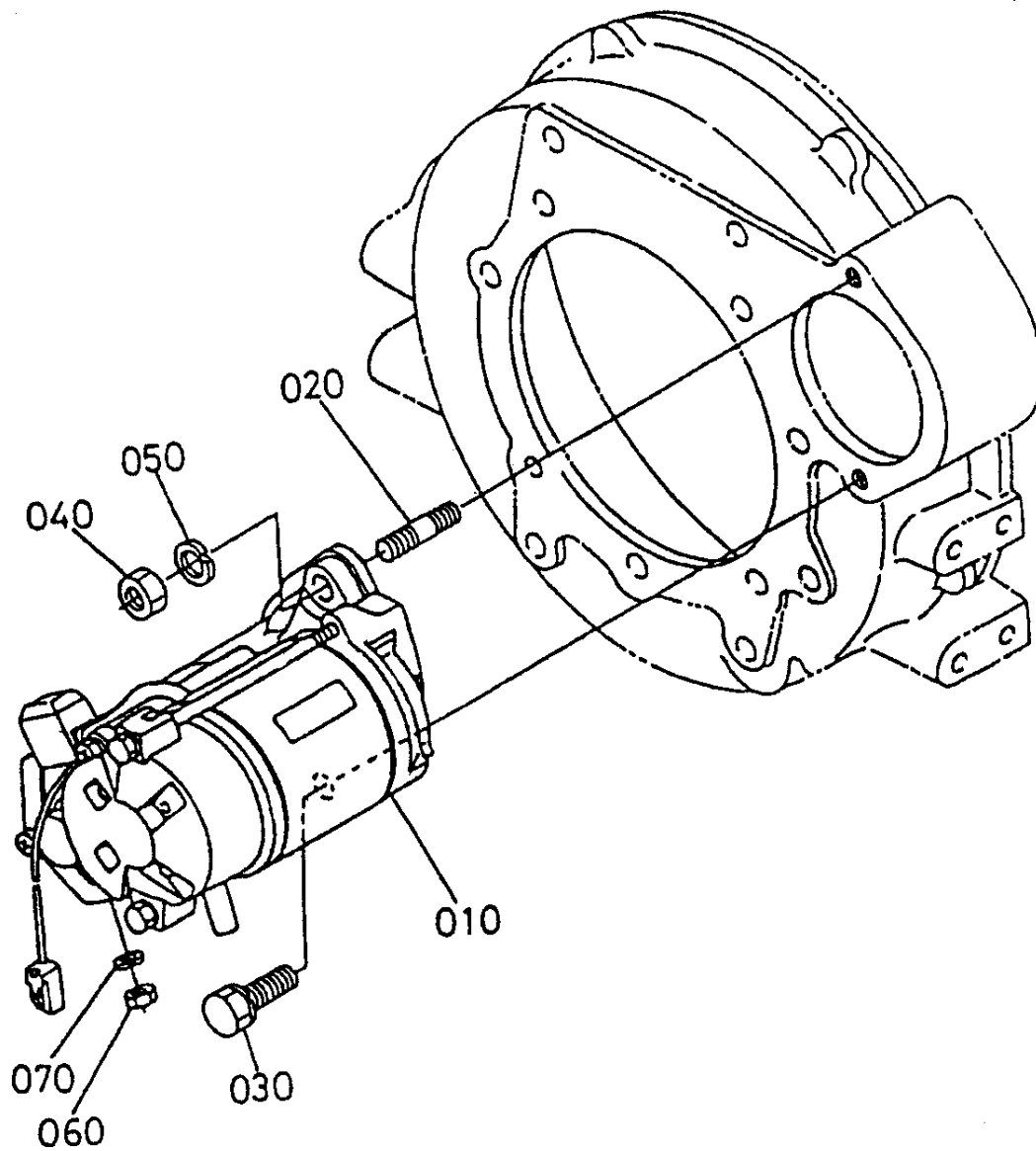
# KUBOTA D1703-EB ENGINE — ALTERNATOR COMP. ASSY.

## ALTERNATOR COMP. ASSY.

NO	PART NO	PART NAME	QTY.	REMARKS
010	1640464010	ALTERNATOR ASSY. ....	1	12V 40A; INCL. ITEMS W/#
020#	1642764110	ALTERNATOR PULLEY	1	
030#	1588192010	NUT	1	
040#	1588164150	COLLAR	1	
050#	6643664040	ROTOR ASSY. ....	1	INCL. ITEMS W/%
060#%	1588164800	BEARING COVER	1	
070#%	1665264770	BALL BEARING	1	
080#	1588164810	THRUST WASHER	1	
090#	6643664020	DRIVE END FRAME ASSY. ....	1	INCL. ITEMS W/&
100#&	1588164710	RETAINER PLATE	1	
110#&	1588193010	ROUND HEAD SCREW	4	
120#&	1588164260	BOLT	2	
130#&	1665264780	BALL BEARING	1	
140#	1624164060	END FRAME	1	
150#	1667864230	END COVER	1	
160#	1588164850	RECTIFIER ASSY.	1	
170#	1588164900	INSULATION BUSHING	1	
180#	1665264310	BRUSH HOLDER .....	1	INCL. ITEMS W/\$
190#\$	1588164090	BRUSH	2	
200#\$	1588164330	BRUSH SPRING	2	
210#	1588193020	ROUND HEAD SCREW	2	
220#	1588193030	ROUND HEAD SCREW	6	
230#	1588193040	ROUND HEAD SCREW	1	
240#	1588191040	BOLT	3	
250#	1588192020	NUT	2	
260#	1588191050	BOLT	2	
270#	1418292030	NUT	1	
280#	1665264600	REGULATOR ASSY.	1	

## KUBOTA D1703-EB ENGINE — STARTER ASSY.

STARTER ASSY.



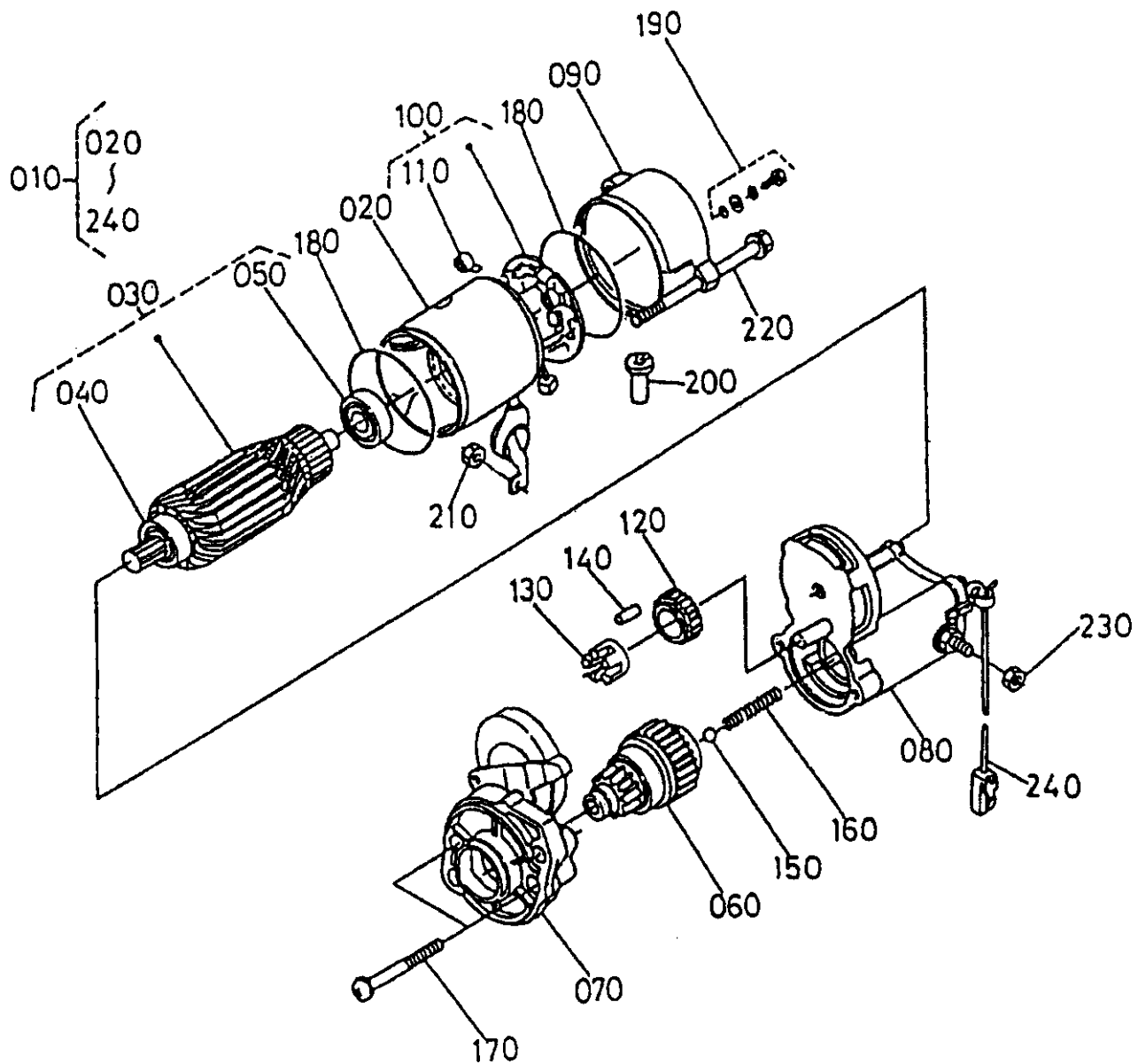
# KUBOTA D1703-EB ENGINE — STARTER ASSY.

## STARTER ASSY.

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
010	1729863010	STARTER ASSY. ....	1 .....	12V 1.4KW
020	0151751028	STUD	1	
030	0113351030	BOLT	1	
040	0217650100	NUT	1	
050	0451260100	LOCK WASHER	1	
060	0211450080	NUT	1	
070	0451290080	LOCK WASHER .....	1 .....	REPLACES 0451260080

## KUBOTA D1703-EB ENGINE — STARTER COMP. ASSY.

STARTER COMP. ASSY.



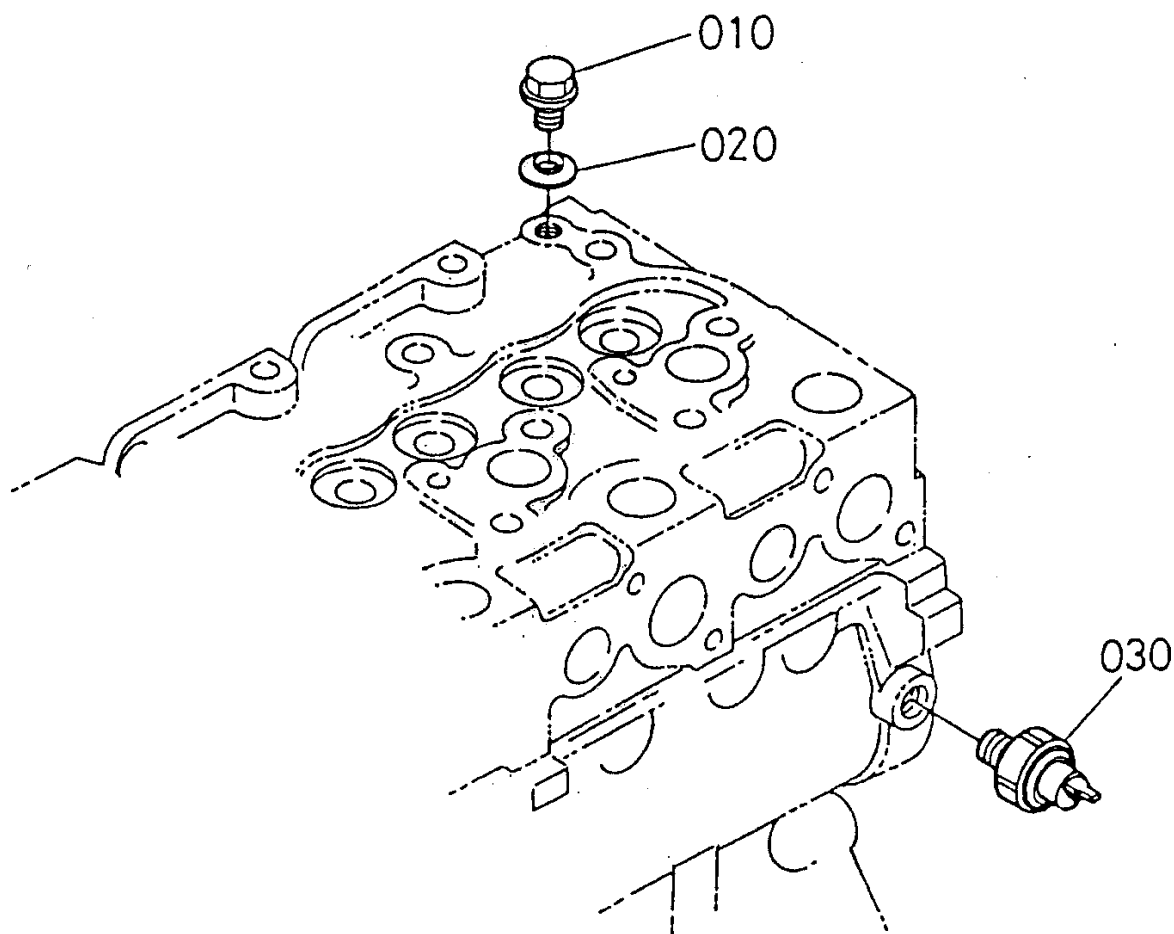
# KUBOTA D1703-EB ENGINE — STARTER COMP. ASSY.

## STARTER COMP. ASSY.

NO	PART NO	PART NAME	QTY.	REMARKS
010	1729863010	STARTER ASSY. ....	1	12V 1.4KW; INCL. ITEMS W/#
020#	1119763080	YOKE ASSY.	1	
030#	1119763070	ARMATURE ASSY. ....	1	INCL. ITEMS W%
040#%	1146063500	BEARING	1	
050#%	1146063530	BEARING	1	
060#	1734163040	OVER RUNNING CLUTCH	1	
070#	1734163030	DRIVE END FRAME	1	
080#	1117363020	MAGNETIC SWITCH ASSY.	1	
090#	1734163200	END FRAME	1	
100#	1119763380	BRUSH HOLDER ASSY. ....	1	INCL. ITEM W/&
110#&	1540163390	BRUSH SPRING	4	
120#	1176063270	GEAR	1	
130#	1146063110	RETAINER	1	
140#	1921263100	ROLLER	5	
150#	1921297130	BALL	1	
160#	1146063120	SPRING	1	
170#	1146093310	BOLT	2	
180#	1551196660	O RING	2	
190#	1551163760	BOLT ASSY.	2	
200#	1628563570	DRAIN PIPE	1	
210#	1396392010	HEX. NUT	1	
220#	1119763320	BOLT	2	
230#	1628592010	HEX. NUT	1	
240#	1661163660	STOP SOLENOID CORD	1	

## KUBOTA D1703-EB ENGINE — OIL SWITCH ASSY.

OIL SWITCH ASSY.



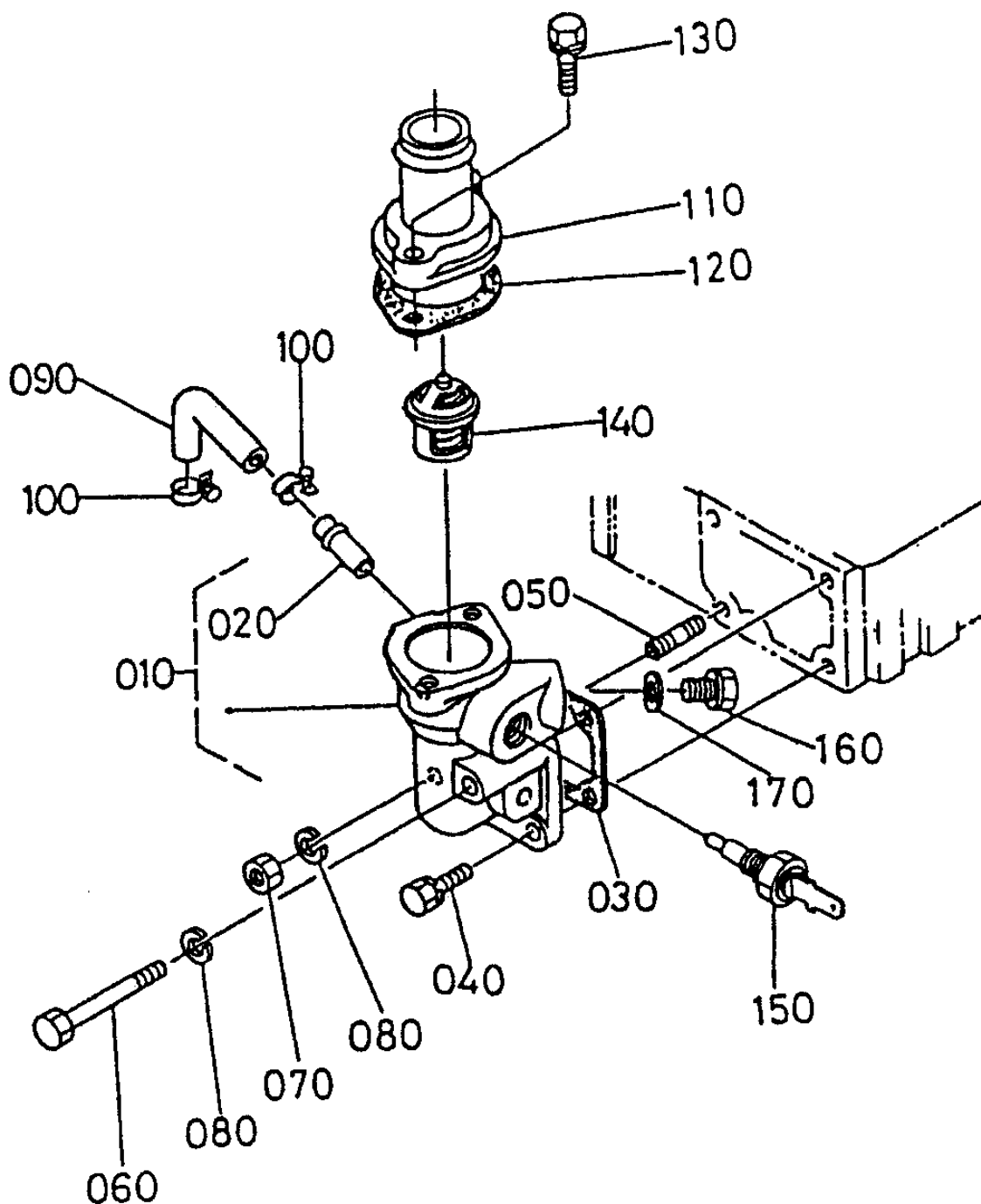
## KUBOTA D1703-EB ENGINE — OIL SWITCH ASSY.

OIL SWITCH ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	0631155010	PLUG	1	
020	0471701000	WASHER, W/RUBBER	1	
030	1584139010	OIL SWITCH	1	

## KUBOTA D1703-EB ENGINE — WATER FLANGE & THERMOSTAT ASSY.

WATER FLANGE & THERMOSTAT ASSY.





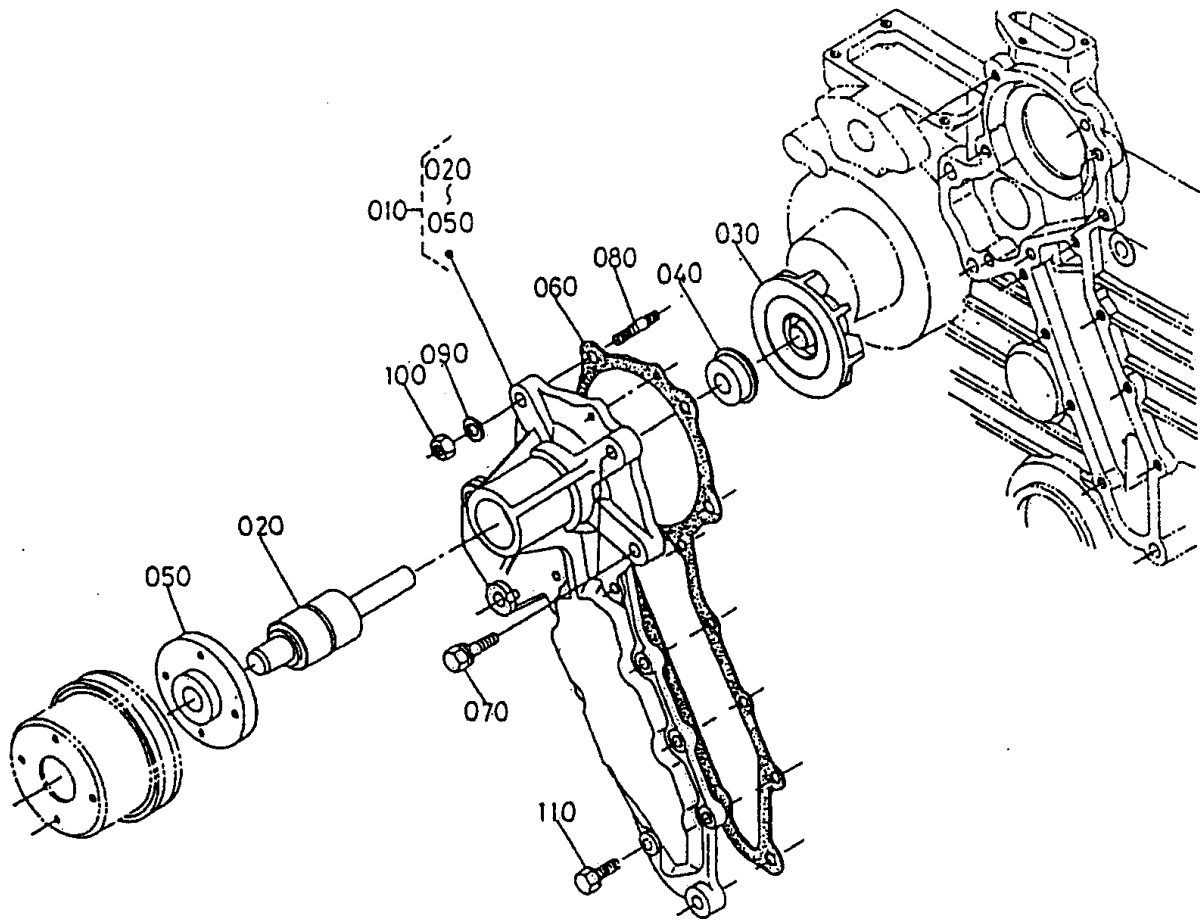
# KUBOTA D1703-EB ENGINE — WATER FLANGE & THERMOSTAT ASSY.

## WATER FLANGE & THERMOSTAT ASSY.

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
010	1746272702	WATER FLANGE COMP.	1	
020	1733173342	WATER RETURN PIPE	1	
030	1576672920	WATER FLANGE GASKET	1	
040	0112350820	BOLT	2	
050	1522191530	STUD	1	
060	0115350870	BOLT	1	
070	0215650080	NUT	1	
080	0451290080	LOCK WASHER .....	2	REPLACES 0451260080
090	1552173340	WATER RETURN PIPE	1	
100	1510973360	HOSE BAND	2	
110	1532173260	THERMOSTAT COVER	1	
120	1531373270	THERMOSTAT GASKET	1	
130	0112350835	BOLT	2	
140	1943473010	THERMOSTAT ASSY.	1	
150	1554383040	THERMOSTAT SWITCH	1	
160	1551296010	PLUG	1	
170	0471702150	WASHER W/RUBBER	1	

## KUBOTA D1703-EB ENGINE — WATER PUMP ASSY.

WATER PUMP ASSY.



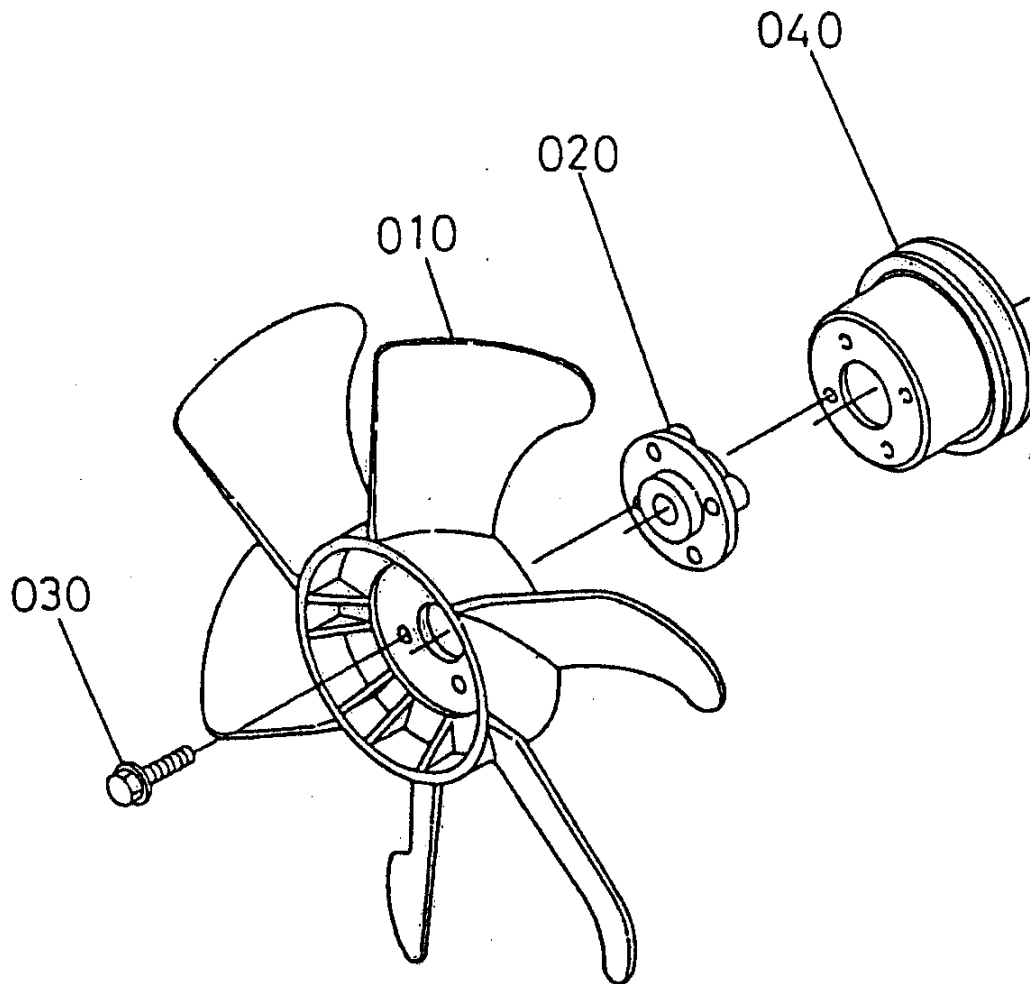
# KUBOTA D1703-EB ENGINE — WATER PUMP ASSY.

## WATER PUMP ASSY.

NO	PART NO	PART NAME	QTY.	REMARKS
010	1552173033	WATER PUMP ASSY. ....	1	INCL. ITEMS W/#
020#	1552173550	BEARING	1	
030#	1666173510	IMPELLER	1	
040#	1666173050	MECHANICAL SEAL ASSY.	1	
050#	1552173520	WATER PUMP FLANGE	1	
060	1576673430	WATER PUMP GASKET	1	
070	0112350828	BOLT	2	
080	1552191510	STUD	2	
090	0451290080	LOCK WASHER .....	2	REPLACES 0451260080
100	0215650080	NUT	2	
110	0102350618	BOLT	8	

## KUBOTA D1703-EB ENGINE — FAN ASSY.

FAN ASSY.



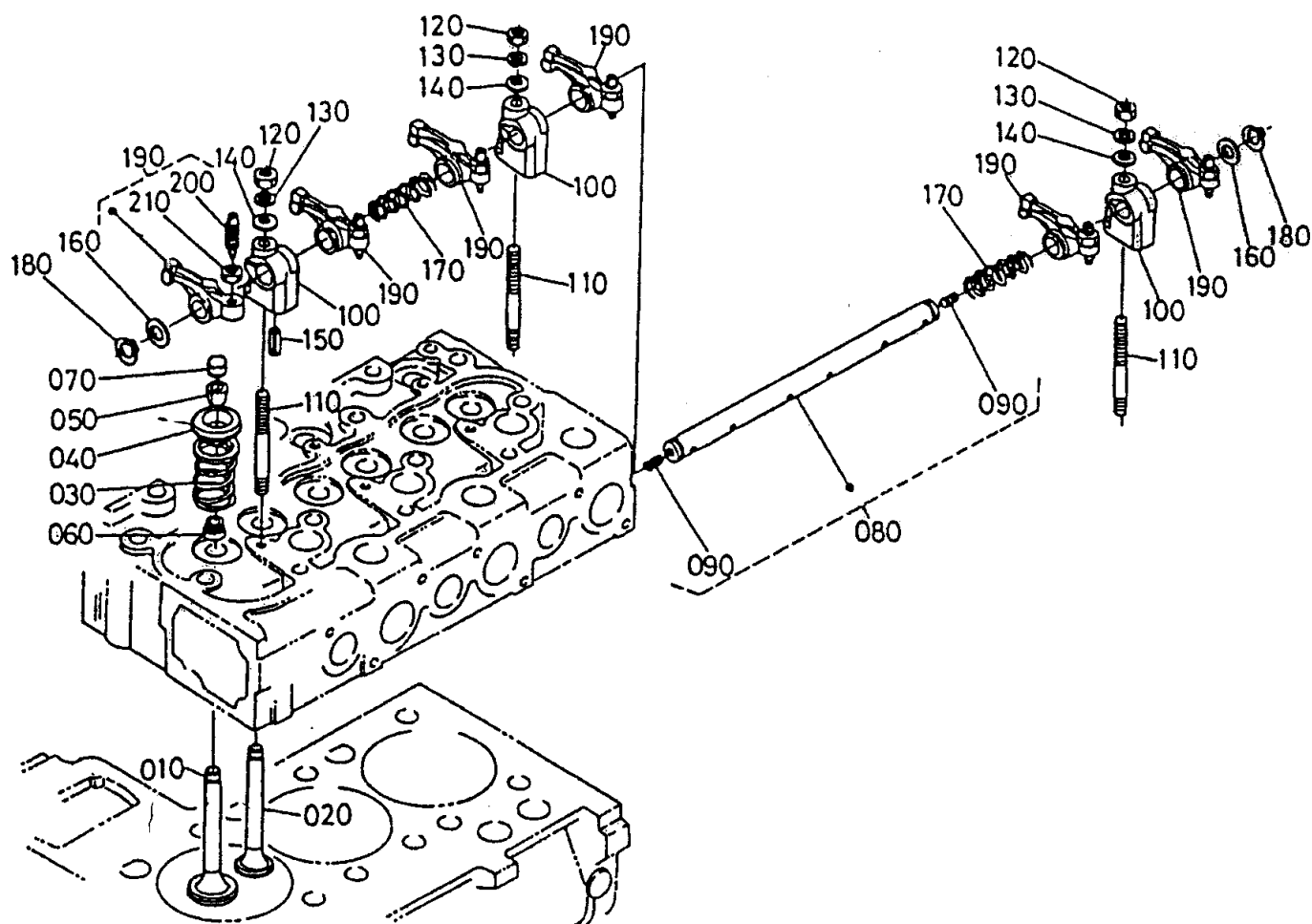
## KUBOTA D1703-EB ENGINE — FAN ASSY.

FAN ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1K33274110	FAN	1	
020	1544974150	FAN COLLAR	1	
030	0175450655	FLANGE BOLT	4	
040	1735174250	FAN PULLEY	1	

## KUBOTA D1703-EB ENGINE — VALVE & ROCKER ARM ASSY.

VALVE & ROCKER ARM ASSY.



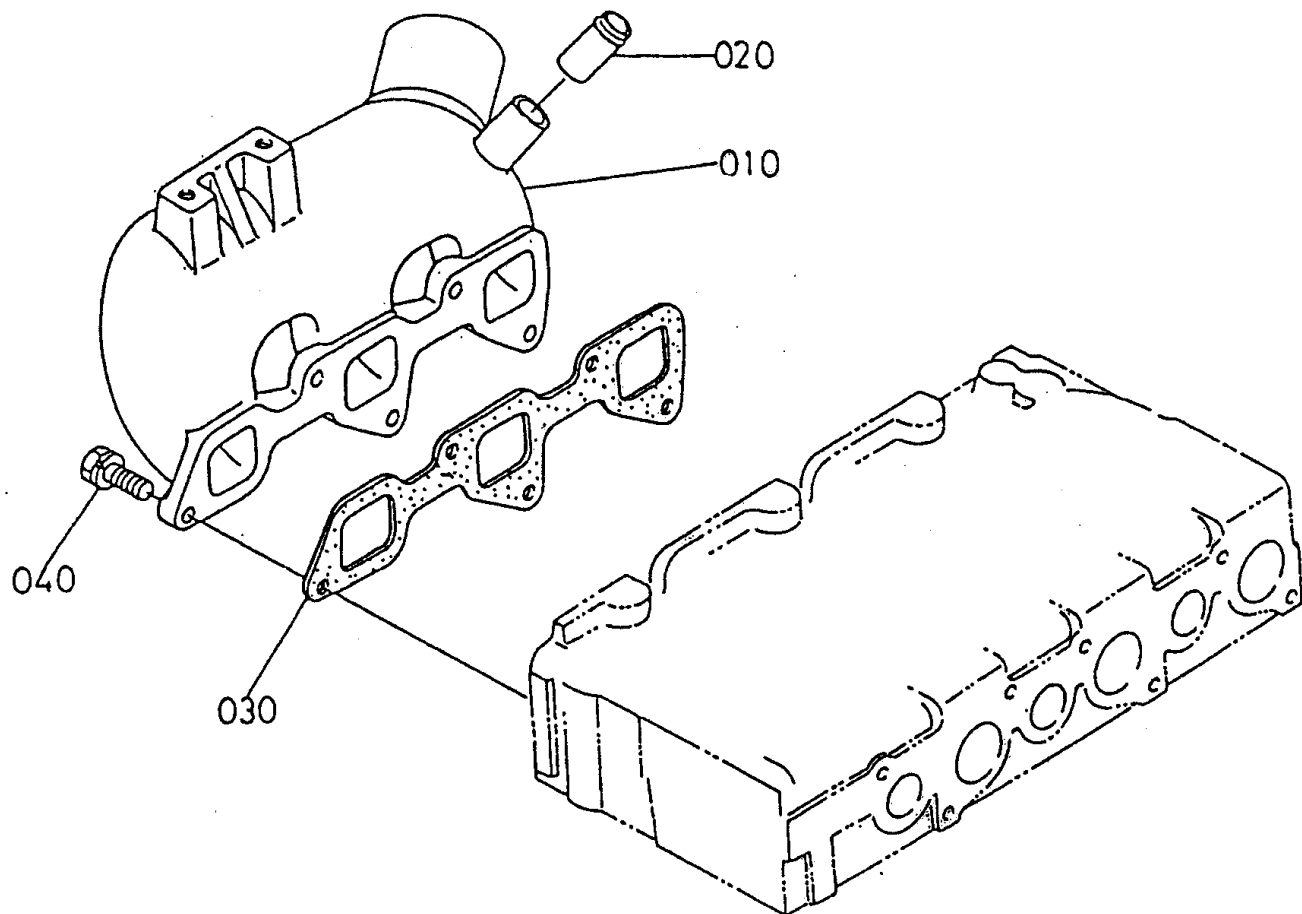
# KUBOTA D1703-EB ENGINE — VALVE & ROCKER ARM ASSY.

## VALVE & ROCKER ARM ASSY.

<b>NO</b>	<b>PART NO</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
010	1648413310	INLET VALVE	3	
020	1648413120	EXHAUST VALVE	3	
030	1522113240	VALVE SPRING	6	
040	1522113330	VALVE SPRING RETAINER	6	
050	1522113360	VALVE SPRING COLLET	6	
060	1522113150	VALVE STEM SEAL	6	
070	1522113280	VALVE CAP	6	
080	1532114052	ROCKER ARM SHAFT ASSY.	1	
090	0341000808	SET SCREW	2	
100	1522114350	ROCKER ARM BRACKET	3	
110	1552191500	STUD	3	
120	0215650080	NUT	3	
130	0451290080	LOCK WASHER .....	3 .....	REPLACES 0451260080
140	0401250080	PLAIN WASHER	3	
150	0541100528	SPRING PIN	1	
160	1522114430	ROCKER ARM SHAFT WASHER	2	
170	1522114310	ROCKER ARM SPRING	2	
180	0461200140	EXT. CIRCULAR CLIP	2	
190	1562114030	ROCKER ARM ASSY. ....	6 .....	INCL. ITEMS W/#
200#	1552114230	ADJUSTING SCREW	6	
210#	1502114240	NUT	6	

## KUBOTA D1703-EB ENGINE — INLET MANIFOLD ASSY.

INLET MANIFOLD ASSY.





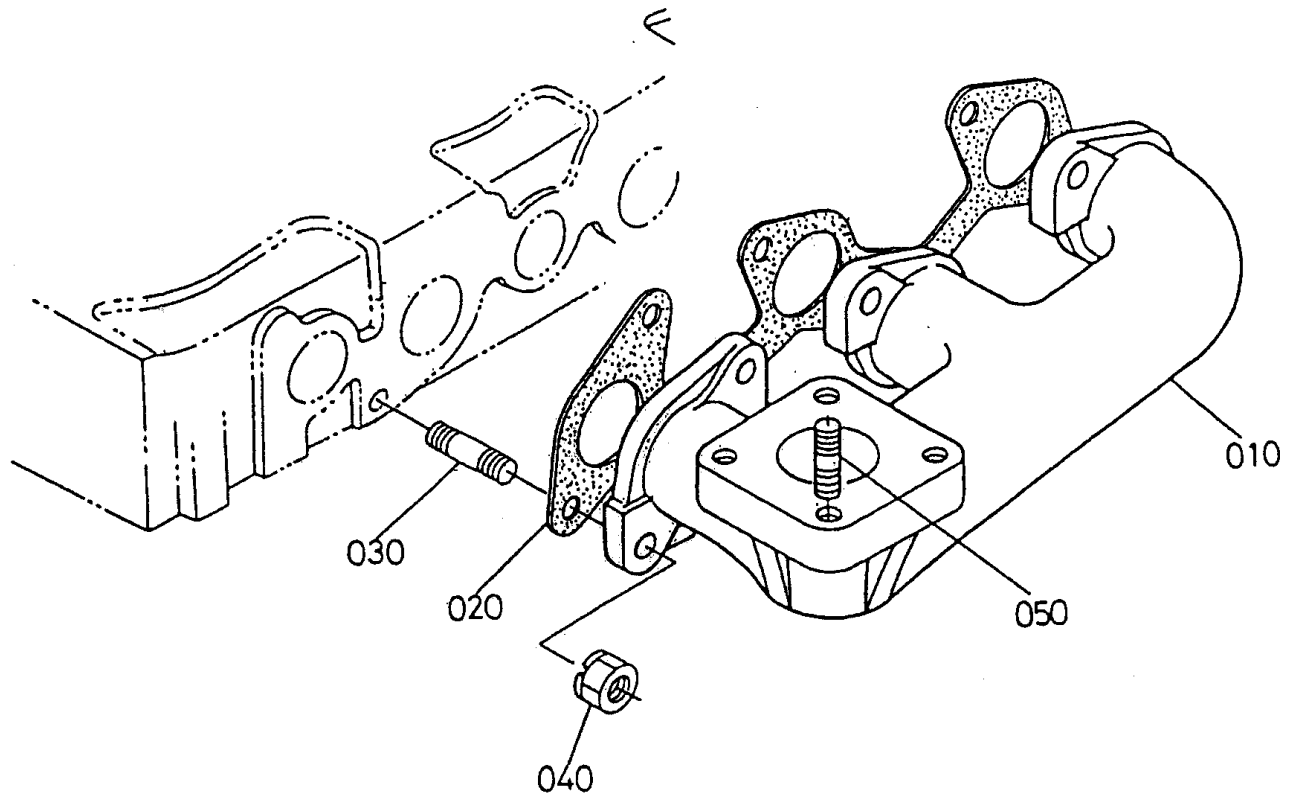
## KUBOTA D1703-EB ENGINE — INLET MANIFOLD ASSY.

INLET MANIFOLD ASSY.

<b><u>NO</u></b>	<b><u>PART NO</u></b>	<b><u>PART NAME</u></b>	<b><u>QTY.</u></b>	<b><u>REMARKS</u></b>
010	1718211760	INLET MANIFOLD	1	
020	1718205550	BREATHER JOINT	1	
030	1732611820	INLET MANIFOLD GASKET	1	
040	011008020	BOLT .....	5 .....	REPLACES 0112350822

## KUBOTA D1703-EB ENGINE — EXHAUST MANIFOLD ASSY.

EXHAUST MANIFOLD ASSY.



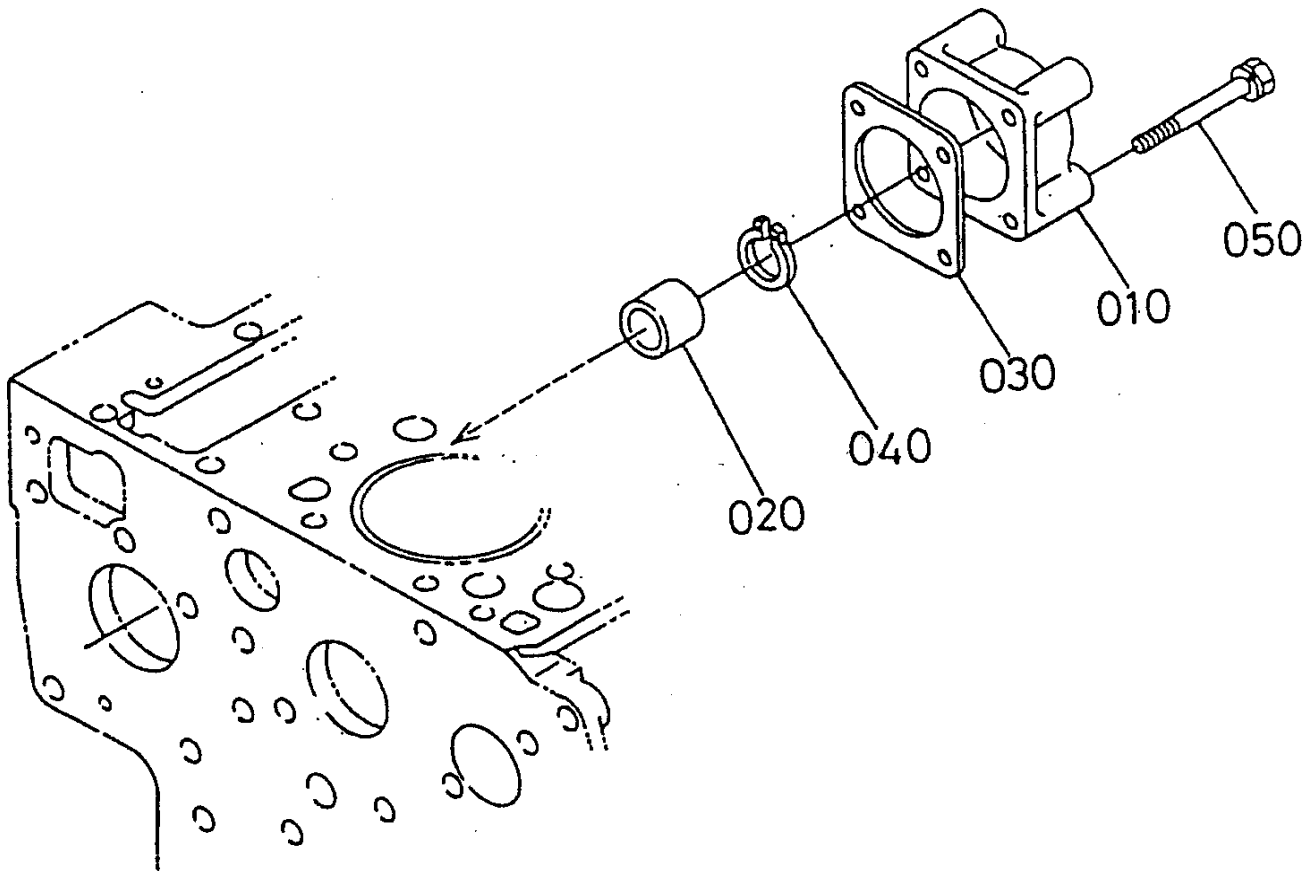
## KUBOTA D1703-EB ENGINE — EXHAUST MANIFOLD ASSY.

### EXHAUST MANIFOLD ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1552112312	EXHAUST MANIFOLD	1	
020	1531312350	EXHAUST MANIFOLD GASKET	1	
030	1522191530	STUD	6	
040	1642992010	NUT	6	
050	0151350822	STUD	4	

## KUBOTA D1703-EB ENGINE — HYDRAULIC PUMP ASSY.

HYDRAULIC PUMP ASSY.



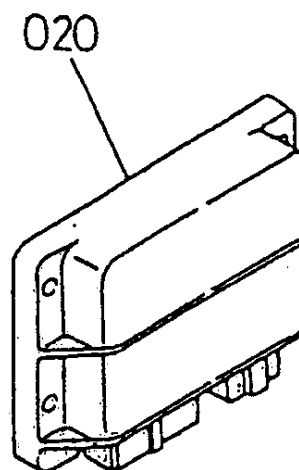
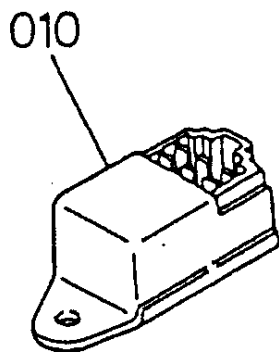
## KUBOTA D1703-EB ENGINE — HYDRAULIC PUMP ASSY.

HYDRAULIC PUMP ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1718316210	FUEL CAMSHAFT COVER	1	
020	1522516190	COLLAR	1	
030	3539437860	GASKET	1	
040	0461200250	EXT. CIRCULAR CLIP	1	
050	0112350865	BOLT	4	

## KUBOTA D1703-EB ENGINE — GLOW PLUG ASSY.

GLOW PLUG ASSY.



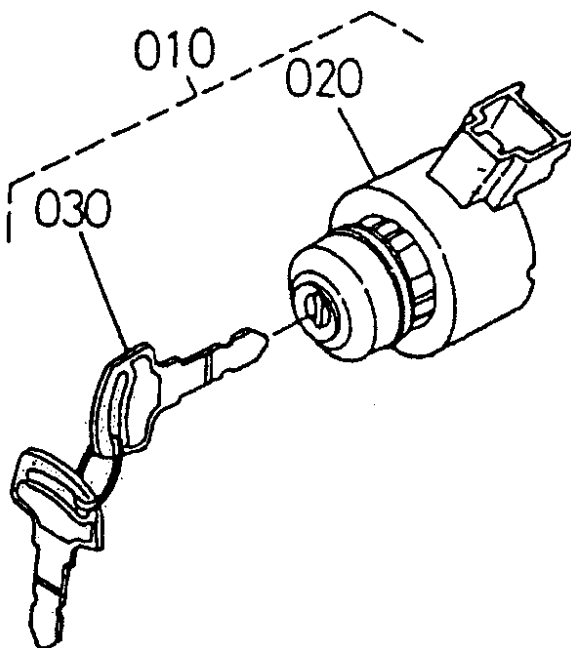
## KUBOTA D1703-EB ENGINE — GLOW PLUG ASSY.

GLOW PLUG ASSY.

<b><u>NO</u></b>	<b><u>PART NO</u></b>	<b><u>PART NAME</u></b>	<b><u>QTY.</u></b>	<b><u>REMARKS</u></b>
010	1569465990	TIMER, GLOW LAMP	1	
020	1746260600	EMERGENCY UNIT	1	

## KUBOTA D1703-EB ENGINE — STARTER SWITCH ASSY.

STARTER SWITCH ASSY.



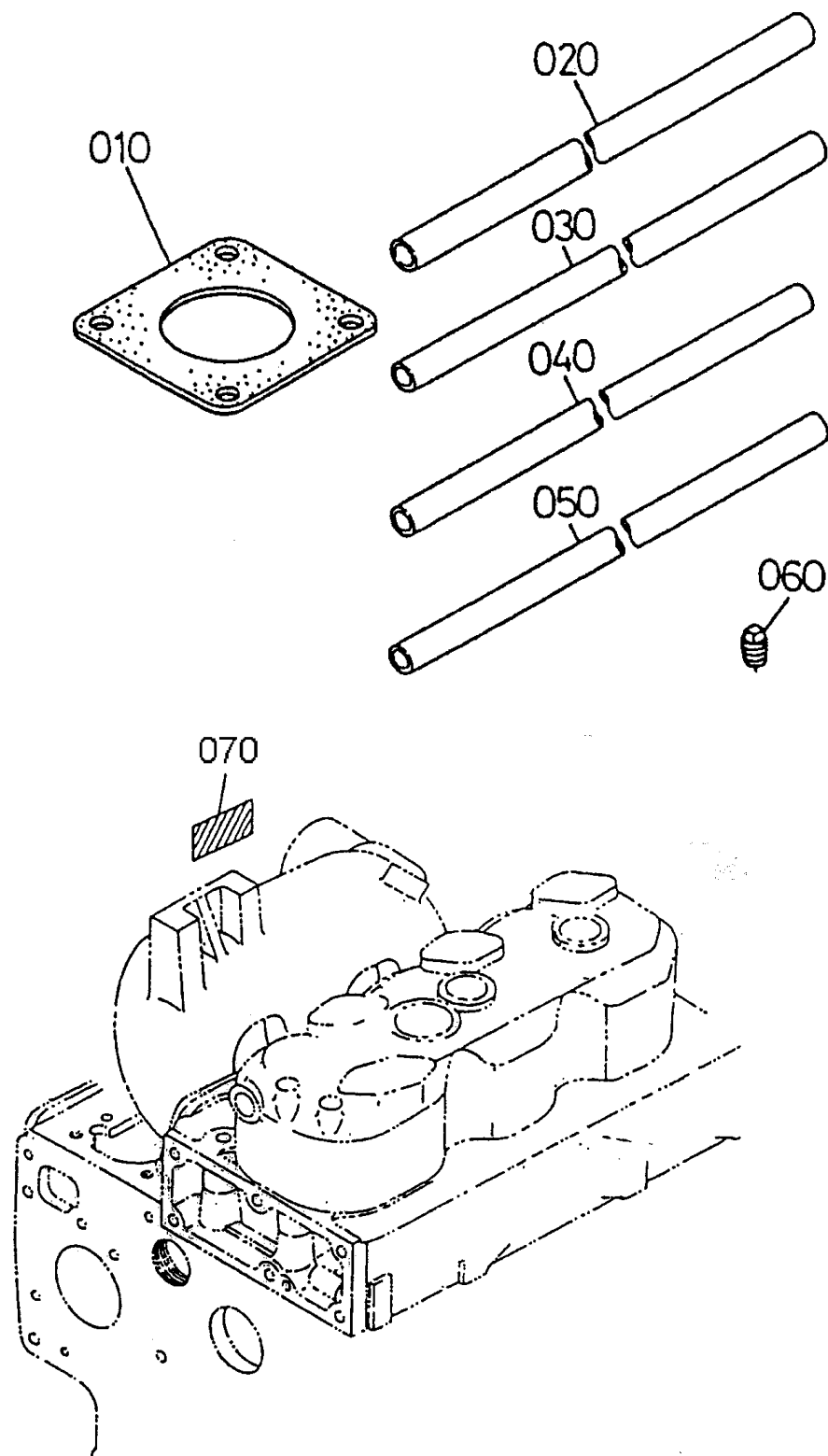


## KUBOTA D1703-EB ENGINE — STARTER SWITCH ASSY.

STARTER SWITCH ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	3741059110	STARTER SWITCH ASSY. ....	1 .....	INCL. ITEMS W/#; REPLACES 3741059113
020#	3741059110	STARTER SWITCH .....	1 .....	REPLACES 3741059123
030#	3741059123	KEY ASSY.....	1 .....	REPLACES 3741055151

## ACCESSORIES



## KUBOTA D1703-EB ENGINE — ACCESSORIES

### ACCESSORIES

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
010	1526312370	MUFFLER GASKET	1	
020	0966180300	FUEL TUBING	1	
030	0966180180	FUEL TUBING	1	
040	0966140280	FUEL TUBING	1	
050	0966140170	FUEL TUBING	1	
060	0631210010	PLUG	1	
070	1644487112	ENGINE NAME PLATE	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.

**LIMITATION OF WARRANTIES**

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.

[illegible]

# PARTS AND OPERATION MANUAL

## **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*

*FAX: 310/638-8046*

### **WARRANTY DEPARTMENT**

*800/835-2551 or 310/537-3700*

*FAX: 310/638-8046*

### **MAIN**

*800/421-1244 or 310/537-3700*

*FAX: 310/537-3927*

Manufactured for MQ Power  
by  
DENYO CO., LTD. JAPAN



**MULTIQUIP INC.**

18910 WILMINGTON AVE.  
CARSON, CALIFORNIA 90746

310-537-3700

800-421-1244

FAX: 310-537-3927

E-mail: [mq@multiquip.com](mailto:mq@multiquip.com) • [www.multiquip.com](http://www.multiquip.com)