

# PARTS AND OPERATION MANUAL

## **MQ POWER** **Model DCA-10SPX3** **WHISPERWATT™** **GENERATOR**

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Revision #1 (03/31/00)



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# **WARNING**



## **CALIFORNIA--Proposition 65 Warning**

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

## **HERE'S HOW TO GET HELP**

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

### ***PARTS DEPARTMENT***

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### NOTE

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

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

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

## Earn Extra Discounts when you order by FAX!

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

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

**Extra Fax Discount  
for Domestic USA  
Dealers Only**

### 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

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# RULES FOR SAFE OPERATION

## CAUTION:



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

The following safety guidelines should always be used when operating the DCA-10SPX3 portable generator:

### GENERAL SAFETY

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



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

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



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



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



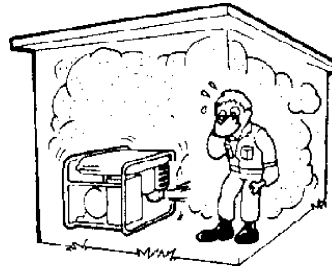
- **NEVER** use accessories or attachments, which are not recommended by MQ Power for this equipment. Damage to the equipment and/or injury to user may result.
- Manufacture does not assume responsibility for any accident due to equipment modifications.
- Whenever necessary, replace nameplate, operation and safety decals when they become difficult read.
- Always check the machine for loosened threads or bolts before starting.

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



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

- The engine of this generator requires an adequate free flow of cooling air. Never operate the generator in any enclosed or narrow area where free flow of the air is restricted. If the air



flow is restricted it will cause serious damage to the generator or engine and may cause injury to people. The generator engine gives off **DEADLY** carbon monoxide gas.

## CAUTION:



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

- Always use extreme caution when working with **flammable** liquids. When refueling, **stop the engine** and allow it to cool.

**DO NOT** smoke around or near the machine. Fire or explosion could result from fuel vapors, or if fuel is spilled on a hot engine.



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

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

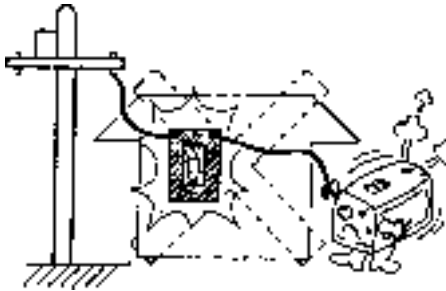
# RULES FOR SAFE OPERATION

## CAUTION:



■ **NEVER** touch output terminals during operation. This is extremely dangerous. Always stop the machine when contact with the output terminals is required.

## 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 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 generator and electrical shock.

## CAUTION:



**DO NOT** touch or open any of the below mentioned components while the generator is running. Always allow sufficient time for the engine and generator to cool before performing maintenance.

### Radiator

1. **Radiator Cap** - Removing the radiator cap while the engine is hot will result in high pressurized, boiling water to gush out of the radiator, therefore causing severe scalding to any persons in the general area of the generator.



2. **Coolant Drain Plug** - Removing the coolant drain plug while the engine is hot will result in hot coolant to gush out of the coolant drain plug, therefore causing severe scalding to any persons in the general area of the generator.
3. **Engine Oil Drain Plug** - Removing the engine oil drain plug while the engine is hot will result in hot oil to gush out of the oil drain plug, therefore causing severe scalding to any persons in the general area of the generator.

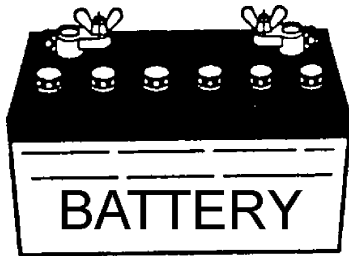
## Battery

### CAUTION:



- Never over fill the battery with water above the upper limit.

The battery has acids that can cause injury to the eyes and skin. To avoid eye irritation, always wear safety glasses. Use well insulated gloves when picking up the battery. Use the following guidelines when handling the battery:



1. **DO NOT** drop the battery. There is the possibility of risk the battery may explode.
  2. **DO NOT** expose the battery to open flames, sparks, cigarettes etc. The battery contains combustible gases and liquids. If these gases and liquids come in contact with a flame or spark, an explosion could occur.
  3. Always keep the battery charged. If the battery is not charged, a buildup of combustible gas will occur.
  4. Always keep battery charging and booster cables in good working condition. Repair or replace all worn cables.
  5. Always recharge the battery in an open air environment, to avoid risk of a dangerous concentration of combustible gases.
  6. In case the battery liquid (dilute sulfuric acid) comes in contact with **clothing or skin**, rinse skin or clothing immediately with plenty of water.
  7. In case the battery liquid (dilute sulfuric acid) comes in contact with your **eyes**, rinse eyes immediately with plenty of water, then contact the nearest doctor or hospital, and seek medical attention.
- **NEVER** Run engine without air filter. Severe engine damage may occur.
  - Always service air cleaner frequently to prevent carburetor malfunction.
  - Always disconnect the battery before performing service on the generator.
  - Always be sure the operator is familiar with proper safety precautions and operations techniques before using generator.
  - Always store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children.
  - **DO NOT** leave the generator running in the manual mode unattended.
  - **DO NOT** allow unauthorized people to operate this equipment.
  - Always read, understand, and follow procedures in Operator's Manual before attempting to operate equipment.
  - Always be sure the operator is familiar with proper safety precautions and operations techniques before using generator.
  - Refer to the ***Kubota Engine Owner's Manual*** for engine technical questions or information.

### Loading and Unloading (Crane)

- Before lifting, make sure the generator's lifting hook is secure and that there is no apparent damage to the generator itself (loose screws, nuts and bolts). If any part is loose or damaged, please take corrective action before lifting.
- Always drain fuel prior to lifting.
- Always make sure crane or lifting device has been properly secured to the hook of guard frame on generator.
- **NEVER** lift the machine while the engine is running.
- Use adequate lifting cable (wire or rope) of sufficient strength.
- When lifting the generator, always use the balanced center-point suspension hook and lift straight upwards.
- **NEVER** allow any person or animal to stand underneath the machine while lifting.
- When loading the generator on a truck, be sure to use the front and back frame bars as a means to secure the generator during transport.



## RULES FOR SAFE OPERATION

### Transporting

- Always shutdown engine before transporting.
- Tighten fuel tank cap securely.
- Drain fuel when transporting generator over long distances or bad roads.
- Always tie-down the generator during transportation by securing the generator.
- If generator is mounted on a trailer, make sure trailer complies with all local and state safety transportation laws. See page 10 for basic towing procedures.

### Emergencies

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

### Maintenance Safety

- **NEVER** lubricate components or attempt service on a running machine.
- Always allow the machine a proper amount of time to cool before servicing.
- Keep the machinery in proper running condition.
- Fix damage to the machine immediately and always replace broken parts.
- Dispose of hazardous waste properly. Examples of potentially hazardous waste are used motor oil, 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.

## Towing Safety Precautions

### CAUTION :



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

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

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

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

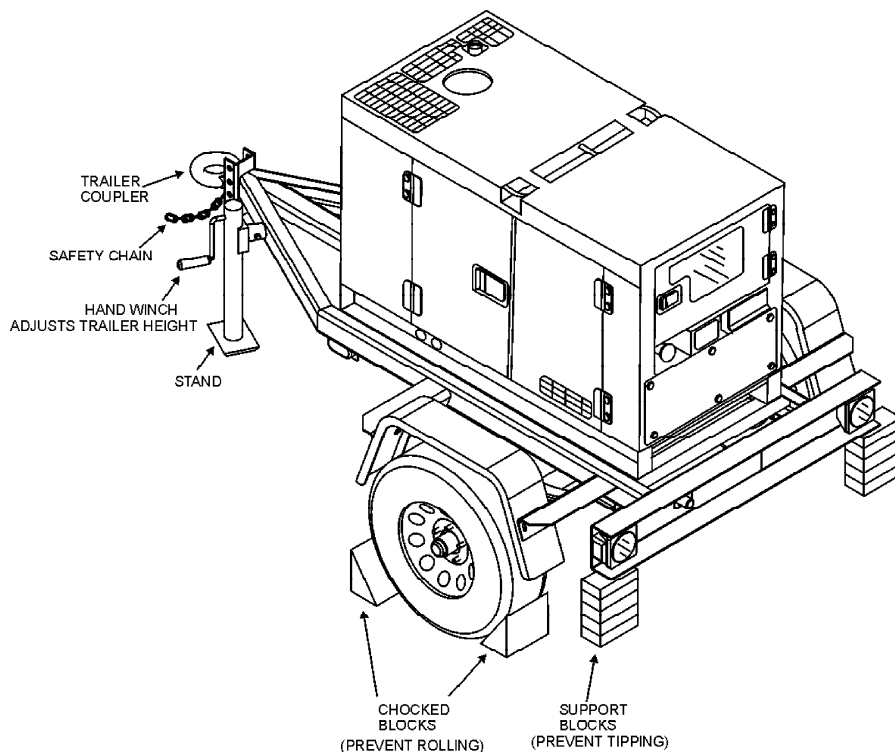


Figure 1. DCA-10SPX3 and Towing Trailer

## CAUTION:



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

### Explanation of Chart:

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

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

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

Use the following definitions with reading Table 1.

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

# DCA-10SPX3 —TRAILER-SPECIFICATIONS

**Table 1. 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"<br>W/O 124" | 55"<br>(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      |

# DCA-10SPX3 —TRAILER-SPECIFICATIONS

**Table 1. Specifications (Con't)**

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

# DCA-10SPX3 — TRAILER SAFETY GUIDELINES

## Tires/Wheels/Lug Nuts

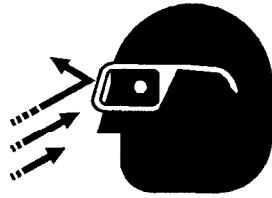
Tires and wheels are a very important and critical components of the trailer. When specifying or replacing the trailer wheels it is important the wheels, tires, and axle are properly matched.

### CAUTION:



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

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

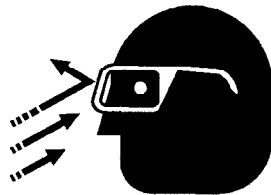


### Tire Wear/Inflation

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

Table 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 2. TIRE WEAR TROUBLESHOOTING

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

## Suspension

The leaf suspension springs and associated components (Figure 2) should be visually inspected every 6,000 miles for signs of excessive wear, elongation of bolt holes, and loosening of fasteners. Replace all damaged parts (suspension) immediately. Torqued suspension components as detailed in Table 3.

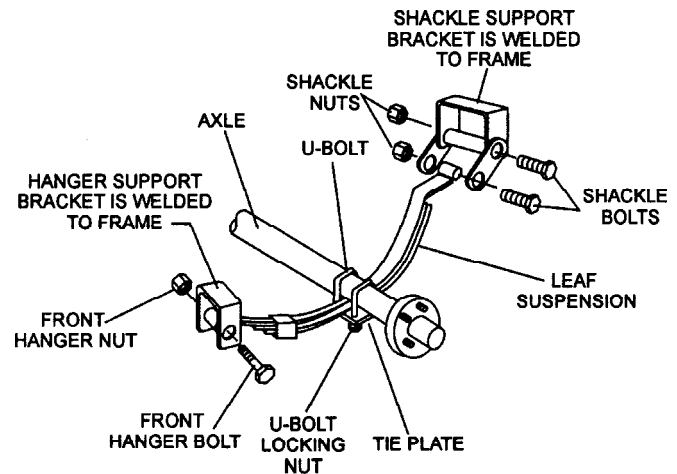


Figure 2. Major Suspension Components

# DCA-10SPX3 — TRAILER SAFETY GUIDELINES

**Table 3. 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<br>SPRING EYE BOLT | SNUG FIT ONLY. PARTS MUST ROTATE FREELY.<br>LOCKING NUTS OR COTTER PINS ARE PROVIDED TO<br>RETAIN NUT-BOLT ASSEMBLY. |
| SHOULDER TYPE<br>SHACKLE BOLT   | MIN-30 MAX-50  |

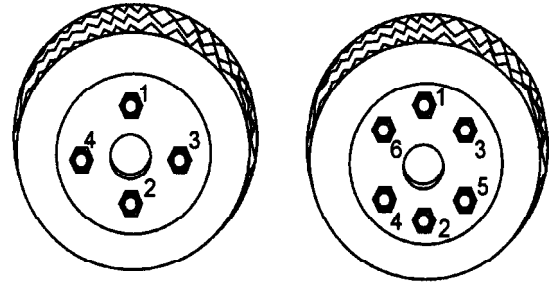
### Lug Nut Torque Requirements

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

1. Start all wheel lug nuts by hand.
2. Torque all lug nuts in sequence. See Figure 3. **DO NOT** torque the wheel lug nuts all the way down. Tighten each lug nut in 3 separate passes as defined by Table 4.
3. After first road use, retorque all lug nuts in sequence. Check all wheel lug nuts periodically.

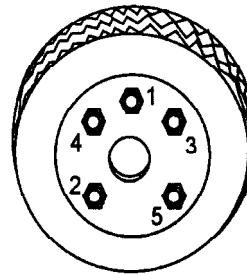
**Table 4. Tire Torque Requirements**

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

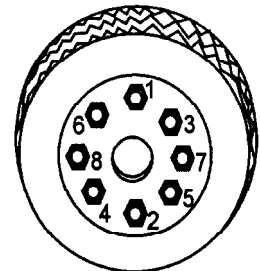


4-LUG NUTS

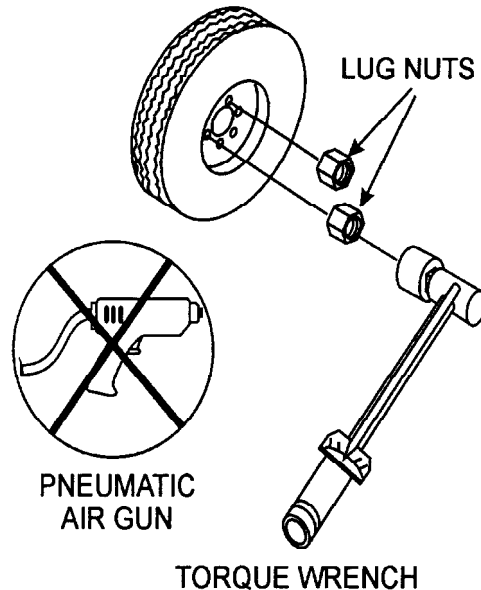
6-LUG NUTS



5-LUG NUTS



8-LUG NUTS

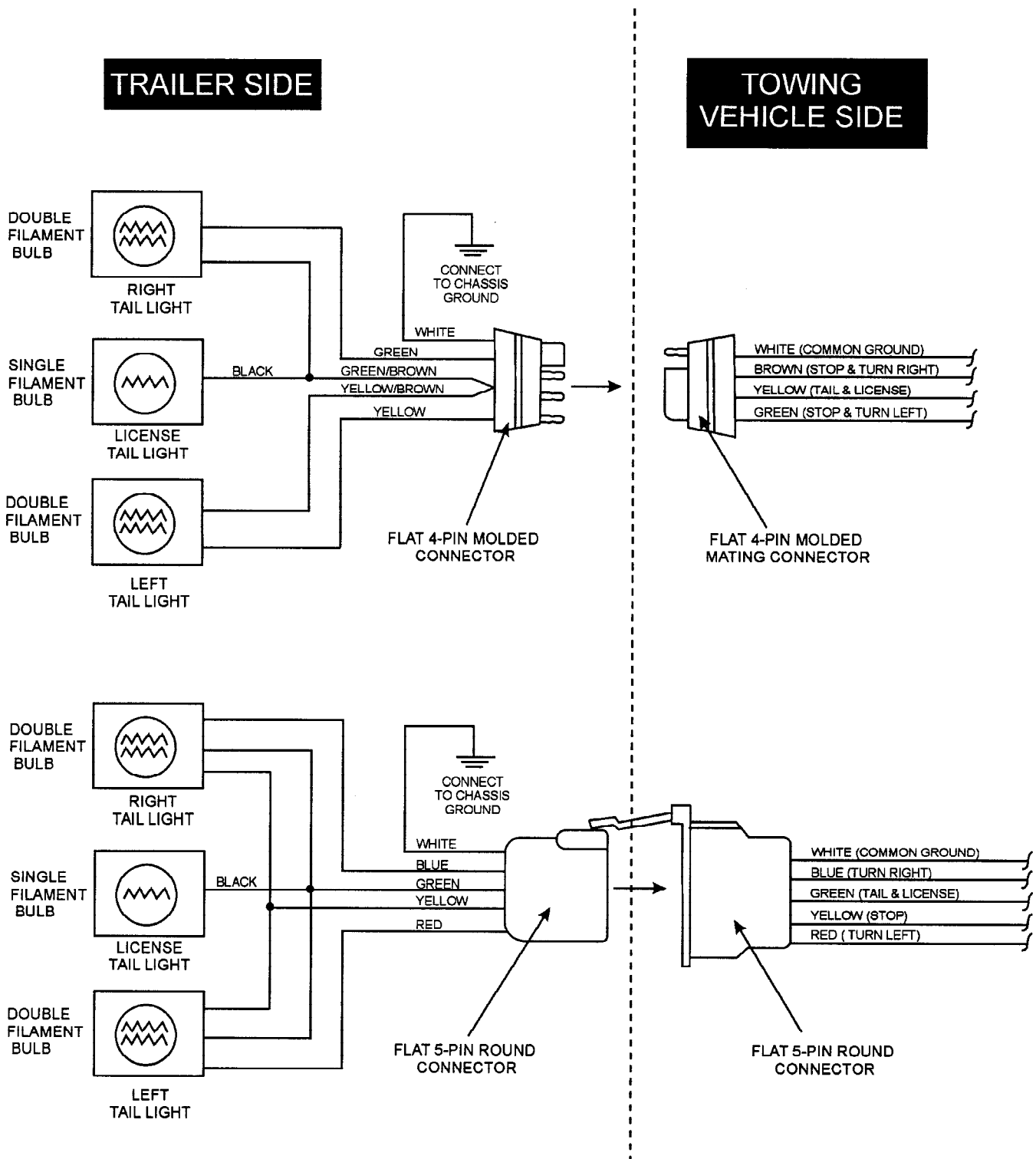


**Figure 3. Wheel Lug Nuts Tightening Sequence**

**NOTE**

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

# DCA-10SPX3 —TRAILER-WIRING DIAGRAM



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



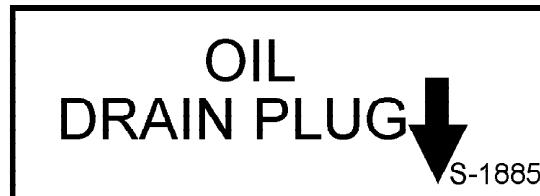
# DCA-10SPX3 —OPERATION AND SAFETY DECALS

## Machine Safety Decals

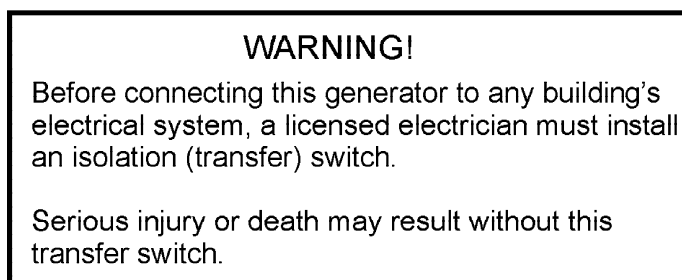
The DCA10SPX3 generator is equipped with a number of safety decals. These decals are provided for operator safety and maintenance information. The illustration below and on the preceding pages show these decals as they appear on the machine. Should any of these decals become unreadable, replacements can be obtained from your dealer.



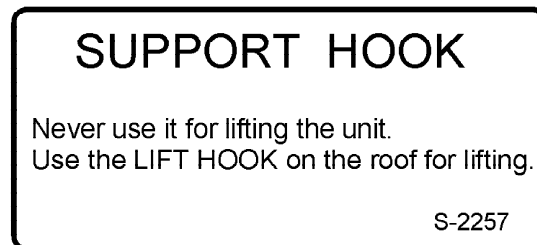
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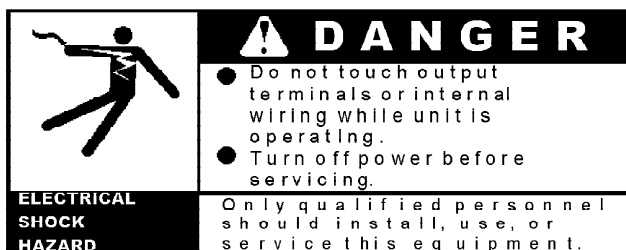
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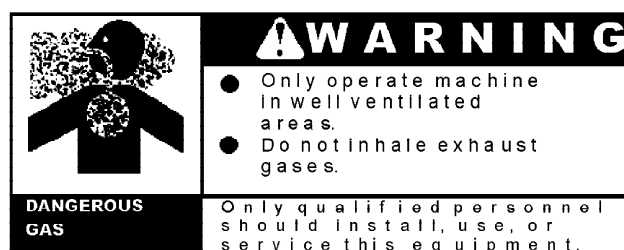
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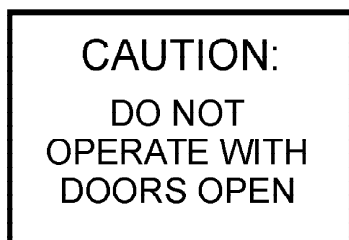
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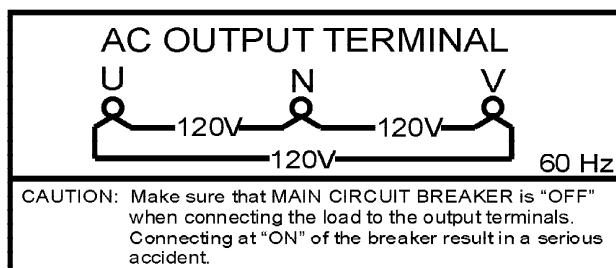
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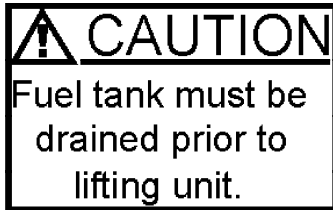
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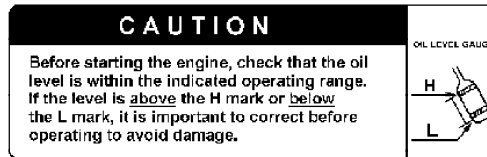
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# DCA-10SPX3 — OPERATION AND SAFETY DECALS

## Machine Safety Decals



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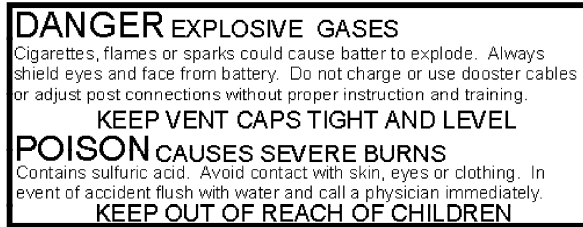
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P/N 16306 10304



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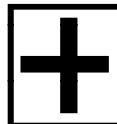
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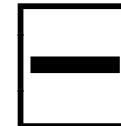
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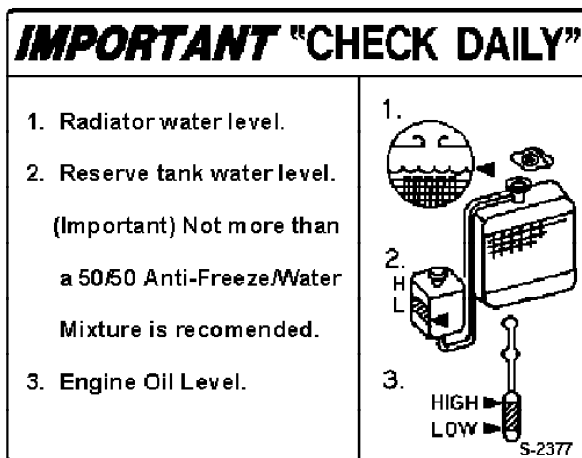
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P/N 6390671104



S-3031

P/N 0840624504



For G.F.C.I.

S-3821

P/N 7670624004

# DCA-10SPX3 — SPECIFICATIONS

**Table 5. Specifications**

| <b>Generator Specifications</b> |   |
|---------------------------------|---|
| Model                           | DCA10SPX3   |
| Type                            | Rotating-Field, Protection Type Synchronous Generator   |
| Excitation                      | Brushless Type (With A.V.R)   |
| Phase                           | Single Phase  |
| Frequency                       | 60 Hz   |
| Wires                           | 3-Wires (Neutral Grounded)  |
| Max. Rated Output               | 10.5 kW/16.5 HP<br>@ 1800 rpm   |
| Continious Rated Output         | 10 kW/16.5 HP<br>@ 1800 rpm   |
| Single Phase Output Voltage     | 120/240 Volts   |
| Frequency                       | 60 Hz   |
| Power Factor                    | 100%  |
| Rating                          | Continuous  |
| <b>Engine Specifications</b>    |   |
| Model                           | KUBOTA D1403  |
| Type                            | Vertical, 3-Cycle   |
| No. of Cylinders                | 3   |
| Displacement                    | 1393 cu. in.  |
| Bore X Stroke                   | 3.15 in. X 3.64 in.<br>(80 mm X 92.4 mm)  |
| Cooling System                  | Water-Cooled  |
| Starting System                 | Electric Start  |
| Cooling Water Capacity          | 1.4 gal/5.3 liters  |
| Lube Oil Capacity               | 1.77 gal/6.7 liters   |
| Lubricant (API Class)           | Above CC Grade  |
| Battery                         | 12V-70Ah  |
| Fuel                            | Diesel Fuel Oil No. 2-D   |
| Fuel Consumption                | At full load 1.1 gal/hr./ 4.2 liters/hr.<br>At 3/4 load 0.9 gal/hr./ 3.4 liters/hr.<br>At 1/2 load 0.7 gal/hr./ 2.6 liters/hr.<br>At 1/2 load 0.5 gal/hr./ 1.9 liters/hr. |
| Sound At Full Load              | 65 dbA (distance = 23 feet)   |
| Dimensions (LxWxH)              | 56 x 26 x 36 in.<br>(142 x 66 x 91 cm.)   |
| Dry Weight                      | 1123 lbs. (509 kg)  |

## DCA-10SPX3 3 FAMILIARIZATION

### Generator

The MQ Power Model DCA-10SPX3 is a 10 kW *generator* that is designed as a high quality portable (requires a trailer for transport) power source for telecom sites, lighting facilities, power tools, submersible pumps and other industrial and construction machinery.

### Control Panel

The control panel is provided with the following:

- One GFCI 120 volt receptacle, 20 amp (single-phase)
- 10 kW Output Terminal (UNV)
- Main Circuit Breaker 45 amps
- GFCI Circuit Breaker 20 amps
- AC Ammeter
- AC Voltmeter
- Output Voltage Adjustment
- Ignition Switch
- Water Temperature Gauge
- Oil Pressure Gauge
- Warning Indicator
- Frequency Meter (Hz)
- Hour Meter
- Ground Terminal

### Open Delta Excitation System

The DCA-10SPX3 generator is equipped with the state of the art "*Open-Delta*" excitation system. The open delta system consist of an electrically independent winding wound among stationary windings of the AC output section.

There are four Leads: A, B, C and D. During light loads, the power to the *Automatic Voltage Regulator* (AVR) is supplied from the leads of B & C, when loads increase, the AVR switches and accepts power from leads A & D. The output of leads A & D increase proportionally with load. This has the effect of adding the voltages of each phase to provide better voltage response during heavy loads.

The connections of the AVR to the AC output windings are for the sole purpose of sensing only. No power is required from these windings.

The open-delta design provides virtually unlimited excitation current due to its independent power supply offering maximum motor starting capabilities. The excitation does not have a "*fixed ceiling*" and responds according the demands of the required load.

### Engine

The **DCA-10SPX3** is powered by a 3-cylinder KUBOTA Model D1403 *diesel* engine. This engine is designed to meet every performance requirement for the generator. Reference Table 5, page 19 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.

# DCA-10SPX3 — MAJOR COMPONENTS

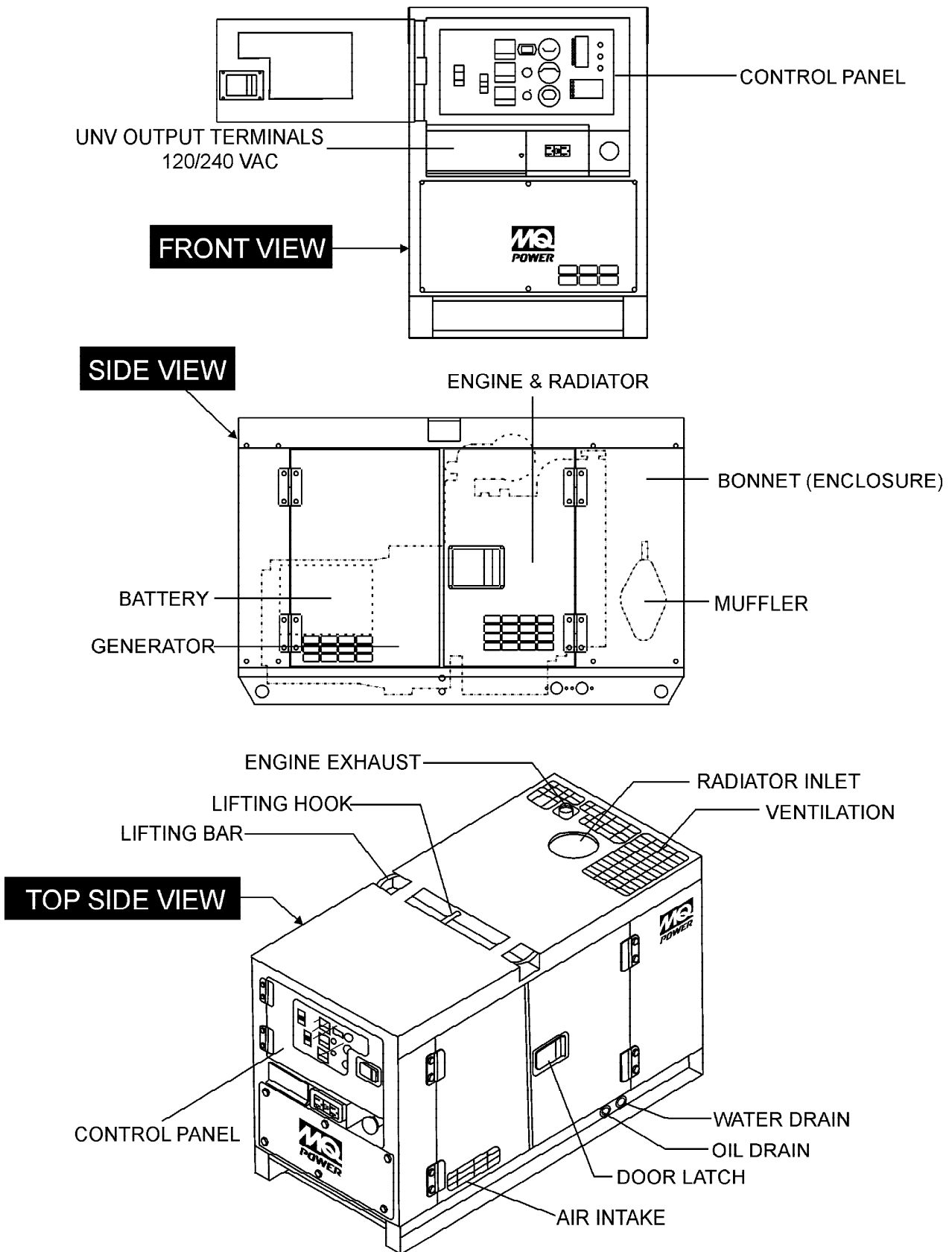


Figure 4. DCA10SPX3 Generator Major Components

# DCA-10SPX3 — DIMENSIONS (TOP & SIDE)

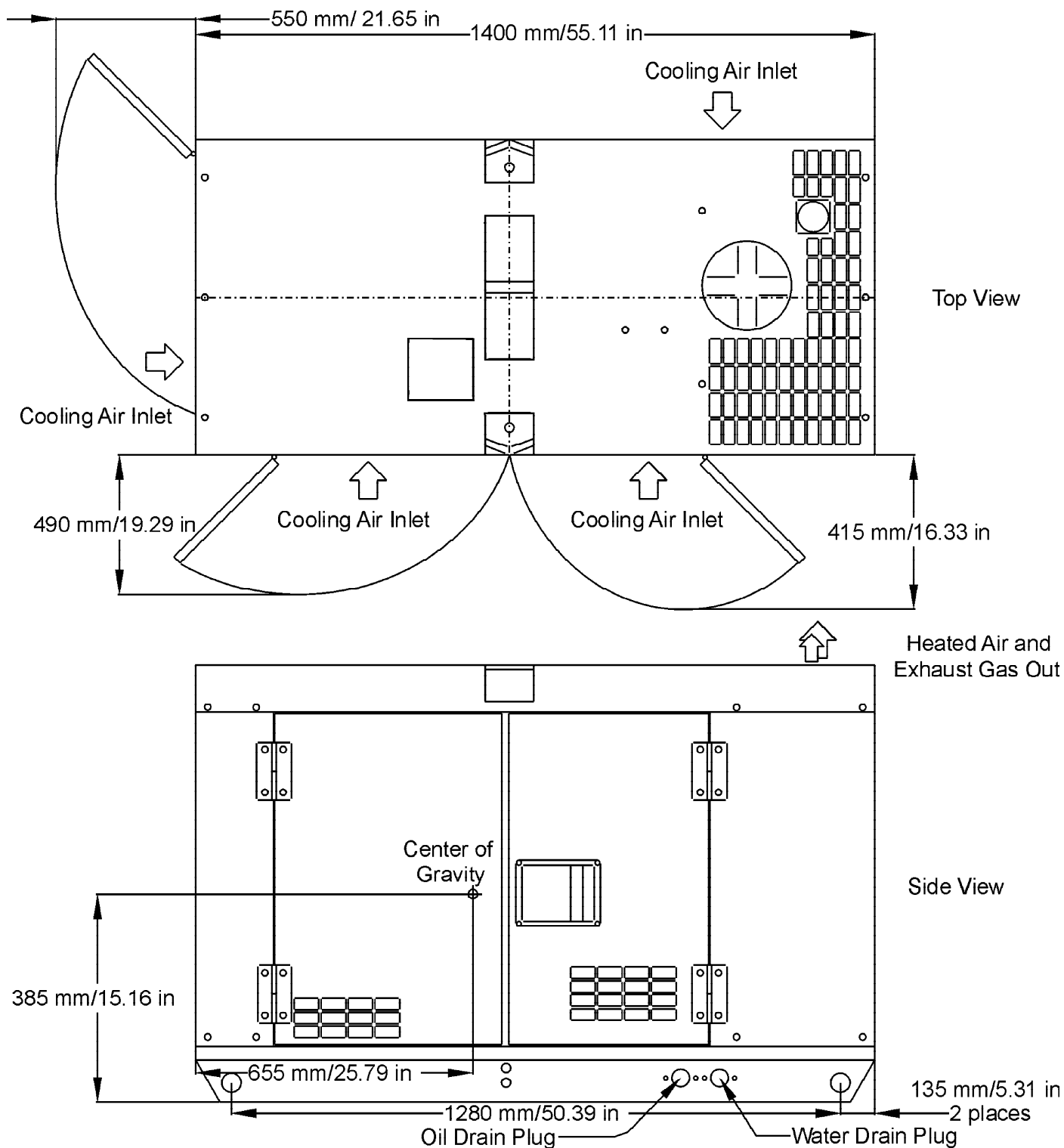


Figure 5a. Dimensions (Top & Side)

# DCA-10SPX3 — DIMENSIONS (FRONT, REAR & BOTTOM)

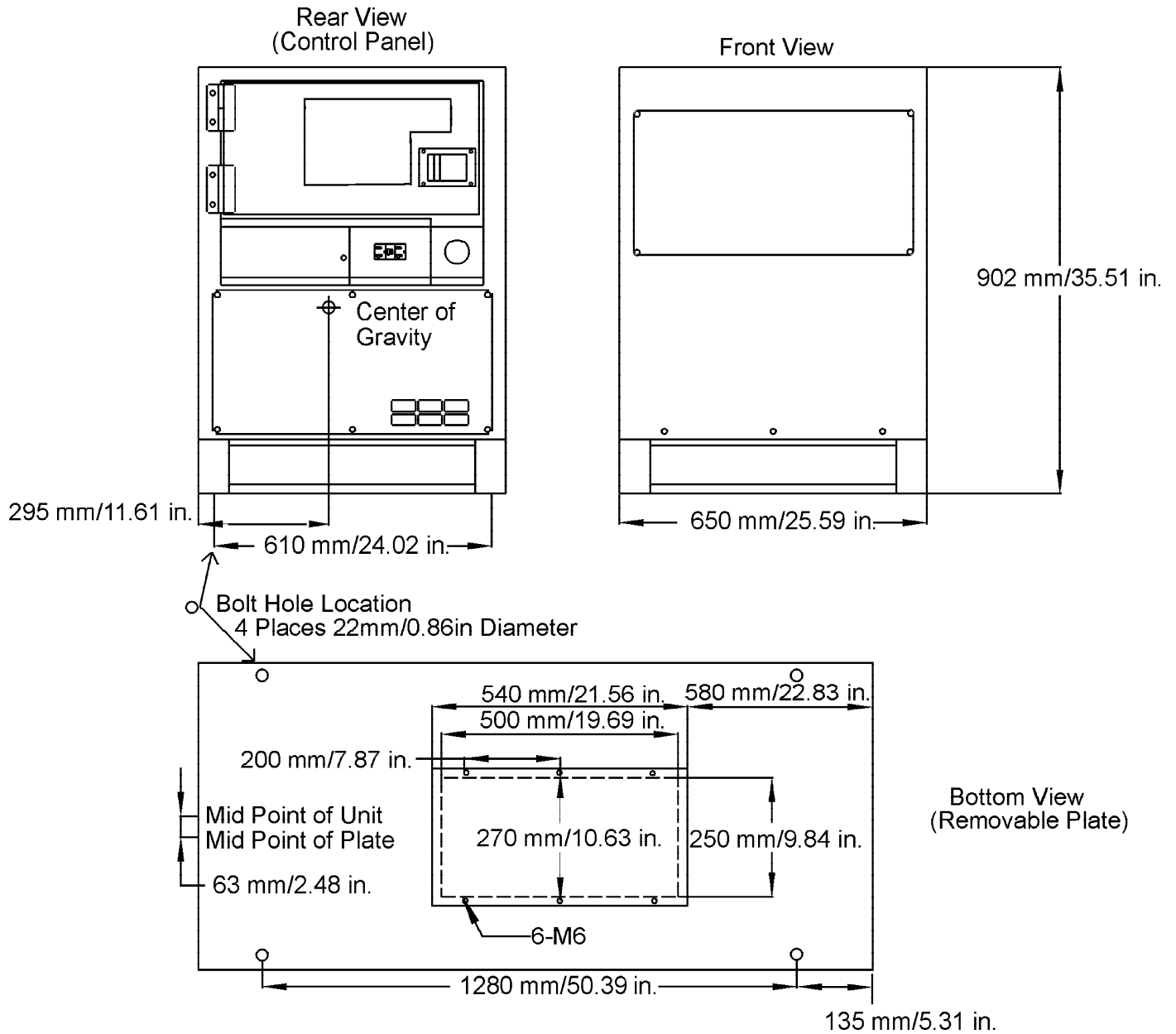
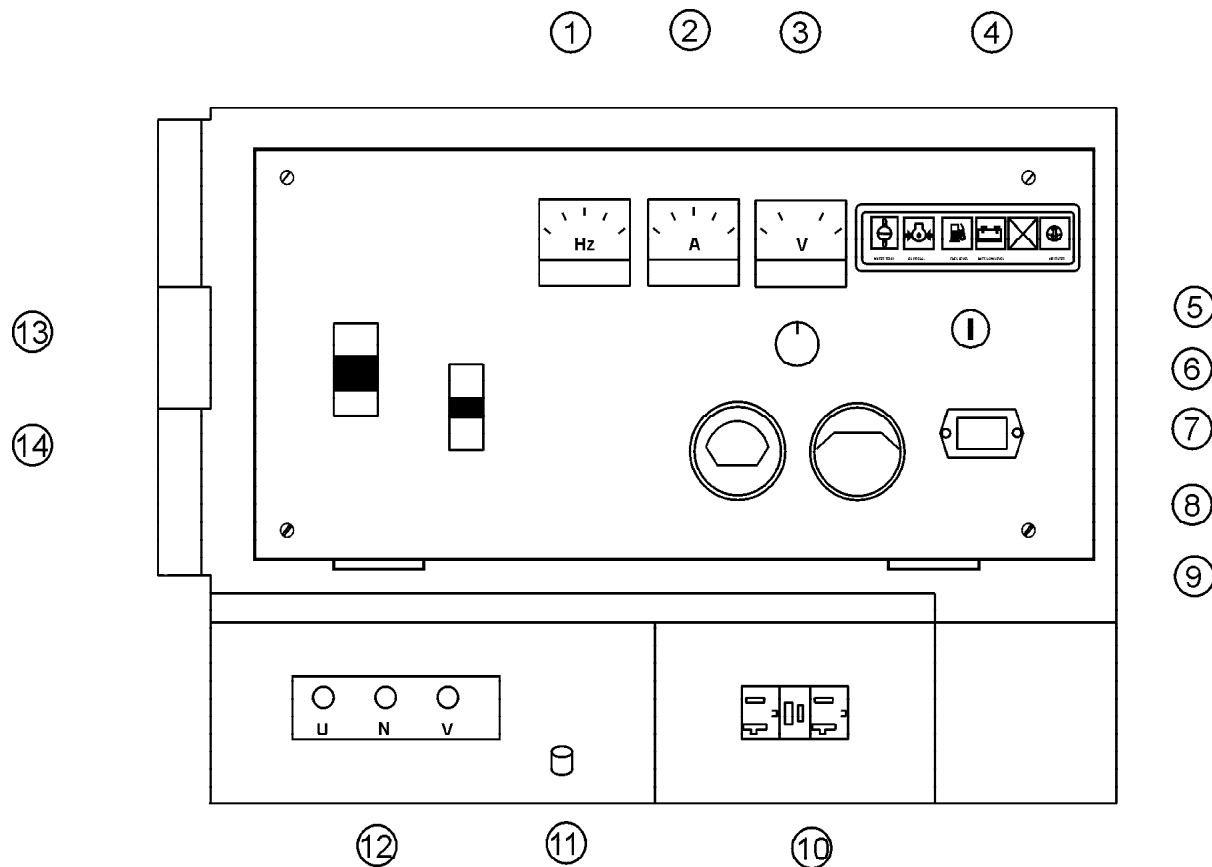


Figure 5b. Dimensions (Front, Rear)

# DCA-10SPX3 — CONTROL PANEL, CONTROLS AND INDICATORS



| NO. | DESCRIPTION                       |
|-----|-----------------------------------|
| 1   | FREQUENCY METER                   |
| 2   | AC AMMETER                        |
| 3   | AC VOLTMETER                      |
| 4   | ENGINE WARNING INDICATOR          |
| 5   | IGNITION SWITCH                   |
| 6   | VOLTAGE REGULATOR                 |
| 7   | HOUR METER                        |
| 8   | OIL PRESSURE GAUGE                |
| 9   | WATER TEMPERATURE GAUGE           |
| 10  | AC OUTPUT RECEPTACLE (GFCI 5-20R) |
| 11  | GROUND TERMINAL                   |
| 12  | AC OUTPUT TERMINAL (UNV)          |
| 13  | AC CIRCUIT BREAKER (MAIN)         |
| 14  | AC CIRCUIT BREAKER (FOR GFCI)     |

Figure 6. Control Panel

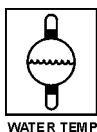


## DCA-10SPX3 — CONTROL PANEL, CONTROLS AND INDICATORS

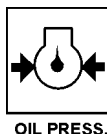
The definitions below describe the controls and functions of the DCA-10SPX3 (Figure 6):

1. **Frequency Meter** – Indicates the output frequency in hertz (Hz). Normally 60 Hz  $\pm$ 1 Hz .
2. **AC Ammeter** – Indicates the amount of current the load is being drawn from the generator.
3. **AC Voltmeter** – Indicates the single phase output voltage present at the UNV terminals.
4. **Engine Warning Display Module** – This module displays the following engine failures:

- A. **Overheat Lamp** – This lamp goes ON when the coolant is over 215°F. If the lamp goes ON during normal operation of the generator, the emergency shut-down device will stop the engine automatically.



- B. **Low Oil Pressure Lamp** – During normal operation of the generator this lamp should remain OFF. After the oil pressure rises after start-up, the lamp will go OFF. If this lamp is ever lit (ON) during normal operation of the generator, the emergency shut-down device will stop the engine automatically.



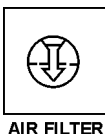
- C. **Low Fuel Level Lamp** – When this lamp is ON, it is time to stop the engine and add fuel. Remember to let the engine cool before adding fuel.



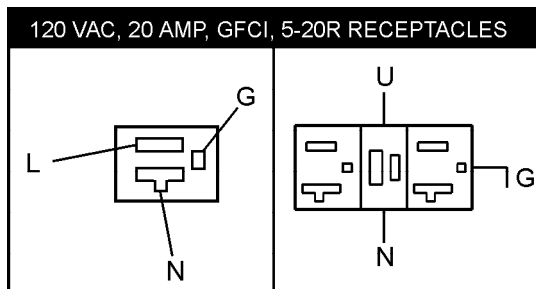
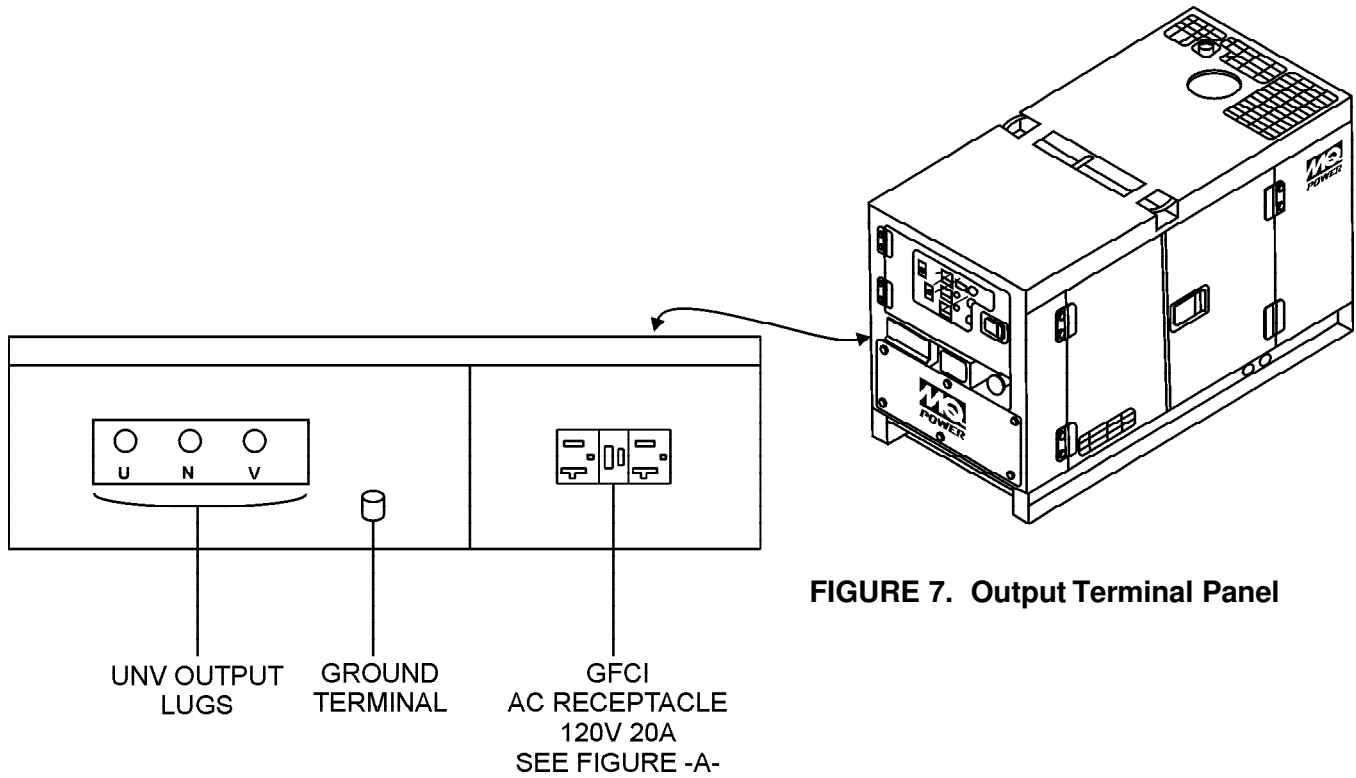
- D. **Low Battery Fluid Lamp** – This lamp goes ON when the battery fluid is low. If this lamp goes ON during normal operation of the generator, stop the engine and fill the battery with distilled water to the specified level.



- E. **Clogged Air Filter Lamp** – This lamp goes ON when the air filter is clogged. If this lamp goes ON during normal operation of the generator, stop the engine and replace the air filter.



5. **Ignition Switch** – This switch turns on and off the engine with a key.
6. **Voltage Regulator Control** – Allows manual adjustment of the generator's output voltage.
7. **Hour Meter** - This meter monitors the number of hours the generator has been running. Use this meter to schedule regular maintenance.
8. **Oil Pressure Gauge** – During normal operation this gauge should read in the "GREEN" zone. When starting the generator, the oil pressure mark reads higher, but after the engine warms up the oil pressure should return to the green zone.
9. **Water Temperature Gauge** – During normal operation this gauge should read in the "GREEN" zone.
10. **A.C. GCFI Receptacle** - This output receptacle is used as a power source.
11. **Ground Terminal** - This is used to ground the generator.
12. **UNV Terminal** - Used to connect AC load for 120V or 240V single phase.
13. **Main Circuit Breaker** – This three-pole, 20 amp main breaker is provided to protect the UNV voltage output terminals from overload.
14. **GCFI Receptacle Circuit Breaker** - This will shut down the output receptacle if there is an overload.

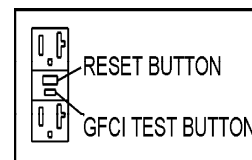


**FIGURE 8. Duplex Receptacle Detail**

### 120 Volt Receptacle

One GFCI Duplex Nema 5-20R (120V, 20 Amp) receptacle is provided on the output terminal. This receptacle can be used anytime the generator is in operation. The receptacle is controlled by the circuit breaker located on the control panel.

The reset button is for the GFCI when the circuit is tripped. Pressing the "Test Button" (See Figure 9) in the center of this receptacle will check the GFCI function. The receptacle should be tested at least once a month.



**Figure 9. GFCI Test Button**

# DCA10SP3X OUTPUT TERMINAL

## Output Terminal Panel Available Voltages

The DCA10SPX3 is a single phase generator only. It is able to supply both 120 volt and 240 volt.

## Maximum Amps

The DCA-10SPX3 can provide 41.7 amps at 120 or 240 volts. **Do not exceed the maximum amps!**

## 120V Hard Wire Hookup

The output terminal panel, when supplying single phase 120 volts, will provide two circuits available at 41.7 amps with any two wires plus the ground. (See Figure 10 below.)

## 240V Hard Wire Hookup

The output terminal panel, when supplying single phase 240 volts, will provide one circuit available at 41.7 amps with two wires plus the ground. (See Figure 11 below.)

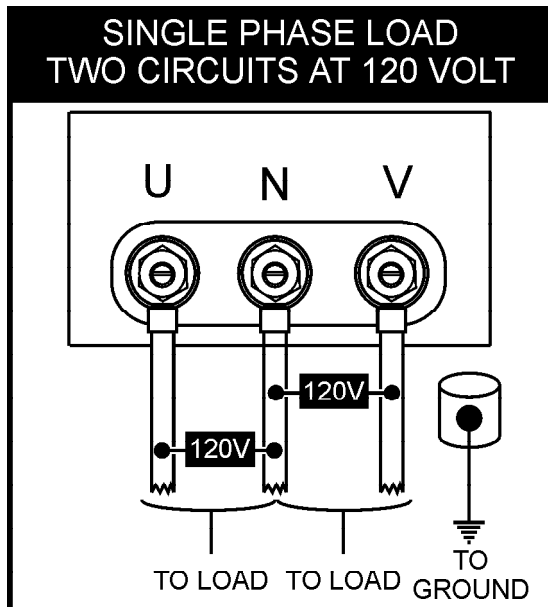


Figure 10. Hard Wire Hook-up for 120 Volt

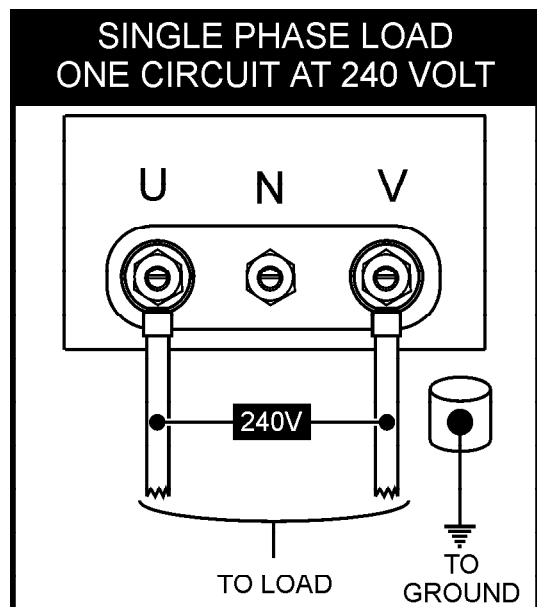


Figure 11. Hard Wire Hook-up for 240 Volt

## NOTE

When using plural single phase voltages, make sure to balance the load on each of the single phase legs.

## Outdoor Installation

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

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

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

## CAUTION :



Pay close attention to ventilation when operating the generator inside tunnels and caves. The engine exhaust contains noxious elements. Engine exhaust **must** be routed to a ventilated area.

## 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 from any outside wall. Using an exhaust pipe which is too long or too small can cause excessive back pressure which will cause the engine to overheat.

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 generator is installed indoors, you must make provisions from venting the engine exhaust to the outside of the building.

**DO NOT** cover ventilation areas on the enclosure. Covering the ventilation grids will cause the engine to overheat.

## CAUTION :



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

## Generator Grounding

To prevent electrical shock and possible damage to the equipment, it is important to provide a good EARTH ground.

Article 250 (Grounding) of the National Electrical Code (NEC) provides guide lines for proper grounding and specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

NEC articles 250-64(b) and 250-66 set the following grounding requirements:

1. Use one of the following wire types to connect the generator to earth ground.
  - a. Copper - 10 AWG (5.3 mm<sup>2</sup>) or larger.
  - b. Aluminum - 8 AWG (8.4 mm<sup>2</sup>) or larger.
2. When grounding the generator (Figure 12) connect the ground cable between the lock washer and the nut on the generator and tighten the nut fully. Connect the other end of the ground cable to earth ground.
3. NEC article 250-52(c) specifies that the earth ground rod should be buried a minimum of 8 ft. into the ground.

## NOTE

When connecting the generator to any buildings electrical system **ALWAYS** consult with a licensed electrician.

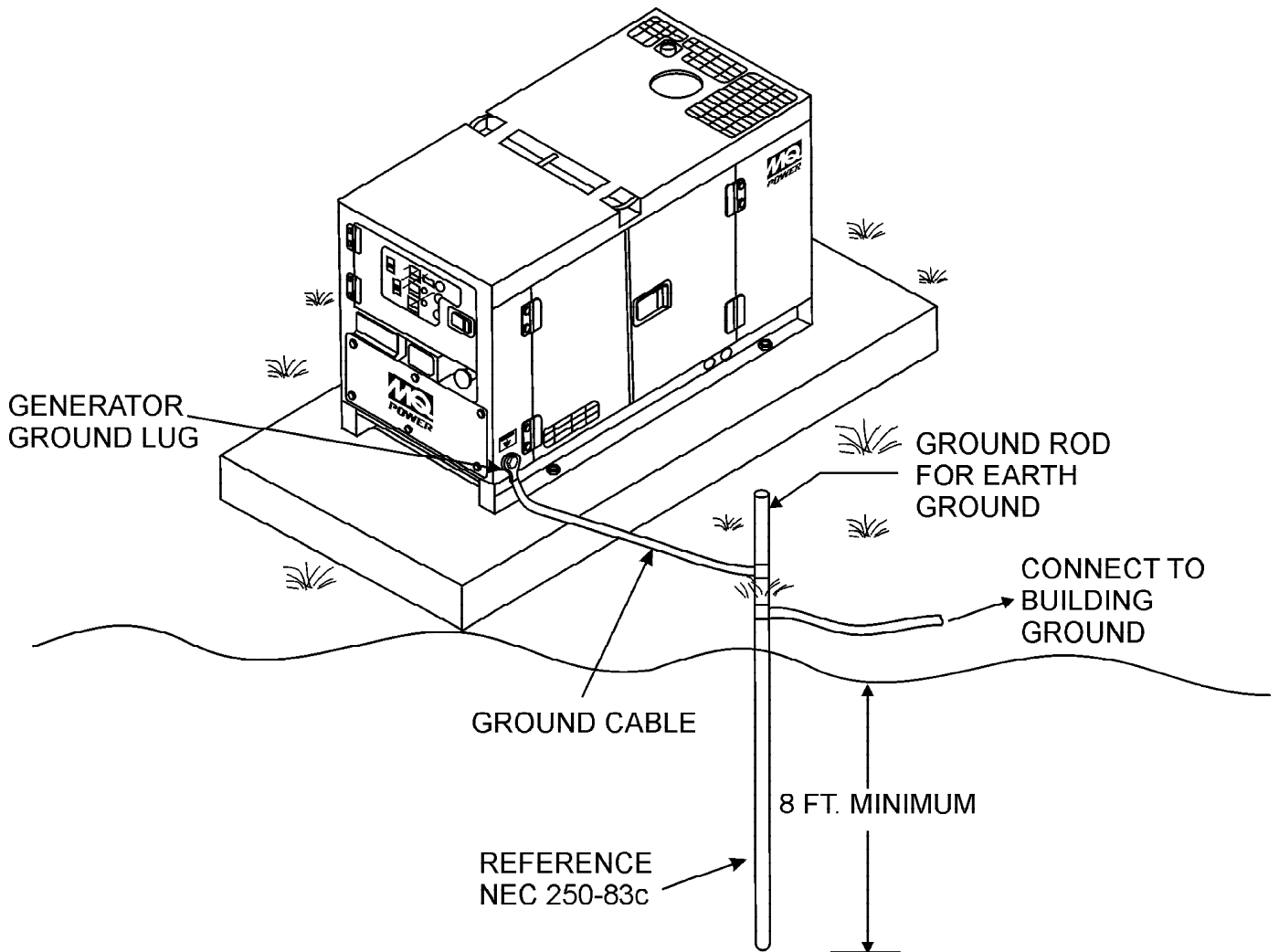


Figure 12. Typical Generator Grounding Application

**CAUTION :**



Always check local codes for proper grounding codes and laws.

## General Inspection Prior to Operation

The DCA-10SPX3 generator 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.

## Extension Cable

When electric power is to provided to loads (ie. power tools) at a distance from the generator, extension cables are used. Cables should be sized to allow for distance in length and amperage so that the voltage drop between the generator and point of use (load) is held to a minimum. Use Table 6 (cable selection guide) as a guide for selecting proper cable size.

## Circuit Breaker

To protect the generator from an overload, a 3-pole, 50 amp, **main** circuit breaker is provided to protect the UNV output from overload. In addition a 2-pole, 20 amp **GFCI** circuit breaker is provided to protect the GFCI receptacle from overload. Make sure to switch both circuit breakers to the "OFF" position prior to starting the engine.

### NOTE

**ALWAYS** consult with a licensed electrician for correct extension cord wire size.

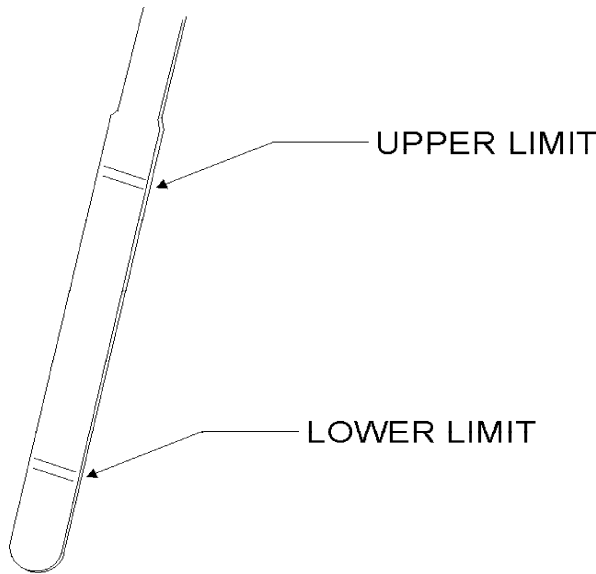
**Table 6. Cable Selection (60 Hz, Single Phase Operation)**

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

CAUTION: Equipment damage can result from low voltage.

## Lubrication Oil

Fill the engine crankcase with lubricating oil through the filler hole, but do not overfill. Make sure the 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 13) on the dipstick. See Table 7 for proper selection of engine oil.



**Figure 13. Engine Oil Dipstick**

When checking the engine oil, be sure to check if the oil is clean and viscous. If the oil is dirty, drain the oil by removing the oil drain plug, and refill with the specified amount of oil as outlined in the **Kubota Engine Owner's Manual**.

## Fuel

Fill the fuel tank with clean and fresh **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 19 Specification Table 5.

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. Wipe up any spilled fuel immediately.

## CAUTION :



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

## 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. See maintenance section on page 36 and 37 on instructions to flush out radiator.

An anticorrosion additive added to the water will help prevent deposits and corrosion in the cooling system.

**Table 7. Recommended Motor Oil**

| Temperature Range                | Type Oil              |
|----------------------------------|-----------------------|
| 104° F ~ 23° F<br>(40° C ~ -5°C) | SAE 30                |
| 23° F ~ 5° F<br>(-5° C ~ -15°C)  | SAE 20 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 is done from the reserve tank. When adding coolant to the radiator, **DO NOT** remove the radiator cap until the unit has completely cooled. See Table 8. 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 8. Coolant Capacity

|                     |                 |
|---------------------|-----------------|
| Engine and Radiator | 1.3 Gal. (4.9L) |
| Reserve Tank        | 0.27 Gal. (1L)  |

## Operation in Freezing Weather

When operating in freezing weather, be certain the proper amount of antifreeze (Table 9) has been added.

Table 9. Anti-Freeze Operating Temperatures

| Vol %<br>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 Outer Radiator

The engine may overheat if the radiator fins become overloaded with dust or debris. Periodically clean the radiator fins with compressed air. Cleaning inside the radiator is dangerous, so clean only with the engine turned off and the battery disconnected.

## Air Cleaner

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

## Fan Belt Tension

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

The fan belt tension is proper if the fan belt bends 10 to 15 mm (Figure 14) when depressed with the thumb as shown below. Never place hands near the belts or fan while the generator is running.

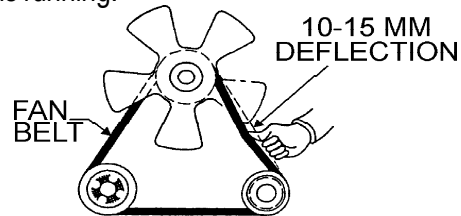


Figure 14. Fan Belt Tension

## CAUTION :



Never place hands near the belts or fan while the generator set is running.

## Adjusting Fan Belt

If the fan belt does not have the 10 to 15mm deflection, follow the procedure below to adjust:

- Loosen the alternator adjusting plate and alternator mounting bolt.
- Pivot the alternator at the mounting bolt toward the engine left or right until the belt reflects the proper tension.
- Tighten the mounting bolt and the adjusting bolt.



## Battery

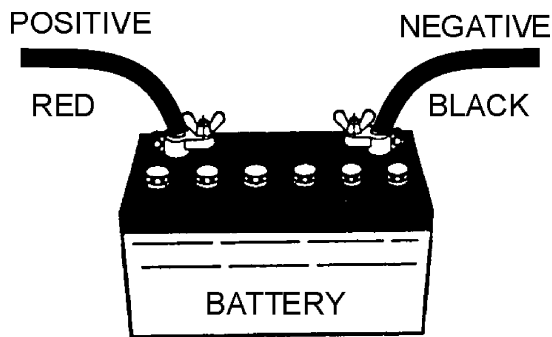
This unit is of negative ground. **DO NOT** connect in reverse. Always maintain battery fluid level between the specified marks. Battery life will be shortened, if the fluid level is not properly maintained. Add only distilled water when replenishment is necessary. **DO NOT** over fill.

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.

## Battery Cable Installation

**ALWAYS** be sure the battery cables (Figure 15) are properly connected to the battery terminals as shown below. The **RED** cable is connected to the positive terminal of the battery, and the **BLACK** cable is connected to the negative terminal of the battery.



**Figure 15. Battery Connections**

## CAUTION :



If the battery cable is connected incorrectly, damage to the generator will occur. Pay close attention to the polarity of the battery when connecting the battery.

When connecting battery do the following:

1. **DO NOT** connect the battery cables to the battery terminals when the key is in the ignition and is set in 'START' mode. **ALWAYS** remove the key from the ignition and the ignition switch is in the OFF position when connecting the battery.
2. Place a small amount of grease around both battery terminals. This will ensure a good connection and will help prevent corrosion around the battery terminals.

## CAUTION :



Inadequate battery connections may cause poor starting of the generator, and create other malfunctions.

## Wiring

Inspect the entire generator for bad or worn electrical wiring or connections. If any wiring or connections are exposed (insulation missing) replace wiring immediately.

## Piping and Hose Connection

Inspect all piping, oil hose, and fuel hose connections for wear and tightness. Tighten all hose clamps and check hoses for leaks.

If any hose (fuel or oil) lines are defective replace them immediately.

## Single Phase, Load

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

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

### NOTE

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

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

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.

- 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.

The power factor of this generator is 1.0. See Table 10. below when connecting loads.

**Table 10. 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          |

## CAUTION:



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

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

# DCA-10SPX3 — GENERATOR START-UP PROCEDURE

## 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

### Engine

1. Check the lubricating oil level prior to starting the engine. Make sure the generator is level. The oil level must be maintained between two notches on the dipstick.
2. When there is not enough lubricating oil, fill the crankcase with high grade motor oil. Use a high quality detergent oil classified CC or higher (See Table 7 on page 29).
3. Check the coolant level in the radiator and subtank. Replenish with antifreeze as necessary. Always maintain the coolant level between the **FULL** and **LOW** markings on the coolant container. Be sure that the radiator cap is fastened securely.
4. Check the fuel level on the fuel gauge. If fuel is low, fill the fuel tank with clean fresh unleaded automotive diesel fuel. If fuel spillage occurs, completely wipe up the spilled fuel immediately.

## Before Starting

### Generator and Control Panel

## CAUTION:



**NEVER** start the engine with the *main* or *GFCI* circuit breakers in the **ON** position.

1. Be sure to disconnect the electrical load and switch the *main* and *G.F.C.I.* circuit breakers (Figure 16) to the "OFF" position prior to starting the engine.

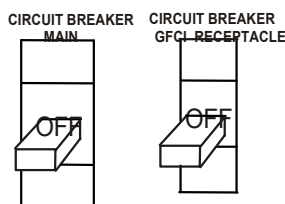


Figure 16. Main and GFCI Circuit Breakers

2. Connect the load to the UNV terminals as shown in Figure 17. These terminals can be found on the front of the generator by lifting the UNV lug cover. It may be necessary to remove the retaining lug that secures the cover. Make sure to tighten terminal nuts securely to prevent load wires from slipping out.

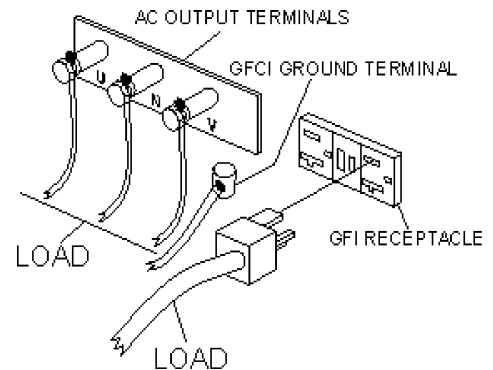


Figure 17. UNV Terminal Lugs (Load)

3. After attaching the load wires to the AC output terminals, secure the UNV cover by inserting the retaining screw (Figure 18) back into the cover.

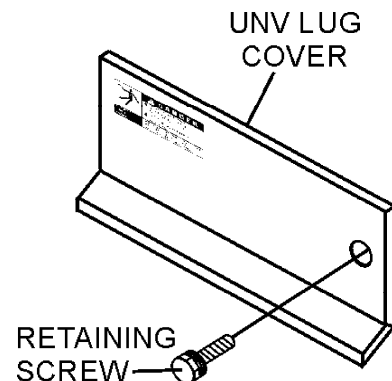
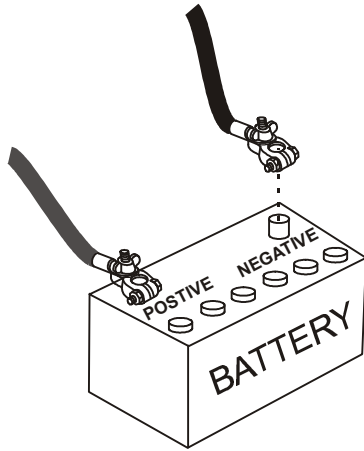


Figure 18. UNV Lug Cover

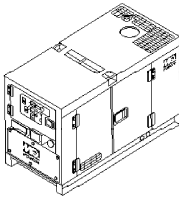
# DCA-10SPX3 — GENERATOR START-UP PROCEDURE

4. Connect the negative battery cable (BLACK) to the negative post on the battery (Figure 19).

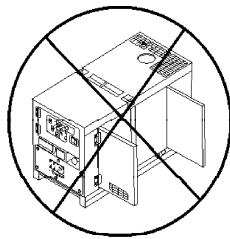


**Figure 19. Battery Connections**

5. Close all engine enclosure doors (Figure 20).



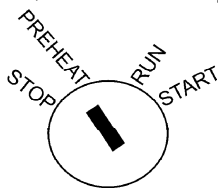
**CORRECT**



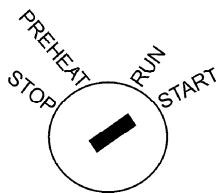
**INCORRECT**

**Figure 20. Engine Enclosure Doors**

6. Before starting the generator, turn the key to preheat (Figure 21) until the warning indicator light turns off. Then turn the key to the right to 'Start' (Figure 22). Once the engine starts, release the key.

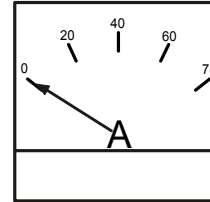


**Figure 21. Ignition Switch (Preheat)**



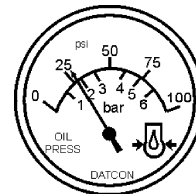
**Figure 22. Ignition Switch (Start)**

7. The ammeter (Figure 23) will indicate zero amps with no load applied. When a load is applied, this meter will indicate the amount of current that the load is drawing from the generator.



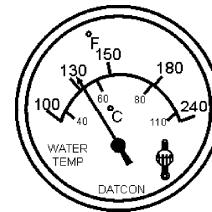
**Figure 23. Ammeter (No Load)**

8. The engine oil pressure gauge (Figure 24) will indicate the oil pressure (kg/ cm<sup>2</sup>) of the engine. Under normal operating conditions the oil pressure is approximately 25 psi.



**Figure 24. Oil Pressure Gauge**

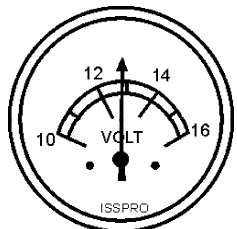
9. The water temperature gauge (Figure 25) will indicate the coolant temperature. Under normal operating conditions the coolant temperature is between 165 and 215 degrees fahrenheit.



**Figure 25. Coolant Temperature Gauge**

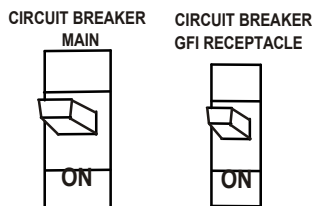
# DCA-10SPX3 — GENERATOR SHUT-DOWN PROCEDURE

10. The battery voltage gauge (Figure 26) will indicate the voltage of the battery when the generator is operating. Under normal operating conditions this voltage is between 11.2 and 15.2 volts.



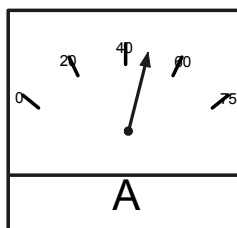
**Figure 26. Battery Voltage Gauge**

11. If there are no abnormal problems shown on the MPEC LED display, turn both the MAIN and GFCI circuit breakers to their ON position (Figure 27).



**Figure 27. Main and GFCI Circuit Breakers**

12. Observe at the generator's ammeter (Figure 28) and verify that it reads the anticipated amount of current with respect to the load. The ammeter will only display a current reading if the load is in use.



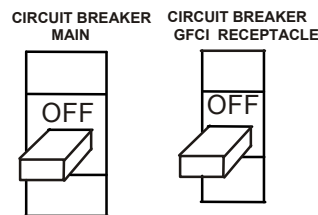
**Figure 28. Ammeter (Load)**

13. The generator will run until manually stopped or an abnormal condition occurs.

## Engine Shutdown

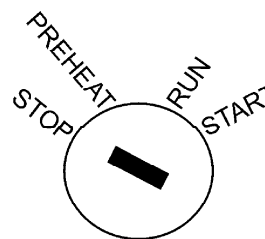
To shutdown the generator use the following procedure:

1. Place both the **MAIN** and **GFCI** circuit breakers to the "OFF position" (Figure 29).



**Figure 29. GFCI and Main Circuit Breaker (OFF)**

2. Let the engine cool by running 3-5 minutes with no load applied.
3. Turn the key to the 'STOP' position to shut down the engine (Figure 30).



**Figure 30. Ignition Switch (OFF)**

## 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)

## Air Cleaner

Every 50 hours: Remove air cleaner element and clean heavy duty paper element with kerosene, or foam element with liquid detergent and hot water. Wrap foam element in a cloth and squeeze dry. For heavy duty paper element, wipe excess kerosene with towel.

## Fuel Addition

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

## Removing Water from the Fuel Tank

After prolonged use, water 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.

## 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.

## Cleaning the Fuel Strainer

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

## 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 8, page 29.

## Replacing Oil Filter

- 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, the engine oil will drop slightly. 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 400 hours or so.
- 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 30, Table 5 for mixture).
- Close radiator cap tightly.

## CAUTION :



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

## Generator Storage

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

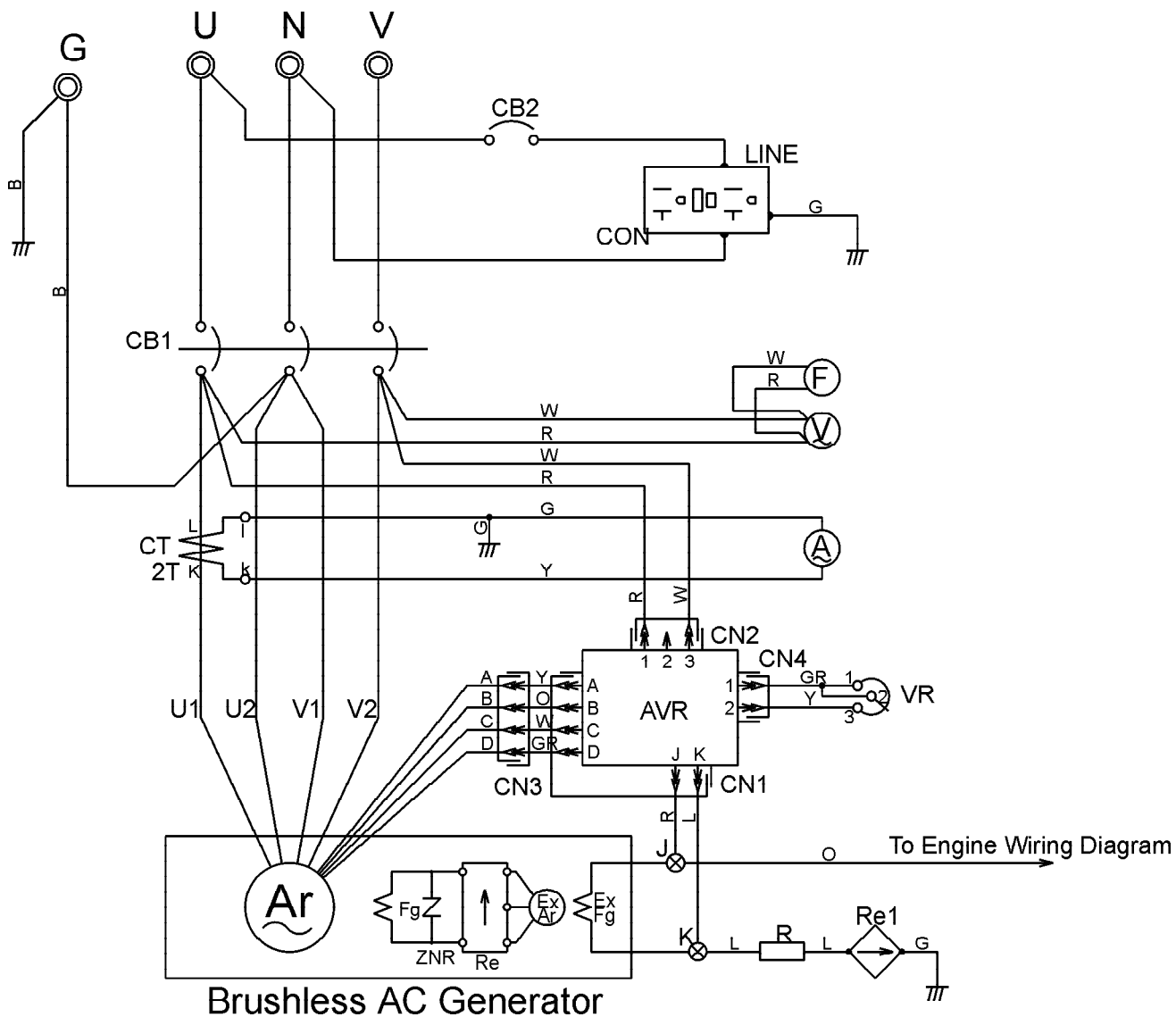
- Fill the fuel tank completely.
- Completely drain the oil from the crankcase and refill with fresh oil.
- Clean all external parts of the generator with a cloth.
- Cover the generating set and store in a clean, dry place.

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

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

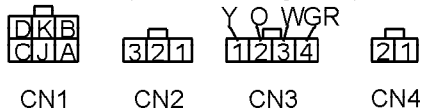
\*2 Replace fuel filter at 250 Hours, first time only.

# DCA-10SPX3 —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 at Wiring Side)

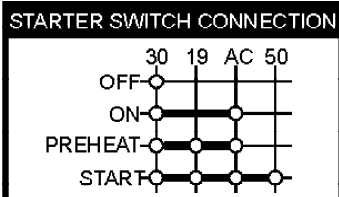
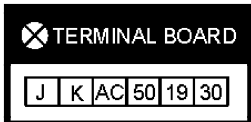
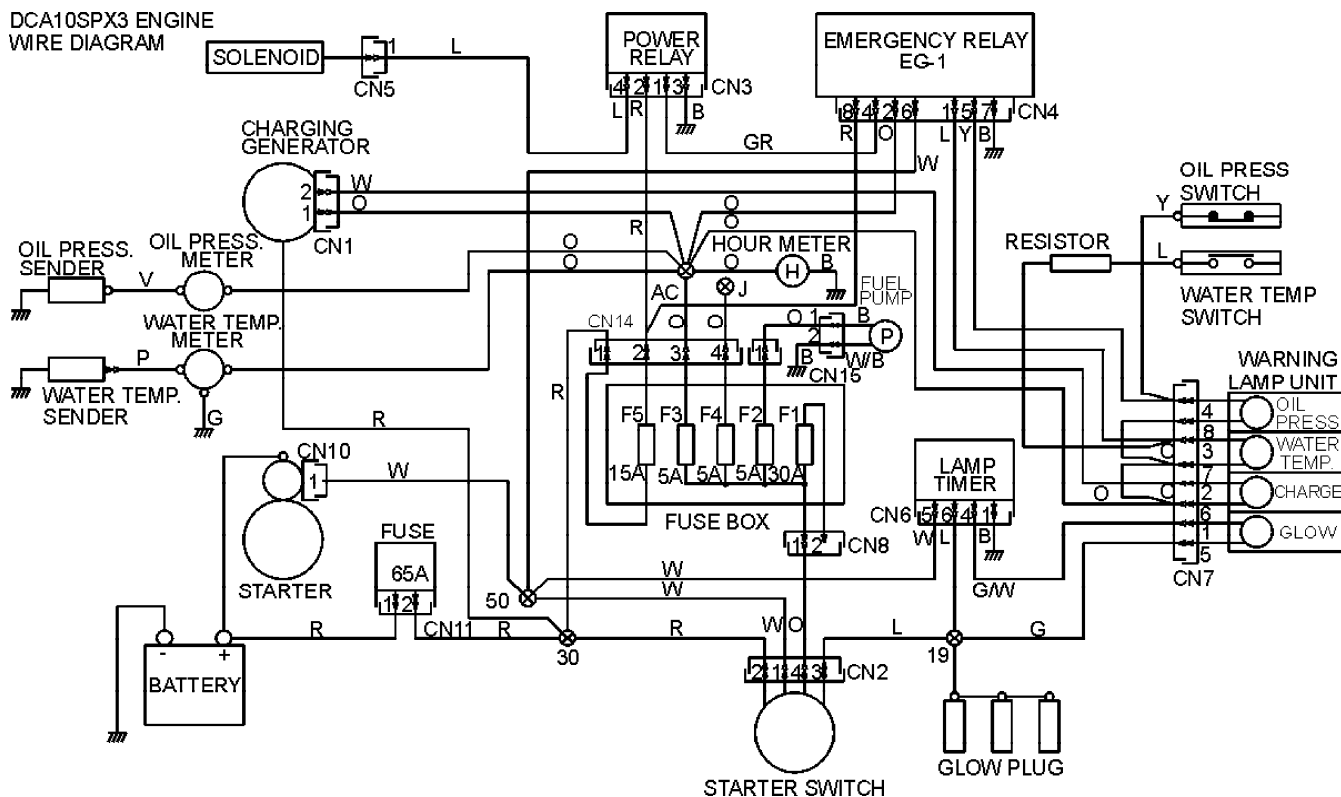


| SYMBOL  | PARTS NAME                  |
|---------|-----------------------------|
| V       | AC Voltage Meter            |
| A       | AC Ammeter                  |
| F       | Frequency Meter             |
| CB1,2   | Circuit Breaker             |
| CON     | Output Receptacle           |
| CT      | Current Transformer Ammeter |
| AVR     | Automatic Voltage Regulator |
| VR      | Voltage Regulator           |
| R       | Resistor                    |
| Re1     | Rectifier                   |
| J, K    | Combination Terminal        |
| U, N, V | Output Terminal             |
| G       | Ground Terminal             |



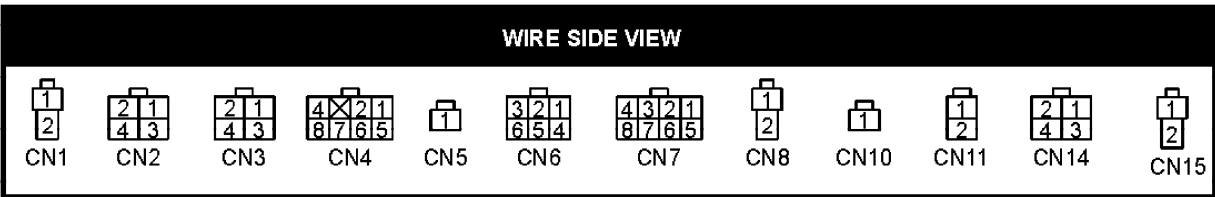
# DCA-10SPX3 —ENGINE WIRING DIAGRAM

DCA10SPX3 ENGINE WIRE DIAGRAM



**COLOR CODE TABLE**

| CODE/WIRE 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  | ORAGNE      |
| P               | PINK   |    |             |



## DCA-10SPX3 — TROUBLESHOOTING (ENGINE)

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

diagnosis based on the Engine Troubleshooting (Table 11) information shown below and on the proceeding page. If the problem cannot be remedied, consult our company's business office or service plant.

### TABLE 11. ENGINE TROUBLESHOOTING

| 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.  |   |
| Starter does not run.      | Starter malfunctioning?  | Repair or replace.  |
|                            | Wiring disconnected?   | Connect wiring.   |

# DCA-10SPX3 — TROUBLESHOOTING (ENGINE)

## TABLE 11. ENGINE TROUBLESHOOTING (CONTINUED)

| 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. |

# DCA-10SPX3 — TROUBLESHOOTING (GENERATOR/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 Generator Troubleshooting (Table 12)

information shown below and on the proceeding page. If the problem cannot be remedied, consult our company's business office or service plant.

**TABLE 12. ENGINE & GENERATOR TROUBLESHOOTING**

| SYMPTOM   | POSSIBLE PROBLEM                                       | SOLUTION                             |
|---|--|--------------------------------------|
| Engine fails to start and starter does not rotate.  | Dead Battery?  | Replace Battery.                     |
|   | Defective Starter Switch?                              | Replace Switch.                      |
|   | Defective Starter?                                     | Replace Starter.                     |
|   | Fuse F5 Burned Out?                                    | Replace Fuse.                        |
| 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 engine remains at low speed.  | Compression Leak?                                      | Check/repair engine.                 |
|   | Air in the fuel system?                                | Repair or Bleed.                     |
|   | Clogged Fuel Strainer?                                 | Clean or Replace.                    |
|   | Clogged Air Cleaner?                                   | Clean or Replace.                    |
|   | Disconnected Wiring?                                   | Check and Repair Wiring.             |
| Engine starts and 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 Automatic Voltage Regulator?                 | Replace AVR.                         |
|   | Disconnected Wiring?                                   | Check and Repair Wiring.             |
|   | Layer Short-Circuit in armature winding?               | Replace Armature.                    |
| Engine starts and engine speed rises but AC power voltage is too low (or too high) or cannot be used. | Defective Circuit Breaker (Protector)?                 | Replace Circuit Breaker (Protector). |
|   | Layer Short-Circuit, Broken Wires In Armature Winding? | Repair or Replace Armature.          |
|   | Voltage Regulator turned too low?                      | Adjust Voltage Regulator up.         |
| Engine starts and engine speed rises but battery discharges excessively.                              | Defective Engine Regulator?                            | Replace Regulator.                   |
|   | Defective Wiring?                                      | Repair or Replace Wiring.            |
| Engine starts and engine speed rises and engine seems overloaded.                                     | Defective Alternator?                                  | Repair or Replace Alternator.        |
|   | Damaged Alternator Bearing?                            | Replace Alternator Bearings.         |



## 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

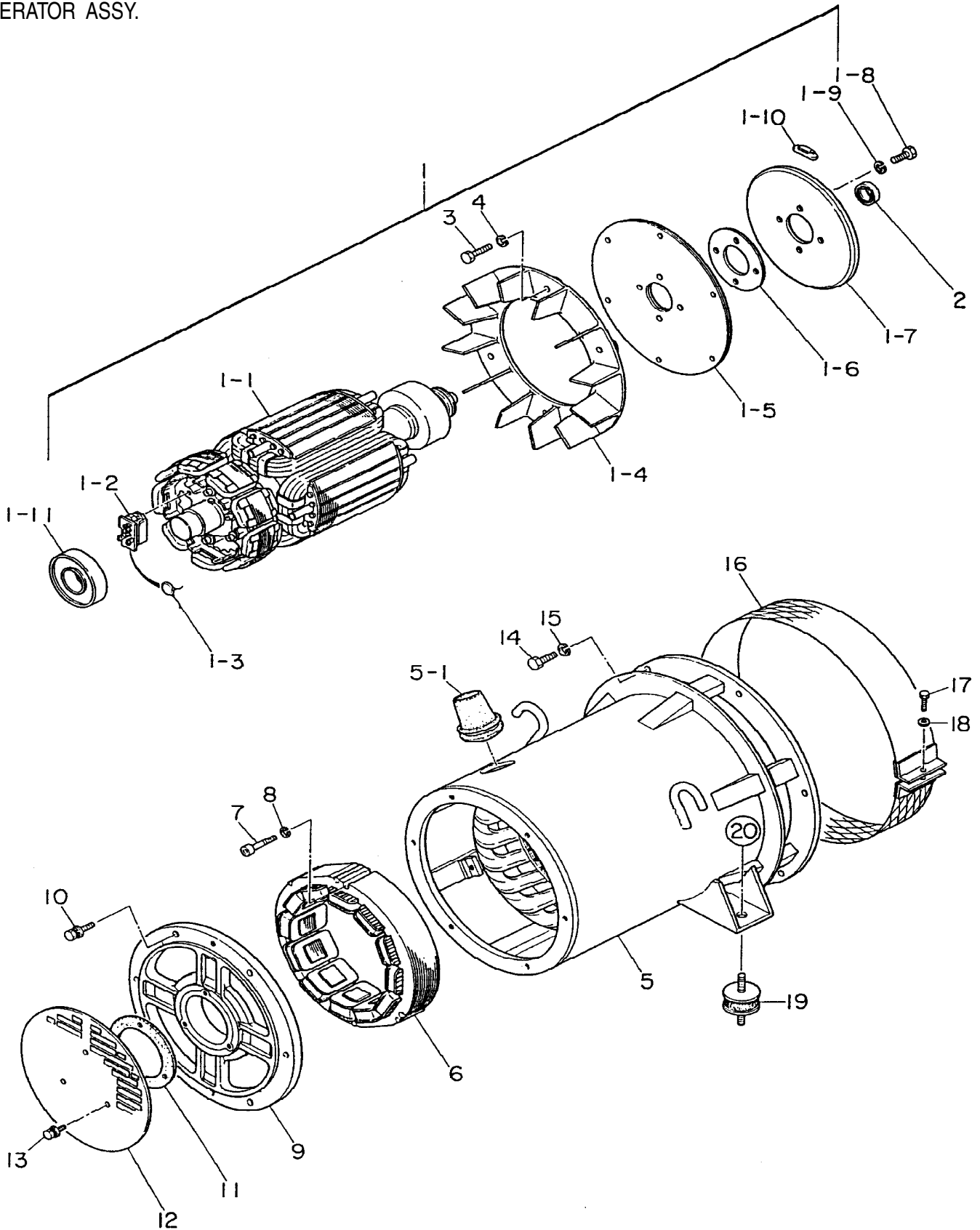
*The contents of this parts catalog are subject to change without notice.*

***DCA-10SPX3 W/KUBOTA D1403 DIESEL ENGINE 1 TO 3 UNITS***

| <b>QTY.</b> | <b>P/N</b>       | <b>DESCRIPTION</b>             |
|-------------|------------------|--------------------------------|
| 1 .....     | 0601820626 ..... | AUTOMATIC VOLTAGE REGULATOR    |
| 1 .....     | 0601807083 ..... | MAIN CIRCUIT BREAKER           |
| 1 .....     | 0601812597 ..... | RECEPTACLE CIRCUIT BREAKER     |
| 1 .....     | 0601840073 ..... | VOLTAGE REGULATOR (RHEOSTAT)   |
| 3 .....     | 1707972062 ..... | OIL FILTER                     |
| 1 .....     | 0602122050 ..... | OIL SENDING UNIT               |
| 1 .....     | 0602123251 ..... | WATER TEMPERATURE SENDING UNIT |
| 1 .....     | 1726697011 ..... | FAN BELT                       |
| 3 .....     | 0602046372 ..... | AIR FILTER                     |
| 3 .....     | 1522143172 ..... | FUEL FILTER                    |
| 1 .....     | 0602100059 ..... | STARTER SWITCH                 |
| 3 .....     | 3741055150 ..... | KEY, STARTER SWITCH            |

# DCA-10SPX3 — GENERATOR ASSY.

GENERATOR ASSY.



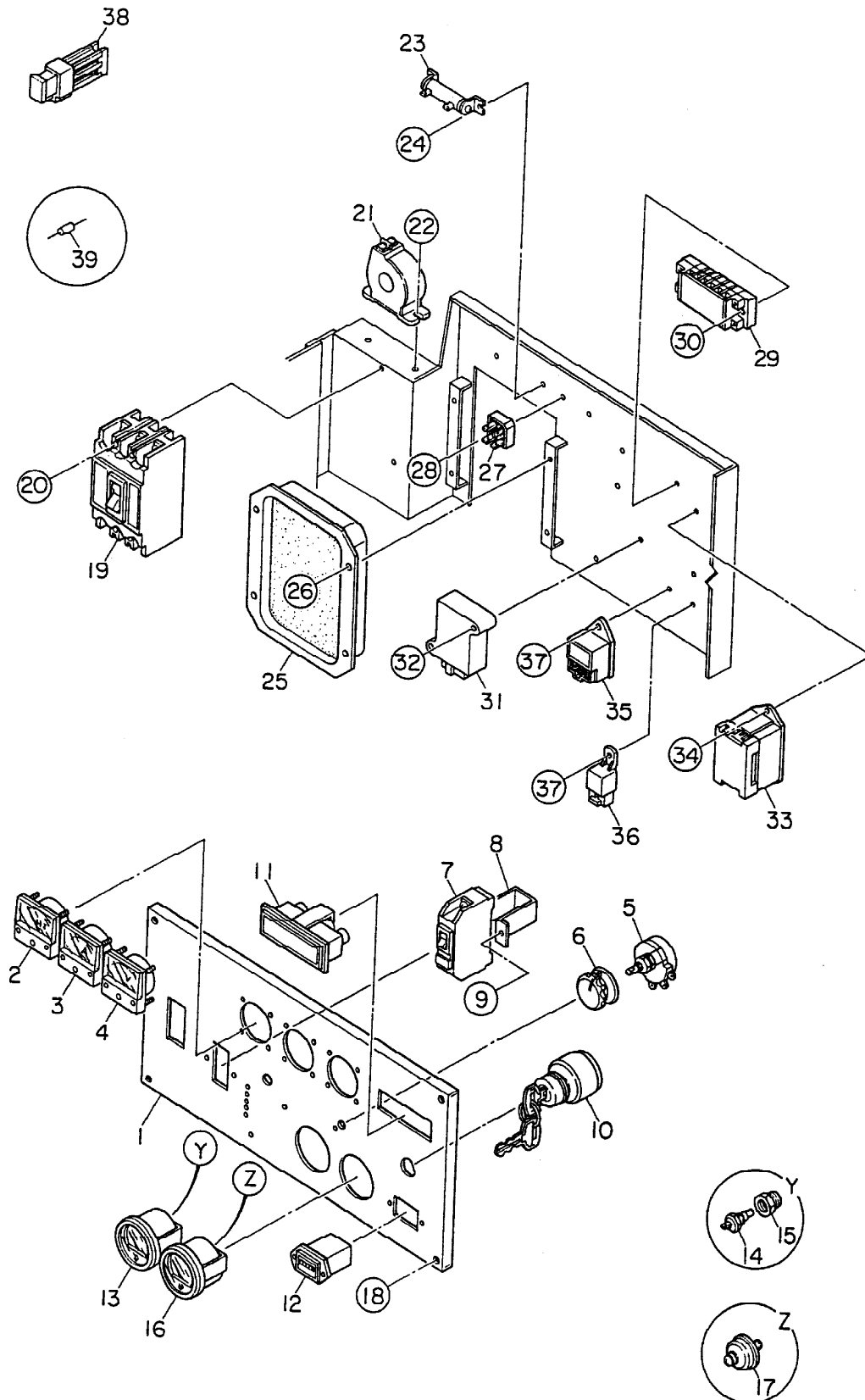


# DCA-10SPX3 — GENERATOR ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>           | <u>QTY.</u> | <u>REMARKS</u> |
|------------|-----------------|----------------------------|-------------|----------------|
| 1          | 8321000102      | ROTOR ASS'Y                | 1           |                |
| 1-1        |                 | FIELD ASSY                 | 1           |                |
| 1-2        | 7961025004      | RECTIFIER                  | 1           |                |
| 1-3        | 0601822630      | SURGE ABSORBER .....       | 1           | TNT23G471K     |
| 1-4        | 8001070003      | FAN                        | 1           |                |
| 1-5        | 8351611004      | COUPLING DISK              | 2           |                |
| 1-6        | 8351612004      | WASHER, COUPLING HUB       | 1           |                |
| 1-7        | 8351615003      | BALANCING PLATE            | 2           |                |
| 1-8        | 0010310025      | HEX. HEAD BOLT             | 4           |                |
| 1-9        | 0042610000      | LOCKWASHER                 | 4           |                |
| 1-10       | 0601000209      | BALANCING WEIGHT KIT       | 1           |                |
| 1-11       | 0071906308      | BEARING .....              | 1           | 6308DDUC3      |
| 2          | 0070506903      | BEARING .....              | 1           | 6903ZZ         |
| 3          | 0012108035      | HEX. HEAD BOLT             | 6           |                |
| 4          | 0042508000      | LOCKWASHER                 | 6           |                |
| 5          | 7561345403      | STATOR ASSY.               | 1           |                |
| 5-1        | 0845041904      | GROMMET                    | 1           |                |
| 6          | 8431350003      | FIELD ASSY. EXCITER        | 1           |                |
| 7          | 0016008045      | HEX. SOCKET HEAD CAP SCREW | 3           |                |
| 8          | 0042508000      | LOCKWASHER                 | 3           |                |
| 9          | 8351315003      | END BRACKET                | 1           |                |
| 10         | 0017108035      | HEX. HEAD BOLT             | 6           |                |
| 11         | 8351512004      | PACKING                    | 1           |                |
| 12         | 8351331004      | COVER, SUCTION             | 1           |                |
| 13         | 0017106016      | HEX. HEAD BOLT             | 3           |                |
| 14         | 0012110030      | HEX. HEAD BOLT             | 3           |                |
| 15         | 0042510000      | LOCKWASHER                 | 6           |                |
| 16         | 8401332004      | COVER, FAN                 | 1           |                |
| 17         | 0010106030      | HEX. HEAD BOLT             | 1           |                |
| 18         | 0041206000      | PLAIN WASHER               | 1           |                |
| 19         | 0605000006      | RUBBER SUSPENSION          | 2           |                |
| 20         | 0207010000      | HEX. NUT                   | 2           |                |

# DCA-10SPX3 — CONTROL PANEL ASSY.

## CONTROL PANEL ASSY.



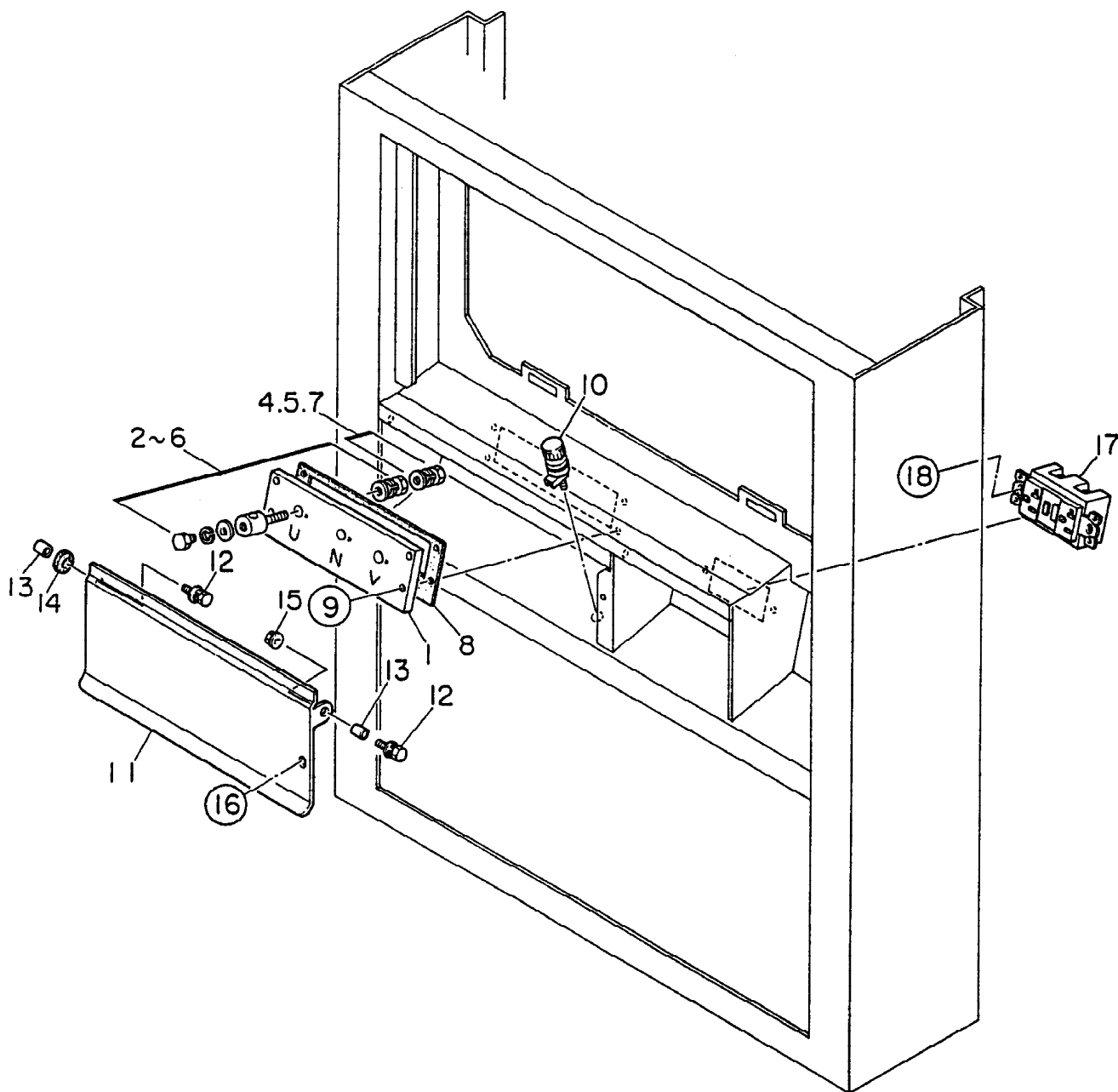
# DCA-10SPX3 — CONTROL PANEL ASSY.

## CONTROL PANEL ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>ITEM</u>                           | <u>QTY.</u> | <u>REMARKS</u>           |
|------------|-----------------|---------------------------------------|-------------|--------------------------|
| 1          | B022500003      | CONTROL PANEL                         | 1           |                          |
| 2          | 0601800455      | FREQUENCY METER .....                 | 1           | FCF5 240V 45~65Hz        |
| 3          | 0601805745      | AC AMMETER .....                      | 1           | ACF5 0~75A               |
| 4          | 0601800281      | AC VOLTMETER .....                    | 1           | SCF5 0~150V 0~300        |
| 5          | 0601840073      | RHEOSTAT (VOLTAGE REGULATOR).....     | 1           | RA20A2SE102BJ 2W 1K OHM  |
| 6          | 0601840121      | KNOB                                  | 1           |                          |
| 7          | 0601804715      | CIRCUIT BREAKER .....                 | 1           | KM51 20A                 |
| 8          | 3011816004      | BRACKET, CIRCUIT BREAKER              | 1           |                          |
| 9          | 0027104020      | MACHINE SCREW                         | 2           |                          |
|            | 0207004000      | HEX. NUT                              | 2           |                          |
| 10         | 0602100059      | STARTER SWITCH .....                  | 1           | 3741059113               |
| 11         | 0601813255      | INDICATOR ASSY.....                   | 1           | BL61160150               |
|            | 0601810830      | BULB                                  | 4           |                          |
| 12         | 0601800682      | HOUR METER.....                       | 1           | 82014                    |
| 13         | 0602123085      | WATER TEMPERATURE GAUGE;1005752201 .. | 1           | S/N4784541 TO S/N5180943 |
|            | 0602123088      | WATER TEMPERATURE GAUGE;1005752780 .. | 1           | S/N5180944~              |
| 14         | 0602123251      | SENDER, WATER TEMPERATURE.....        | 1           | 0715001840               |
| 15         | 0603306840      | BUSHING                               | 1           |                          |
| 16         | 0602122035      | OIL PRESSURE GAUGE;1005760300 .....   | 1           |                          |
|            |                 |                                       |             | S/N4784541 TO S/N5180943 |
|            | 0602122038      | OIL PRESSURE GAUGE;1005760450 .....   | 1           | S/N5180944~              |
| 17         | 0602122050      | SENDER, OIL PRESSURE .....            | 1           | 0716000750               |
| 18         | 0021806030      | MACHINE SCREW                         | 4           |                          |
| 19         | 0601807083      | CIRCUIT BREAKER .....                 | 1           | XE50NS 45A               |
| 20         | 0021004060      | MACHINE SCREW                         | 2           |                          |
|            | 0040004000      | LOCK WASHER                           | 2           |                          |
|            | 0041204000      | PLAIN WASHER                          | 2           |                          |
| 21         | 0601801123      | CURRENT TRANSFORMER, AMMETER .....    | 1           | COC3 150/5A              |
| 22         | 0027106016      | MACHINE SCREW                         | 2           |                          |
| 23         | 0601842304      | RESISTOR .....                        | 1           | GG20W50 OHM              |
| 24         | 0027104010      | MACHINE SCREW                         | 2           |                          |
| 25         | 0601820626      | AUTOMATIC VOLTAGE REGULATOR.....      | 1           | NTA4A2S                  |
| 26         | 0017105016      | HEX. HEAD BOLT                        | 4           |                          |
| 27         | 0601820038      | RECTIFIER .....                       | 1           | S15VB60                  |
| 28         | 0027104020      | MACHINE SCREW                         | 1           |                          |
| 29         | 0601815759      | TERMINAL BOARD .....                  | 1           | KT206P                   |
| 30         | 0027104025      | MACHINE SCREW                         | 2           |                          |
| 31         | 0602200474      | EMERGENCY UNIT .....                  | 1           | 1714760602               |
| 32         | 0021005045      | MACHINE SCREW                         | 2           |                          |
|            | 0040005000      | LOCK WASHER                           | 2           |                          |
|            | 0041205000      | PLAIN WASHER                          | 2           |                          |
| 33         | 8701899004      | FUSE BOX .....                        | 1           | FB6PS                    |
|            | 0601806642      | FUSE .....                            | 4           | 5A                       |
|            | 0601806644      | FUSE .....                            | 2           | 15A                      |
|            | 0601806644      | FUSE .....                            | 2           | 30A                      |
| 34         | 0027105016      | MACHINE SCREW                         | 2           |                          |
| 35         | 0602201273      | TIMER .....                           | 1           | 1569465992               |
| 36         | 0602202566      | RELAY .....                           | 1           | 6888153542               |
| 37         | 0017105016      | HEX. HEAD BOLT                        | 2           |                          |
| 38         | 0601806640      | FUSE .....                            | 1           | 65A                      |
| 39         | 0601842389      | RESISTOR .....                        | 1           | 8.2 OHM 1/2W             |

# DCA-10SPX3 — OUTPUT TERMINAL ASSY.

OUTPUT TERMINAL ASSY.



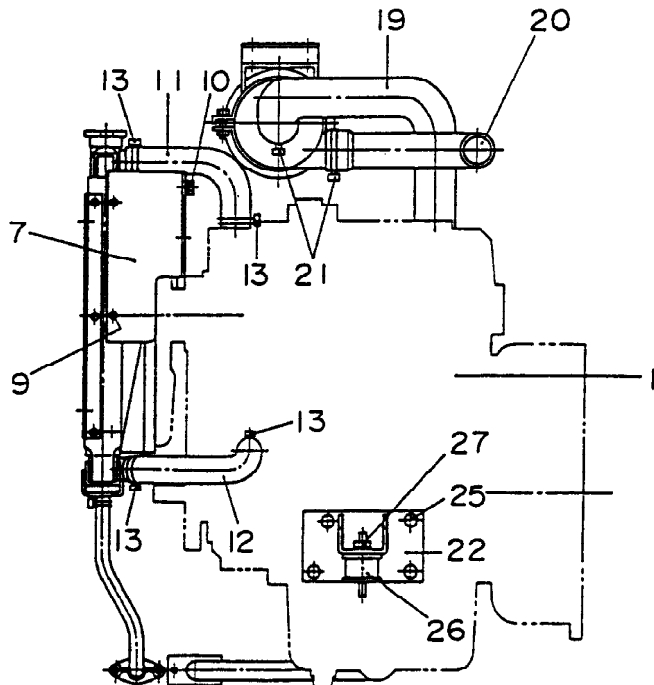
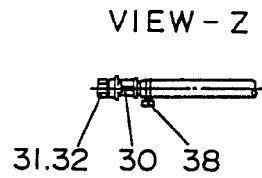
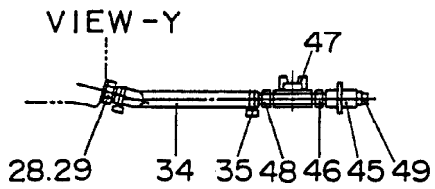
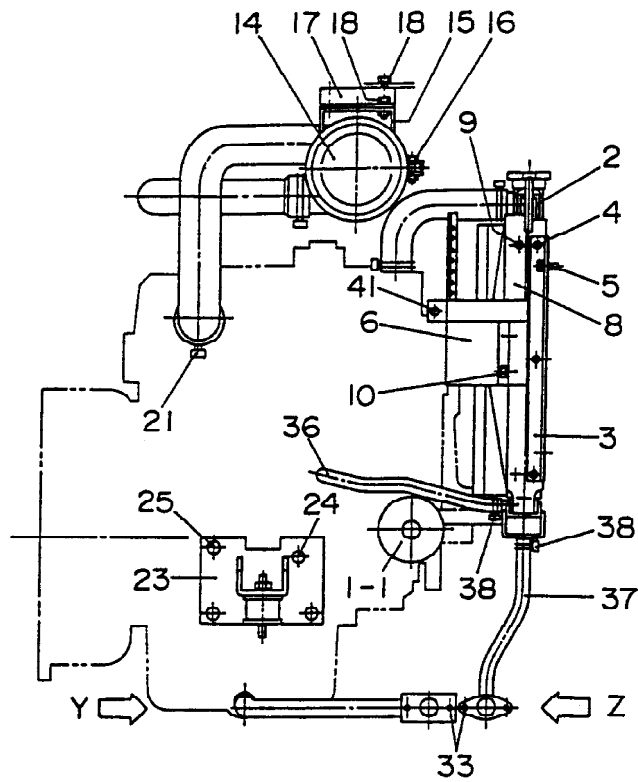
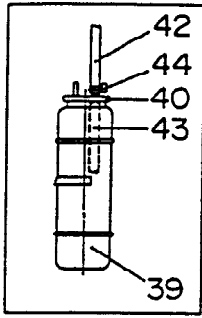
# DCA-10SPX3 — OUTPUT TERMINAL ASSY.

## OUTPUT TERMINAL ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>             | <u>QTY.</u> | <u>REMARKS</u>       |
|------------|-----------------|------------------------------|-------------|----------------------|
| 1          | 7561860104      | SET BOARD, OUTPUT TERMINAL   | 1           |                      |
| 2          | 1621849004      | OUTPUT TERMINAL              | 3           |                      |
| 3          | 0019008020      | HEX. HEAD BOLT               | 3           |                      |
| 4          | 0040008000      | LOCK WASHER                  | 9           |                      |
| 5          | 0041408000      | PLAIN WASHER                 | 9           |                      |
| 6          | 0039508000      | HEX. NUT                     | 3           |                      |
| 7          | 0030008000      | HEX. NUT                     | 3           |                      |
| 8          | 7831860104      | RUBBER SEAL                  | 1           |                      |
| 9          | 0017105025      | HEX. HEAD BOLT               | 4           |                      |
| 10         | 0601815109      | GROUND TERMINAL              | 1           |                      |
| 11         | 7561861003      | COVER, OUTPUT TERMINAL       | 1           |                      |
|            | 7561866104      | RUBBER SHEET                 | 1           |                      |
| 12         | 0017106020      | HEX. HEAD BOLT               | 2           |                      |
| 13         | 0821800014      | COLLAR                       | 2           |                      |
| 14         | 0805088004      | STAY RUBBER                  | 1           |                      |
| 15         | 0207006000      | HEX. NUT                     | 1           |                      |
| 16         | 0017106016      | HEX. HEAD BOLT               | 1           |                      |
| 17         | 0601812597      | RECEPTACLE, AUX. PAOWER..... | 1           | ..... 5-20R 125V 20A |
| 18         | 0027104016      | MACHINE SCREW                | 2           |                      |
|            | 0207004000      | HEX. NUT                     | 2           |                      |

# DCA-10SPX3 — ENGINE & RADIATOR ASSY.

ENGINE & RADIATOR ASSY.



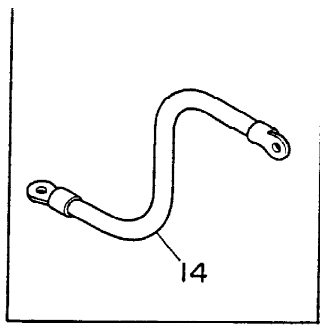
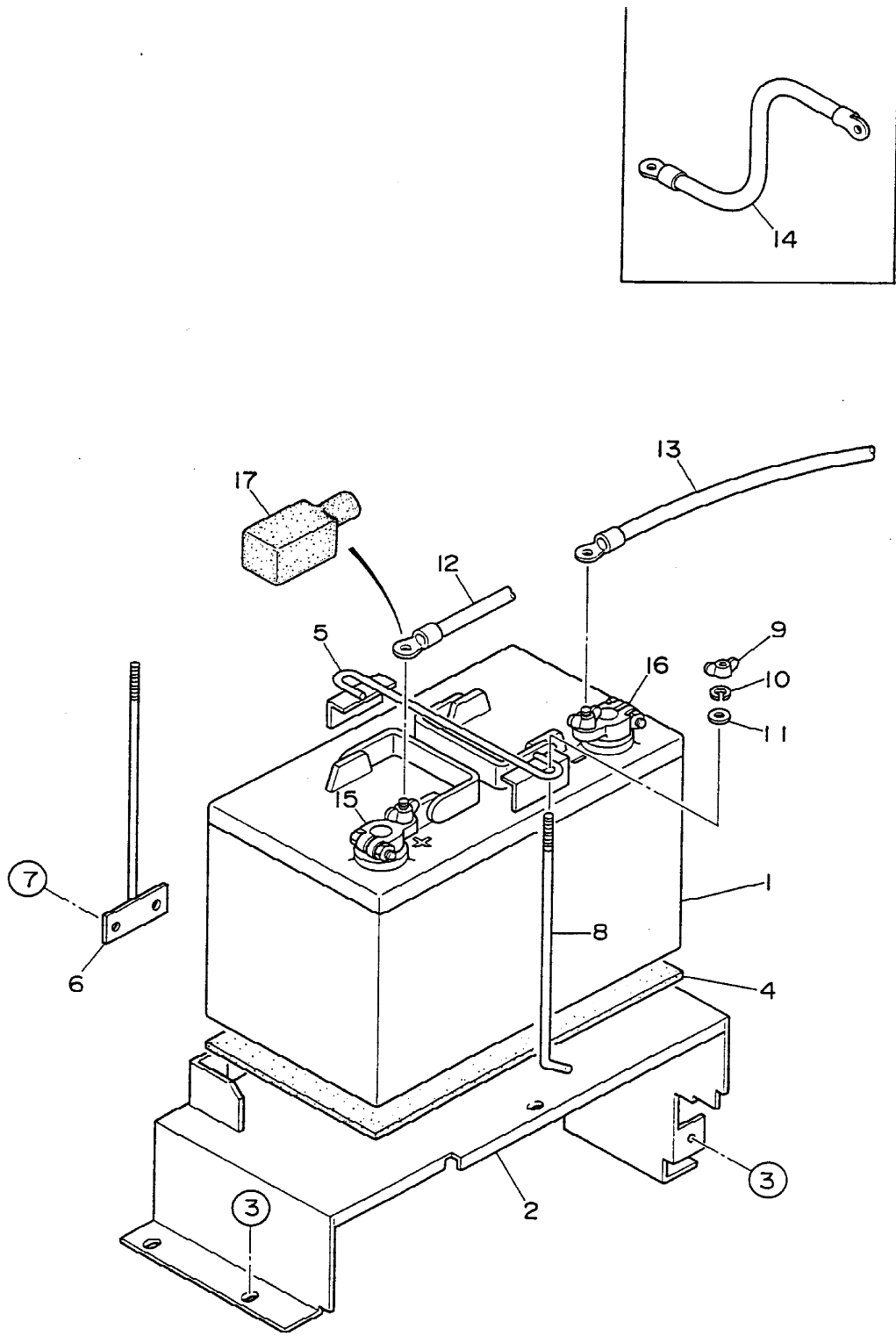
# DCA-10SPX3 — ENGINE & RADIATOR ASSY.

## ENGINE AND RADIATOR ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>           | <u>QTY.</u> | <u>REMARKS</u> |
|------------|-----------------|----------------------------|-------------|----------------|
| 1          | 7560150404      | ENGINE .....               | 1           | KUBOTA D1403   |
| 1-1        | 0602041173      | CARTRIDGE,OIL FILTER ..... | 1           | 1732132432     |
| 2          | 0602011974      | RADIATOR .....             | 1           | 1559672062     |
| 3          | 7562012004      | BRACKET, RADIATOR          | 2           |                |
| 4          | 0017108020      | HEX. HEAD BOLT             | 6           |                |
| 5          | 0017106016      | HEX. HEAD BOLT             | 6           |                |
| 6          | 8325127113      | FAN GUARD                  | 1           |                |
| 7          | 8325127504      | BRACKET, FAN GUARD         | 1           |                |
| 8          | 8325127605      | BRACKET, FAN GUARD         | 1           |                |
| 9          | 0017106010      | HEX. HEAD BOLT             | 4           |                |
| 10         | 0017106016      | HEX. HEAD BOLT             | 4           |                |
| 11         | 0602013975      | RADIATOR HOSE .....        | 1           | 1706372941     |
| 12         | 0602014475      | RADIATOR HOSE .....        | 1           | 1546172851     |
| 13         | 0602014372      | HOSE BAND .....            | 4           | 1510872873     |
| 14         | 0602046273      | AIR CLEANER .....          | 1           | 1707611011     |
|            | 0602046372      | ELEMENT, AIR CLEANER ..... | 1           | 1540111081     |
| 15         | 0602040572      | BAND, AIR CLEANER .....    | 1           | 3426013963     |
| 16         | 0017108030      | HEX. HEAD BOLT             | 2           |                |
| 17         | 8322031004      | BRACKET, AIR CLEANER       | 1           |                |
| 18         | 0017108020      | HEX. HEAD BOLT             | 6           |                |
| 19         | 8322036103      | HOSE,AIR CLEANER           | 1           |                |
| 20         | 8432036103      | HOSE, AIR CLEANER          | 1           |                |
| 21         | 0605515001      | HOSE BAND                  | 3           |                |
| 22         | 8325112114      | ENGINE FOOT                | 1           |                |
| 23         | 8325112014      | ENGINE FOOT                | 1           |                |
| 24         | 0012410025      | HEX. HEAD BOLT             | 1           |                |
| 25         | 0012412025      | HEX. HEAD BOLT             | 7           |                |
| 26         | 7605419004      | RUBBER SUSPENSION          | 2           |                |
| 27         | 0207010000      | HEX. NUT                   | 2           |                |
| 28         | 1502025004      | DRAIN JOINT                | 1           |                |
| 31         | 0802011104      | PLUG                       | 1           |                |
| 32         | 0150000018      | O RING                     | 1           |                |
| 33         | 0017106016      | HEX. HEAD BOLT             | 4           |                |
| 34         | 0192200380      | DRAIN HOSE                 | 1           |                |
| 35         | 0605515003      | HOSE BAND                  | 2           |                |
| 36         | 0602014476      | HOSE .....                 | 1           | 1546173341     |
| 37         | 0602014661      | DRAIN HOSE .....           | 1           | 1718273341     |
| 38         | 0605515014      | HOSE BAND                  | 4           |                |
| 39         | 0802081403      | RESERVE TANK               | 1           |                |
| 40         | 0802081104      | CAP, RESERVE TANK          | 1           |                |
| 41         | 0017106035      | HEX. HEAD BOLT             | 1           |                |
| 42         | 0805096804      | HOSE                       | 1           |                |
| 43         | 7222016304      | HOSE                       | 1           |                |
| 44         | 0605515094      | HOSE BAND                  | 3           |                |
| 45         | B0322300004     | DRAIN JOINT                | 1           |                |
| 46         | 0131506000      | NIPPLE                     | 1           |                |
| 47         | 0603325011      | VALVE .....                | 1           | BSS1/2         |
| 48         | 0602022738      | HOSE JOINT                 | 1           |                |
| 49         | 0132006000      | PLUG                       | 1           |                |

# DCA-10SPX3 — BATTERY ASSY.

BATTERY ASSY.

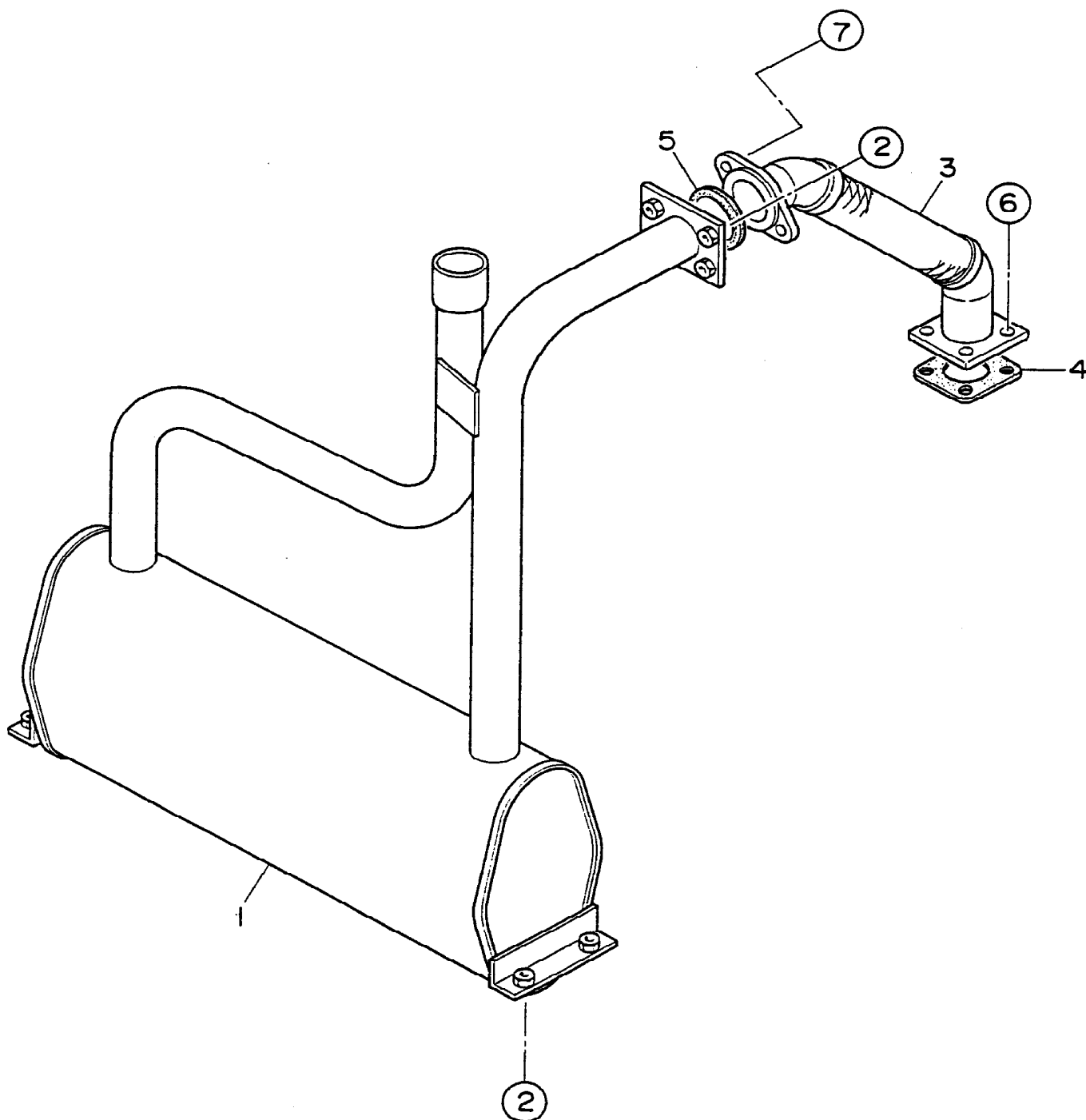




## BATTERY ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>    | <u>QTY.</u> | <u>REMARKS</u> |
|------------|-----------------|---------------------|-------------|----------------|
| 1          | 0165306531      | BATTERY .....       | 1           | 65D31R         |
| 2          | 8432254023      | BATTERY FRAME       | 1           |                |
|            | 8435976004      | LINING              | 1           |                |
| 3          | 0017106016      | HEX. HEAD BOLT      | 5           |                |
| 4          | 7612251004      | BATTERY SHEET       | 1           |                |
| 5          | 8432255024      | BATTERY BAND        | 1           |                |
| 6          | 8432256024      | BATTERY BOLT        | 1           |                |
| 7          | 0017106016      | HEX. HEAD BOLT      | 2           |                |
| 8          | 8432256104      | BATTERY BOLT        | 1           |                |
| 9          | 0037806000      | WING NUT            | 2           |                |
| 10         | 0040006000      | LOCK WASHER         | 2           |                |
| 11         | 0041206000      | PLAIN WASHER        | 2           |                |
| 12         |                 | BATTERY CABLE ..... | 1           | MAKE LOCALLY   |
| 13         |                 | BATTERY CABLE ..... | 1           | MAKE LOCALLY   |
| 14         |                 | EARTH CABLE .....   | 1           | MAKE LOCALLY   |
| 15         | 0602220310      | TERMINAL ASSY.      | 1           |                |
| 16         | 0602220311      | TERMINAL ASSY       | 1           |                |
| 17         | 0602220600      | TERMINAL CAP        | 1           |                |

MUFFLER ASSY.

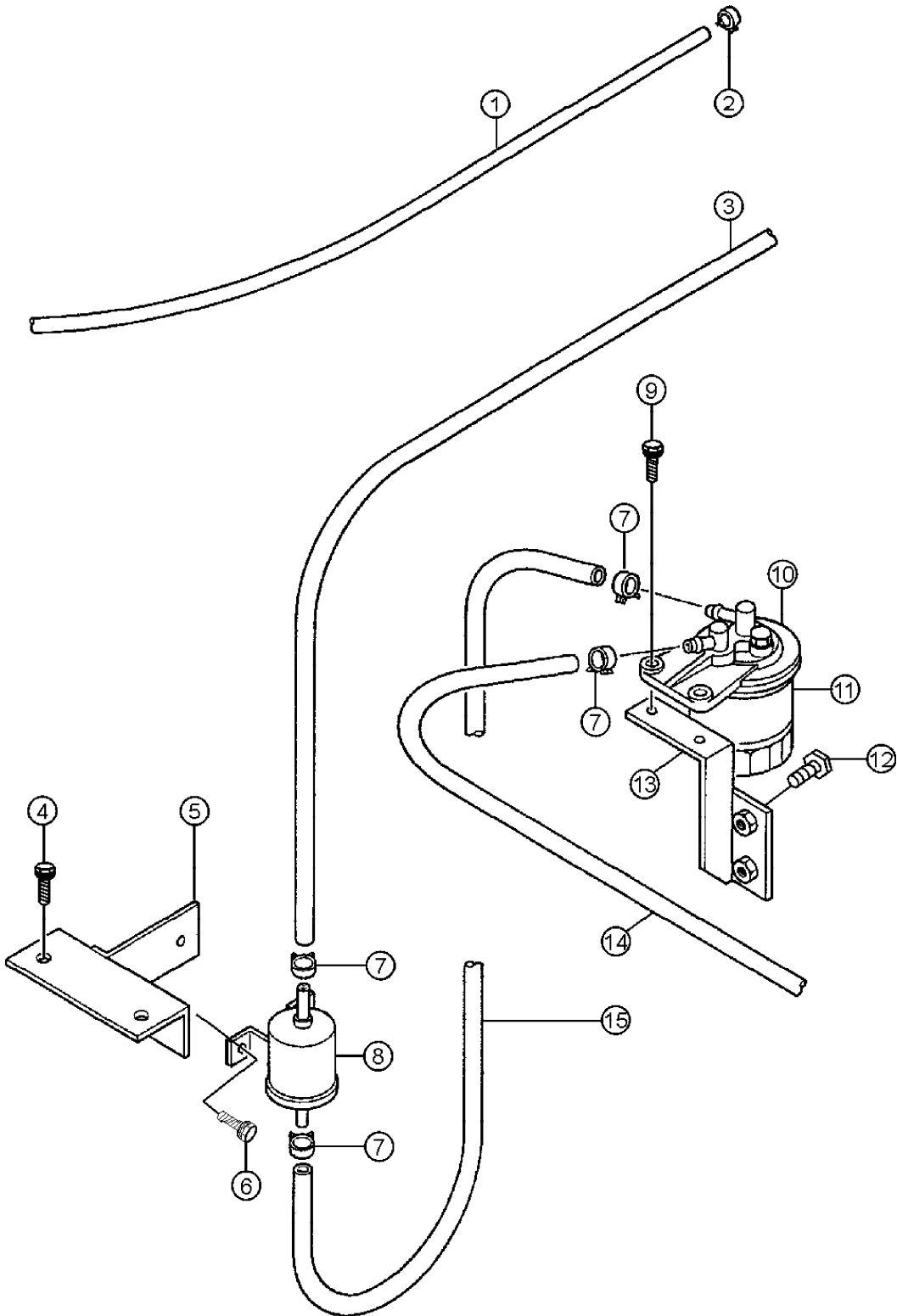


## MUFFLER ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u> | <u>QTY.</u> | <u>REMARKS</u> |
|------------|-----------------|------------------|-------------|----------------|
| 1          | 8342311003      | MUFFLER          | 1           |                |
| 2          | 0017108020      | HEX HEAD BOLT    | 6           |                |
| 3          | 8342350103      | EXHAUST PIPE     | 1           |                |
| 4          | 0602320150      | GASKET .....     | 1 .....     | 1547112231     |
| 5          | 1502336004      | GASKET           | 1           |                |
| 6          | 020108060       | HEX NUT          | 4           |                |
| 7          | 011208035       | HEX HEAD BOLT    | 2           |                |

# DCA-10SPX3 — FUEL FILTER ASSY.

FUEL FILTER ASSY.



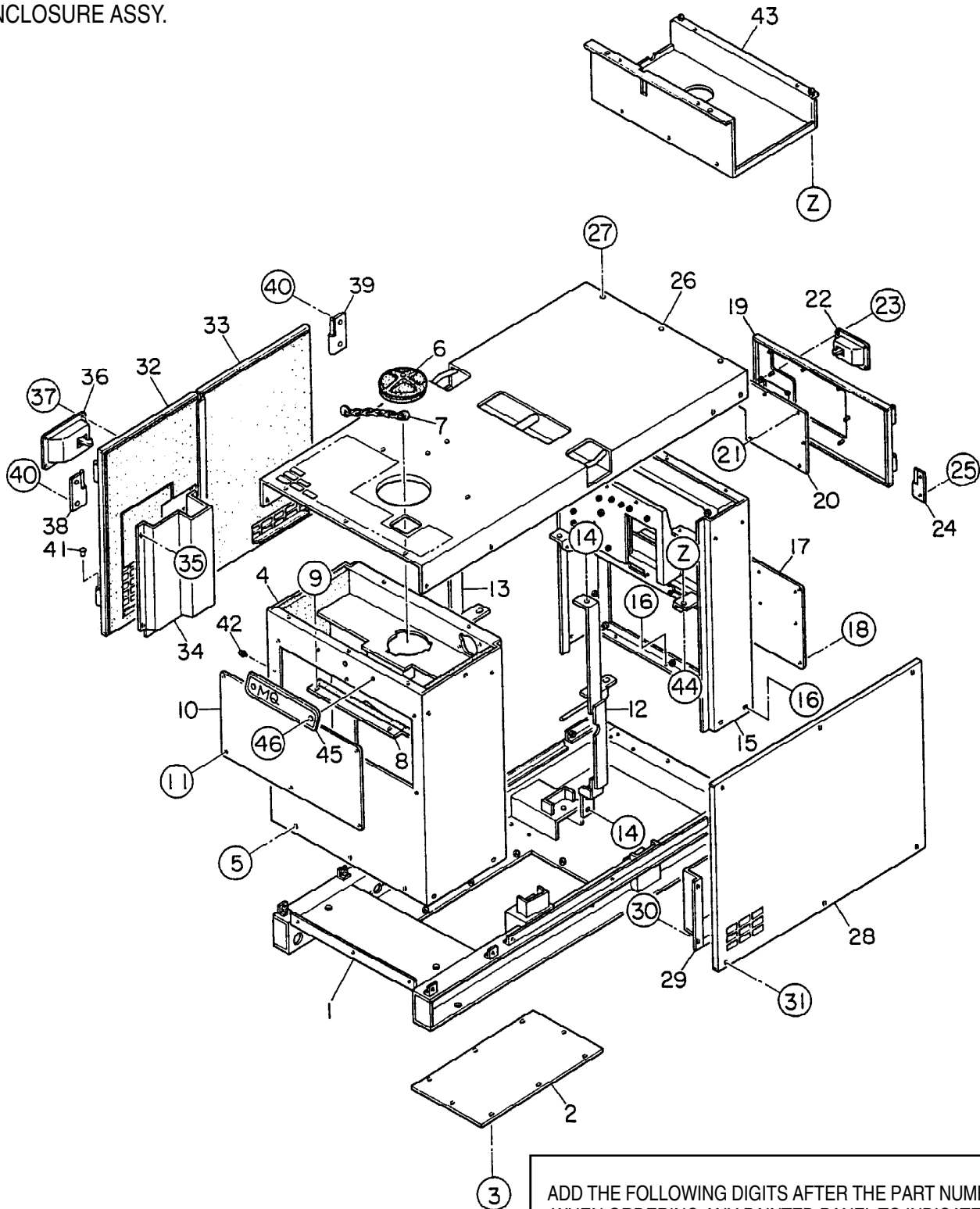
## DCA-10SPX3 — FUEL FILTER ASSY.

### FUEL FILTER ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>     | <u>QTY.</u> | <u>REMARKS</u>      |
|------------|-----------------|----------------------|-------------|---------------------|
| 1          | 1522143016      | FUEL FILTER .....    | 1 .....     | REPLACES 0602042462 |
|            | 1522143172      | CARTRIDGE .....      | 1 .....     | REPLACES 0602042551 |
| 2          | 7675528004      | BRACKET, FUEL FILTER | 1           |                     |
| 3          | 0017108035      | HEX. HEAD BOLT       | 2           |                     |
| 4          | 0017108025      | HEX. HEAD BOLT       | 2           |                     |
| 5          | 1747652031      | PUMP, FUEL .....     | 1 .....     | REPLACES 0602023155 |
| 6          | B0368700004     | BRACKET, FUEL PUMP   | 1           |                     |
| 7          | 0017106016      | HEX.HEAD BOLT        | 2           |                     |
| 8          | 0017108020      | HEX. HEAD BOLT       | 2           |                     |
| 9          | 0966180500      | SUCTION HOSE .....   | 1 .....     | REPLACES 0605513105 |
| 10         | 0966181000      | SUCTION HOSE .....   | 1 .....     | REPLACES 0605513106 |
| 11         | 0966181000      | SUCTION HOSE .....   | 1 .....     | REPLACES 0605513174 |
| 12         | 0966141000      | RETURN HOSE .....    | 1 .....     | REPLACES 0605514016 |
| 13         | 1491142751      | HOSE BAND .....      | 6 .....     | REPLACES 0605515070 |
| 14         | 1497142751      | HOSE BAND .....      | 2 .....     | REPLACES 0605515072 |

# DCA-10SPX3 — ENCLOSURE ASSY.

ENCLOSURE ASSY.



ADD THE FOLLOWING DIGITS AFTER THE PART NUMBER  
WHEN ORDERING ANY PAINTED PANEL TO INDICATE  
COLOR OF UNIT IF NOT IN TEAL:

MQW-WHITE

SK-SCARLET/ORANGE

THE SERIAL NUMBER MAY BE REQUIRED.

# DCA-10SPX3 — ENCLOSURE ASSY.

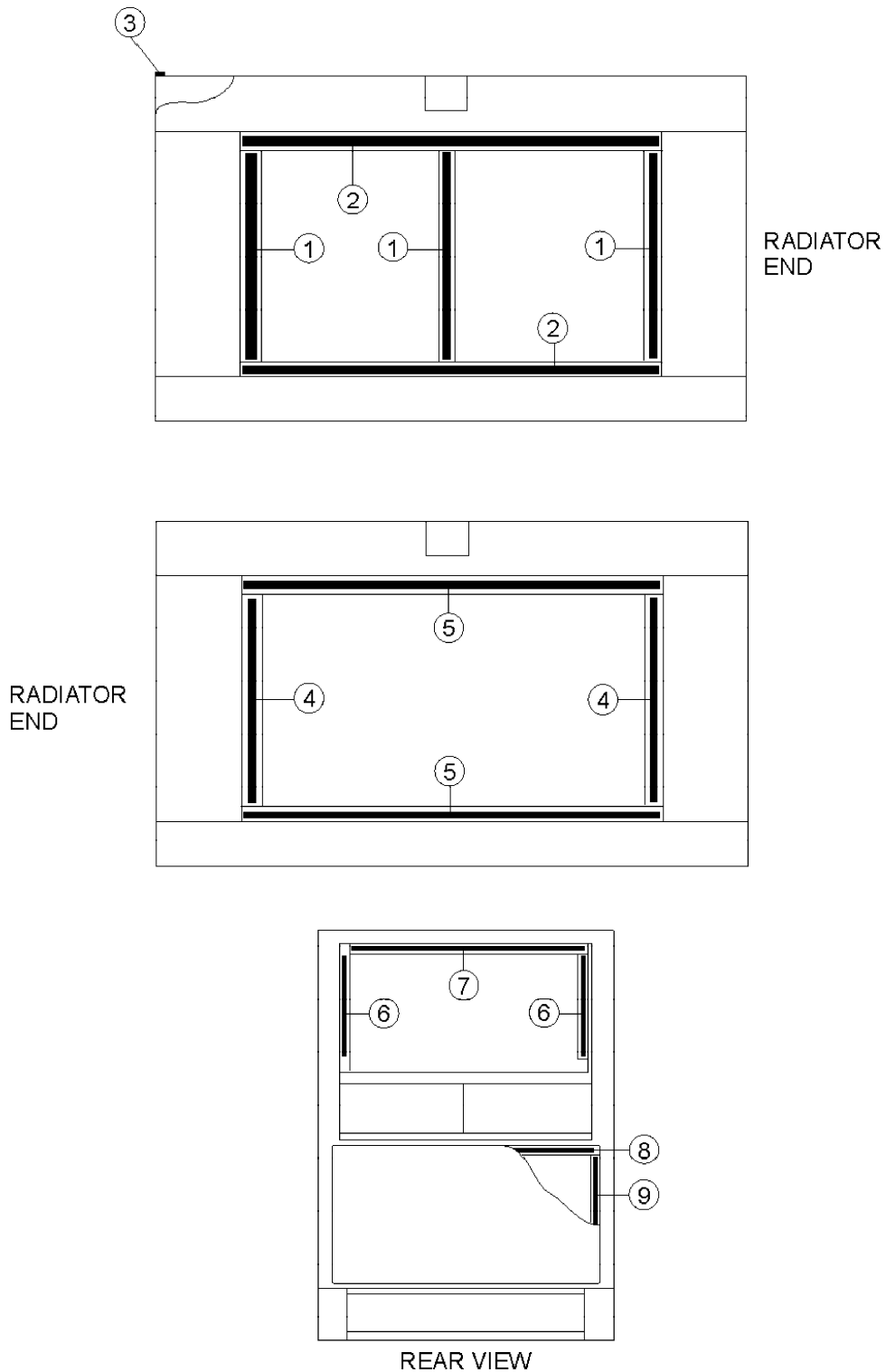
## ENCLOSURE ASSEMBLY

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>   | <u>QTY.</u> | <u>REMARKS</u> |
|------------|-----------------|--------------------|-------------|----------------|
| 1          | 7565111403      | BASE .....         | 1           | 8325110122     |
| 2          | 8445116114      | FLOOR PANEL        | 1           |                |
| 3          | 0017106016      | HEX.HEAD BOLT      | 8           |                |
| 4          | 7565121502      | FRONT FRAME        | 1           |                |
|            | 8325921204      | LINING             | 1           |                |
| 5          | 0017108020      | HEX. HEAD BOLT     | 7           |                |
| 6          | 1625165103      | FILLER COVER       | 1           |                |
| 7          | 1625165204      | CHAIN              | 1           |                |
| 8          | 8322313003      | COVER, MUFFLER     | 1           |                |
|            | 8345925004      | LINING             | 1           |                |
| 9          | 0017108020      | HEX. HEAD BOLT     | 4           |                |
| 10         | 8435125004      | COVER, FRONT FRAME | 1           |                |
|            | 8345923004      | LINING             | 1           |                |
| 11         | 0017108020      | HEX. HEAD BOLT     | 6           |                |
| 12         | 8345130203      | HANGER             | 1           |                |
| 13         | 8435132113      | HANGER             | 1           |                |
| 14         | 0017112030      | HEX. HEAD BOLT     | 6           |                |
| 15         | B0445000302     | REAR FRAME         | 7           |                |
| 16         | 0017108020      | HEX. HEAD BOLT     | 7           |                |
| 17         | 7565144104      | COVER, REAR FRAME  | 1           |                |
| 18         | 0017108020      | HEX. HEAD BOLT     | 6           |                |
| 19         | B0445200203     | DOOR, REAR FRAME   | 1           |                |
| 20         | B0445600104     | WINDOW PLATE       | 1           |                |
| 21         | 0207006000      | HEX.NUT            | 7           |                |
| 22         | 0605010230      | DOOR HANDLE        | 1           |                |
| 23         | 0021805012      | MACHINE SCREW      | 4           |                |
| 24         | 0810015204      | HINGE              | 2           |                |
|            | 0810015504      | WASHER             | 2           |                |
| 25         | 0017106016      | HEX.HEAD BOLT      | 4           |                |
| 26         | B0465000202     | ROOF PANEL         | 1           |                |
|            | 8325961104      | LINING             | 1           |                |
| 27         | 0017108020      | HEX. HEAD BOLT     | 16          |                |
| 28         | 8325172103      | SIDE PANEL         | 1           |                |
|            | 8325972104      | LINING             | 1           |                |
| 29         | 8325173004      | DUCT               | 1           |                |
| 30         | 0207006000      | HEX. NUT           | 5           |                |
| 31         | 0017108035      | HEX. HEAD BOLT     | 6           |                |
| 32         | 8325170203      | SIDE DOOR          | 1           |                |
|            | 832597020       | LINING             | 1           |                |
| 33         | B0445000203     | SIDE DOOR          | 1           |                |
|            | 8345970404      | LINING             | 1           |                |
| 34         | 8325171113      | DUCT               | 1           |                |
| 35         | 0207006000      | HEX. NUT           | 6           |                |
| 36         | B9114000002     | DOOR HANDLE        | 1           |                |
| 37         | 0021806016      | MACHINE SCREW      | 4           |                |
| 38         | 0845047204      | HINGE              | 2           |                |
|            | 0845045004      | WASHER             | 2           |                |
| 39         | 0845047104      | HINGE              | 2           |                |
|            | 0845045004      | WASHER             | 2           |                |
| 40         | 0017108020      | HEX. HEAD BOLT     | 8           |                |
| 41         | 0845031504      | CAP                | 4           |                |
| 42         | 0601850097      | STOPPER            | 2           |                |
| 43         | 8435525003      | BRACKET            | 1           |                |
| 44         | 0017108020      | HEX. HEAD BOLT     | 4           |                |
| 45         | 0600500090      | EMBLEM             | 1           |                |
| 46         | 0021106020      | MACHINE SCREW      | 2           |                |

# DCA-10SPX3 — ENCLOSURE (RUBBER SEALS) ASSY.

ENCLOSURE (SEALS) ASSY.

RUBBER SEALS





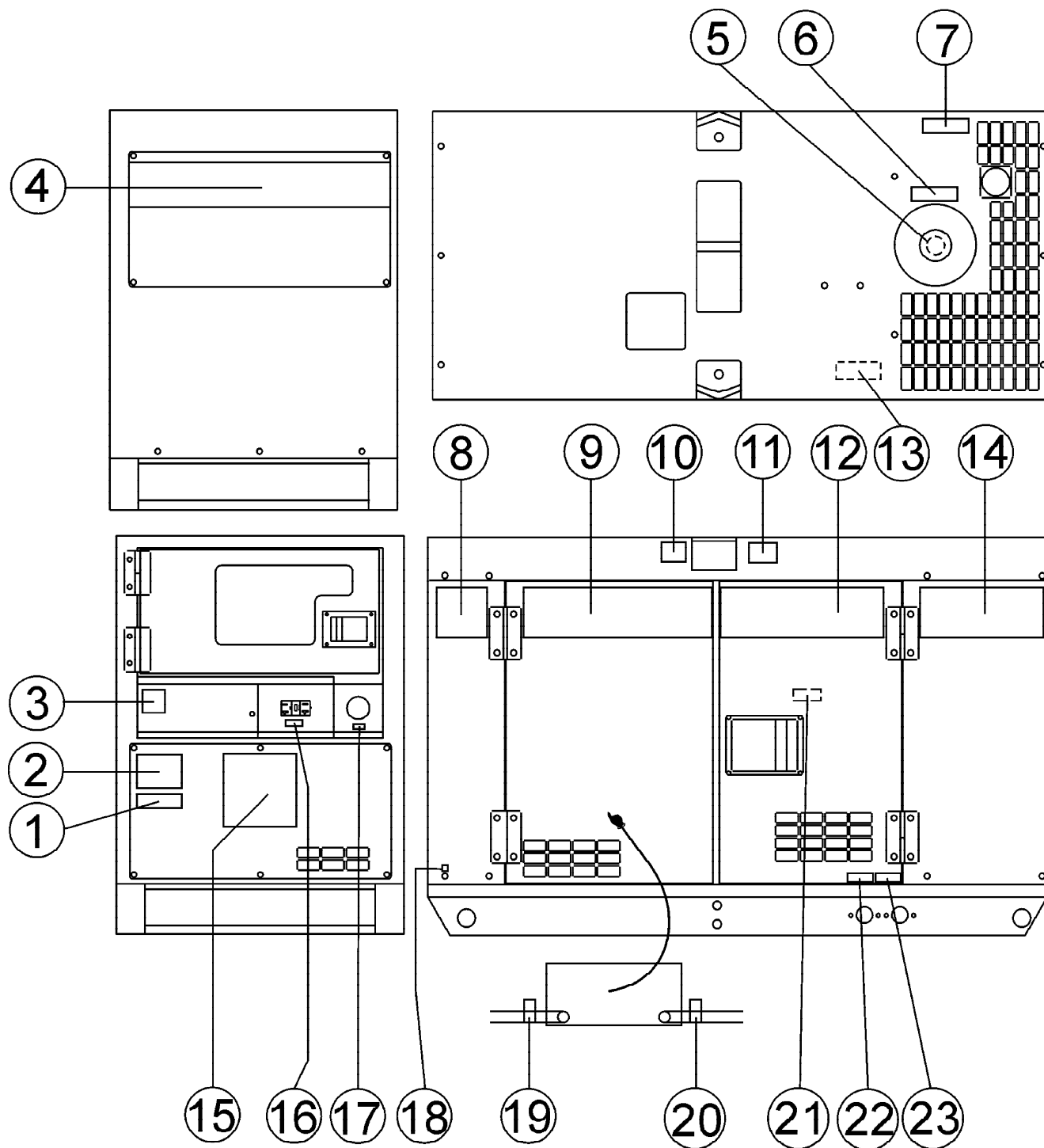
## DCA-10SPX3 — ENCLOSURE (RUBBER SEALS) ASSY.

ENCLOSURE (RUBBER SEALS )ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u> | <u>QTY.</u> | <u>REMARKS</u> |
|------------|-----------------|------------------|-------------|----------------|
| 1          | 0229400650      | RUBBER SEAL      | 3           |                |
| 2          | 0229400895      | RUBBERSEAL       | 2           |                |
| 3          | 0229200650      | RUBBER SEAL      | 1           |                |
| 4          | 0220400650      | RUBBER SEAL      | 2           |                |
| 5          | 0227600895      | RUBBER SEAL      | 2           |                |
| 6          | 0229400265      | RUBBER SEAL      | 2           |                |
| 7          | 0229400550      | RUBBER SEAL      | 1           |                |
| 8          | 0229200580      | RUBBER SEAL      | 2           |                |
| 9          | 0229200245      | RUBBER SEAL      | 2           |                |

# DCA-10SPX3 — NAME PLATE AND DECALS

## NAME PLATE AND DECALS



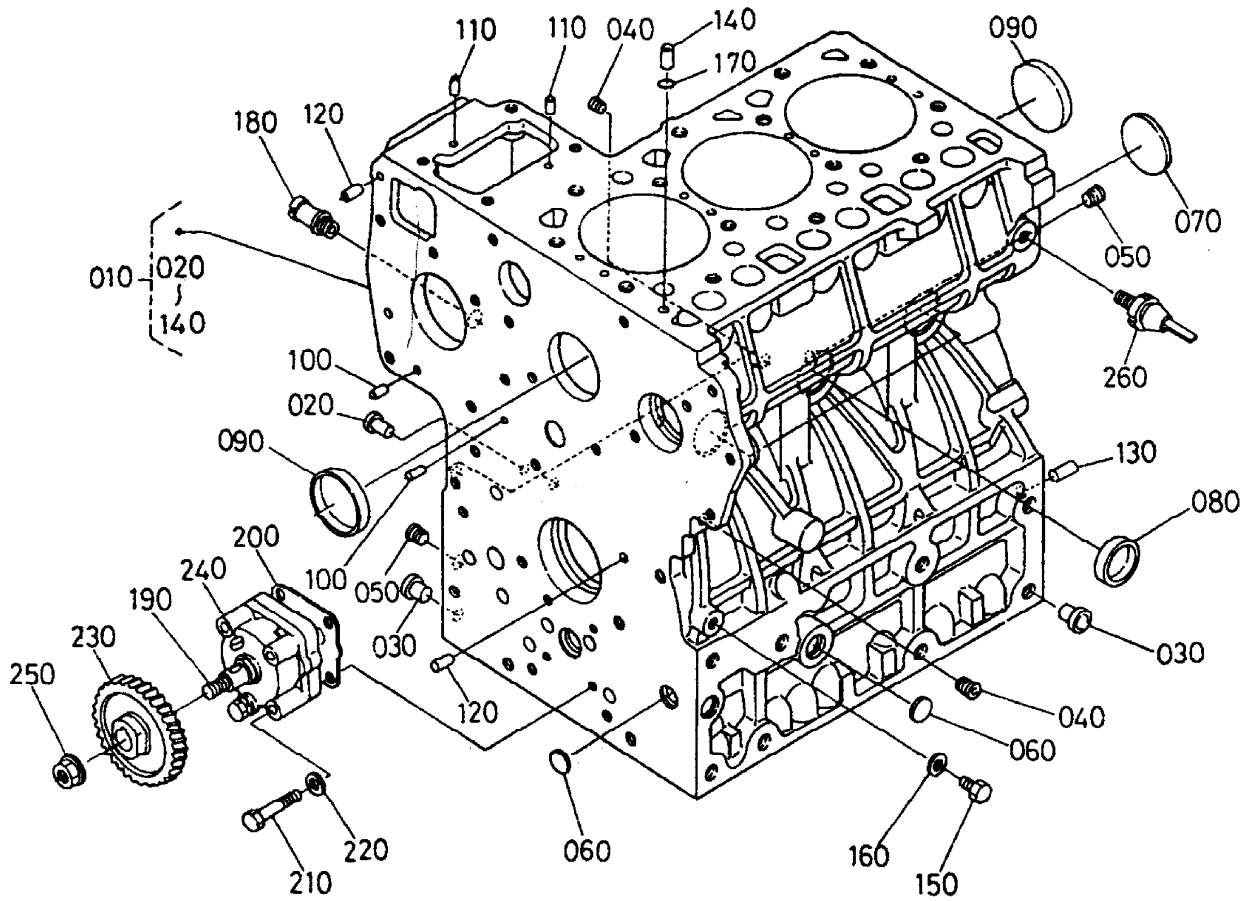
## DCA-10SPX3 — NAME PLATE AND DECALS

### NAME PLATE AND DECALS

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>              | <u>QTY.</u> | <u>REMARKS</u> |
|------------|-----------------|-------------------------------|-------------|----------------|
| 1          | 0820610404      | WARNING! TRANSFER SWITCH      | 1           |                |
| 2          | 6390671104      | IMPORTANT "CHECK DAILY"       | 1           |                |
| 3          | 8700611904      | DANGER: ELEC.SHOCK HAZARD     | 1           |                |
| 4          | 7670633003      | STRIPE; FRONT END             | 1           |                |
| 5          | 1630610304      | DANGER: REMOVE ONLY WHEN COOL | 1           |                |
| 6          | 6360620104      | WATER                         | 1           |                |
| 7          | 8700611804      | WARNING                       | 1           |                |
| 8          | 7670633804      | 15 STRIPE                     | 2           |                |
| 9          | 7670633404      | STRIPE; DOOR                  | 2           |                |
| 10         | M0000001020Q    | DRAIN FUEL PRIOR TO LIFTING   | 2           |                |
| 11         | 1320621504      | SUPPORT HOOK                  | 2           |                |
| 12         | 7670633504      | STRIPE: DOOR WITH HANDLE      | 2           |                |
| 13         | M9503000103     | OIL LEVEL CHECK               | 1           |                |
| 14         | 7670633204      | STRIPE; FRONT SIDE            | 2           |                |
| 15         | 0840625902      | MQ DECAL                      | 1           |                |
| 16         | 0800622704      | 120V                          | 1           |                |
| 17         | M0000001021Q    | 60HZ                          | 1           |                |
| 18         | 0800628504      | GROUND                        | 1           |                |
| 19         | 0800689404      | +                             | 1           |                |
| 20         | 0800689504      | -                             | 1           |                |
| 21         | 1630610504      | DO OPERATE WITH DOORS OPEN    | 1           |                |
| 22         | 6360620204      | OIL DRAIN PLUG                | 1           |                |
| 23         | 6360620104      | WATER DRAIN PLUG              | 1           |                |

# KUBOTA D1403—CRANKCASE ASSY.

CRANKCASE ASSY.



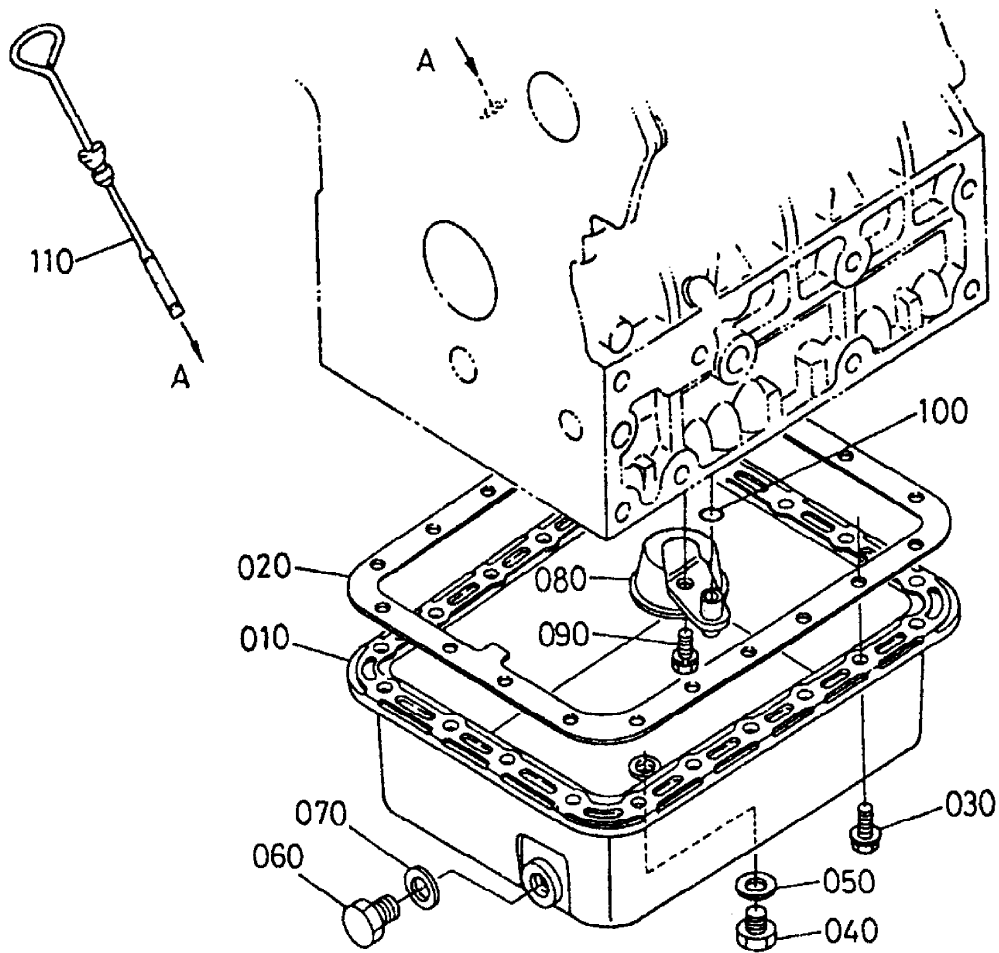
# KUBOTA D1403—CRANKCASE ASSY.

## CRANKCASE ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>      | <u>QTY.</u> | <u>REMARKS</u>      |
|------------|-----------------|-----------------------|-------------|---------------------|
| 010        | 1641401010      | COMP. CRANKCASE ..... | 1           | INCLUDES ITEMS W/*  |
| 020*       | 3415027580      | PLUG                  | 1           |                     |
| 030*       | 3221027580      | PLUG                  | 2           |                     |
| 040*       | 1552196020      | PLUG                  | 5           |                     |
| 050*       | 1552196030      | PLUG                  | 2           |                     |
| 060*       | 1739196160      | PLUG, EXPANSION       | 3           |                     |
| 070*       | 0631175045      | PLUG, EXPANSION       | 1           |                     |
| 080*       | 1522103383      | CAP, SEALING .....    | 5           | REPLACES 1522103380 |
| 090*       | 1522103392      | CAP, SEALING .....    | 2           | REPLACES 1522103390 |
| 100*       | 0501200408      | PIN, STRAIGHT         | 2           |                     |
| 110*       | 0501200609      | PIN, STRAIGHT         | 2           |                     |
| 120*       | 0501200612      | PIN, STRAIGHT         | 2           |                     |
| 130*       | 0501201018      | PIN, STRAIGHT         | 1           |                     |
| 140*       | 1522133650      | PIN, PIPE             | 1           |                     |
| 150        | 1522133610      | PLUG                  | 1           |                     |
| 160        | 1502133660      | GASKET                | 1           |                     |
| 170        | 1522133700      | O RING                | 1           |                     |
| 180        | 1532173340      | PIPE, WATER RETURN    | 1           |                     |
| 190        | 1547135010      | ASSY. PUMP, OIL       | 1           |                     |
| 200        | 1529635150      | GASKET, OIL PUMP      | 1           |                     |
| 210        | 0105350650      | BOLT                  | 4           |                     |
| 220        | 0451260060      | LOCK WASHER           | 4           |                     |
| 230        | 1920235660      | OIL PUMP DRIVE GEAR   | 1           |                     |
| 240        | 0571200410      | FEATHER KEY           | 1           |                     |
| 250        | 1522135682      | FLANGE NUT            | 1           |                     |
| 260        | 1584139010      | OIL SWITCH            | 1           |                     |

# KUBOTA D1403— OIL PAN ASSY.

OIL PAN ASSY.



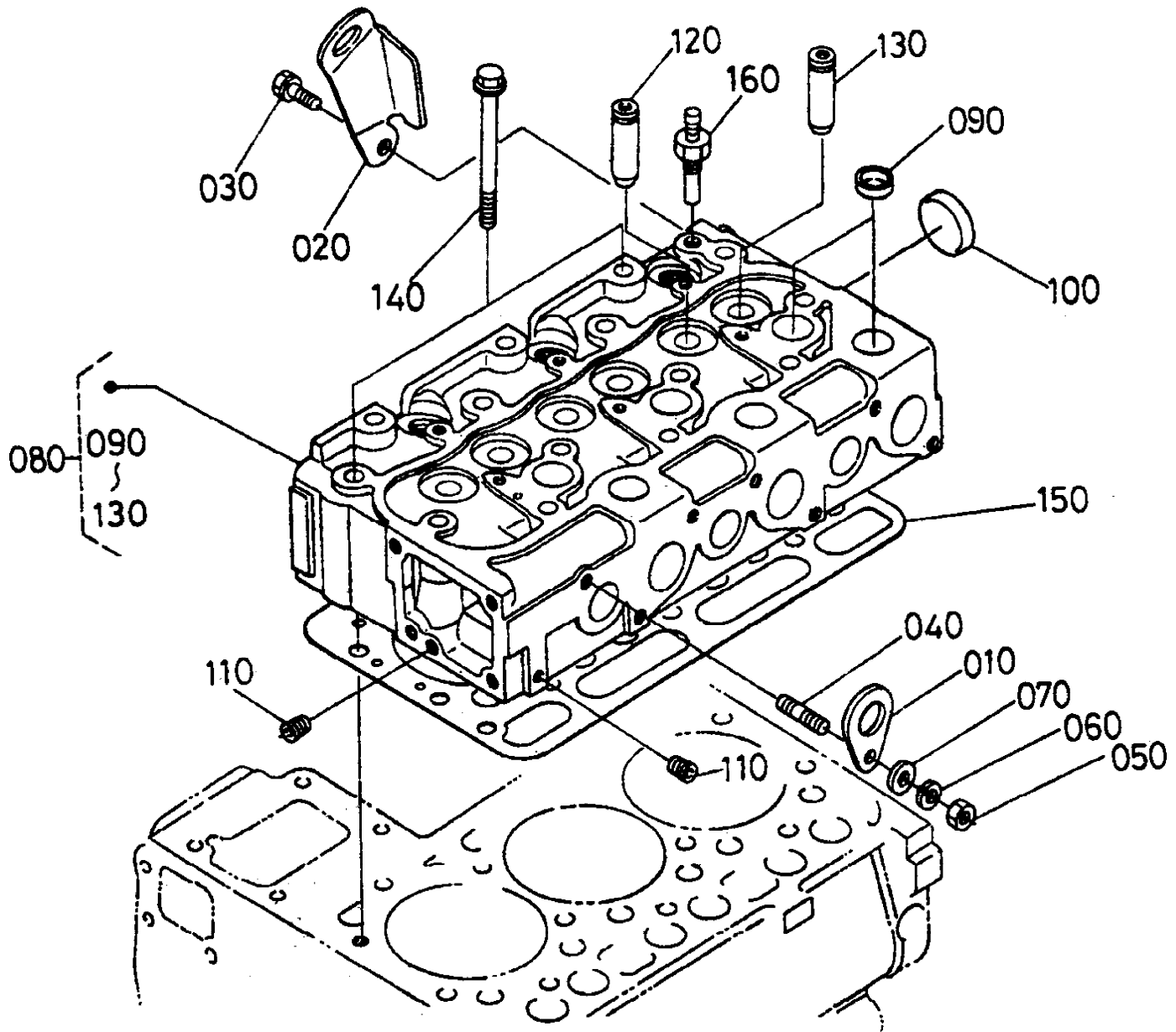
# KUBOTA D1403— OIL PAN ASSY.

## 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      | OIL PAN GASKET   | 1           |                         |
| 030        | 1733391010      | FLANGE BOLT      | 20          |                         |
| 040        | 152133750       | 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           |                         |
| 110        | 1711136410      | OIL GAUGE        | 1           |                         |

# KUBOTA D1403—CYLINDER HEAD ASSY.

CYLINDER HEAD ASSY.





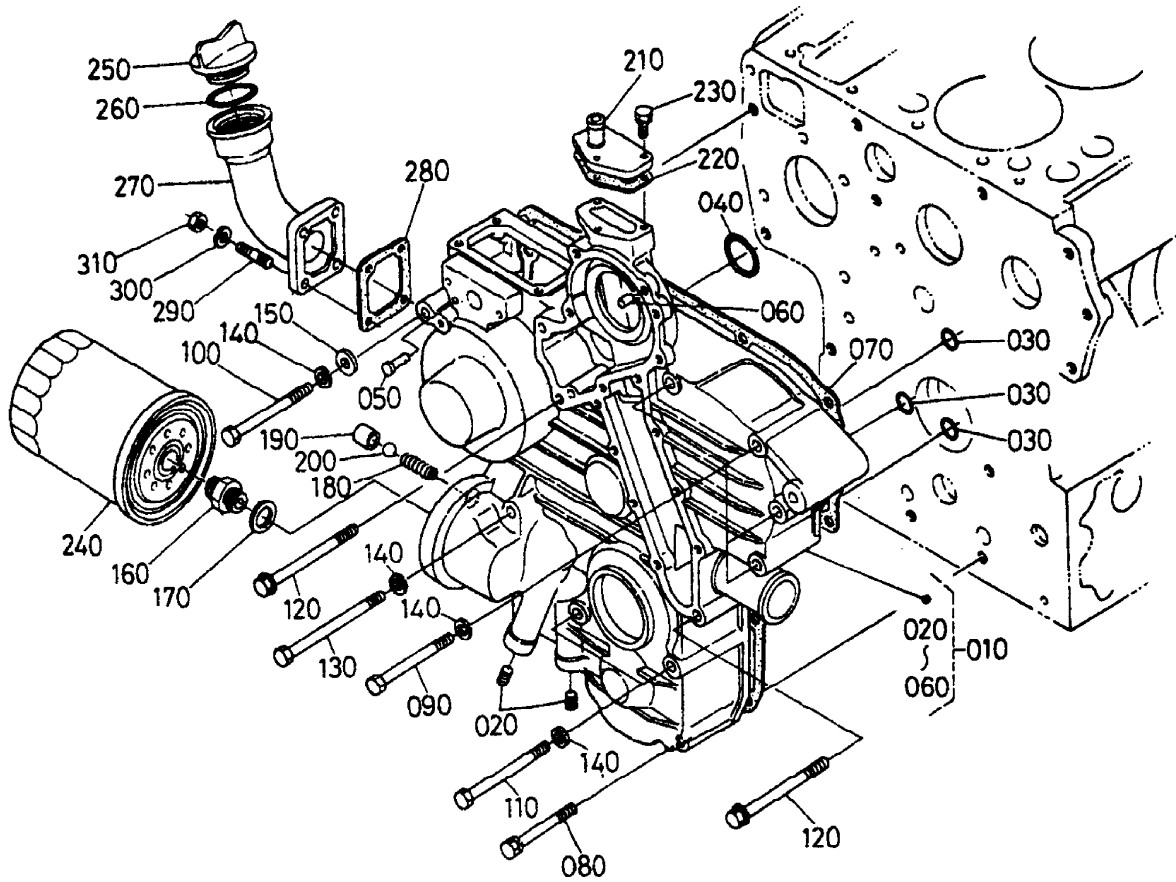
# KUBOTA D1403— CYLINDER HEAD ASSY.

## CYLINDER HEAD ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>          | <u>QTY.</u> | <u>REMARKS</u>         |
|------------|-----------------|---------------------------|-------------|------------------------|
| 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        | 1641403040      | COMP. CYLINDER HEAD ..... | 1           | ... INCLUDES 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        | 1642703310      | CYLINDER HEAD GASKET      | 1           |                        |
| 160        | 1949883040      | THERMOSWITCH ASSY.        | 1           |                        |

# KUBOTA D1403—GEAR CASE ASSY.

GEAR CASE ASSY.



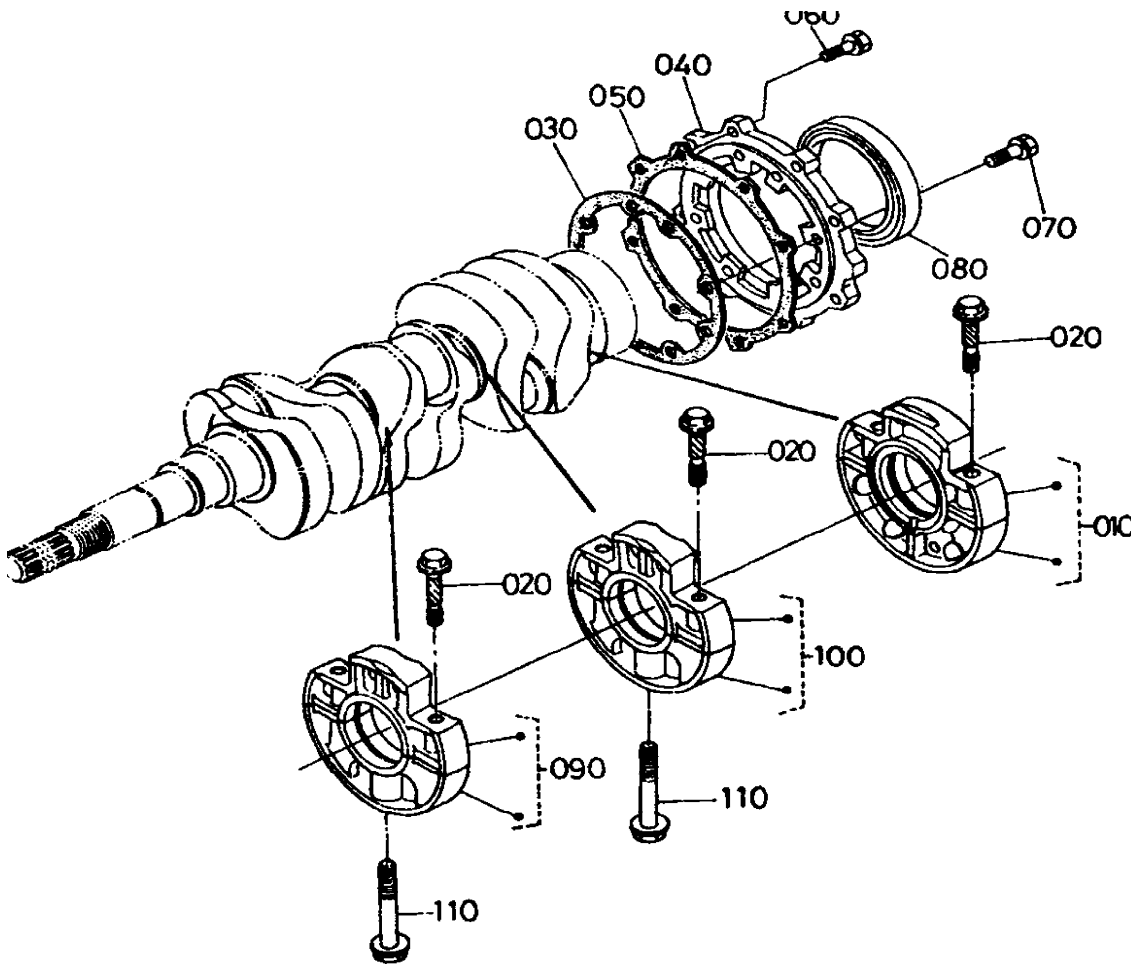
# KUBOTA D1403— GEAR CASE ASSY.

## GEAR CASE ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>           | <u>QTY.</u> | <u>REMARKS</u>      |
|------------|-----------------|----------------------------|-------------|---------------------|
| 010        | 1718204010      | GEAR CASE ASSY. ....       | 1           | INCLUDES ITEMS W/*  |
| 020*       | 1685196010      | PLUG                       | 2           |                     |
| 030*       | 0481100150      | O RING                     | 3           |                     |
| 040*       | 0481100360      | O RING                     | 1           |                     |
| 050*       | 1981856280      | START SPRING PIN           | 1           |                     |
| 060*       | 0501200612      | STAIGHT PIN                | 2           |                     |
| 070        | 1708904130      | GEAR CASE GASKET           | 1           |                     |
| 080        | 0112350860      | BOLT                       | 2           |                     |
| 090        | 0115350870      | BOLT                       | 5           |                     |
| 100        | 1736791030      | BOLT                       | 1           |                     |
| 110        | 0115350880      | BOLT                       | 3           |                     |
| 120        | 1736791020      | BOLT                       | 3           |                     |
| 130        | 0115350895      | BOLT                       | 2           |                     |
| 140        | 0451260080      | LOCK WASHER                | 10          |                     |
| 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        | 7000032091      | OIL FILTER CARTRIDGE ..... | 1           | REPLACES 1732132430 |
| 250        | 1585233140      | OIL FILLER PLUG            | 1           |                     |
| 260        | 0481150300      | O RING                     | 1           |                     |
| 270        | 1718233110      | OIL FILLER FLANGE          | 1           |                     |
| 280        | 1547254550      | GASKET                     | 1           |                     |
| 290        | 1718291510      | STUD                       | 4           |                     |
| 300        | 0451260060      | LOCK WASHER                | 4           |                     |
| 310        | 0205650060      | NUT                        | 4           |                     |

# KUBOTA D1403— MAIN BEARING CASE ASSY.

MAIN BEARING CASE ASSY.



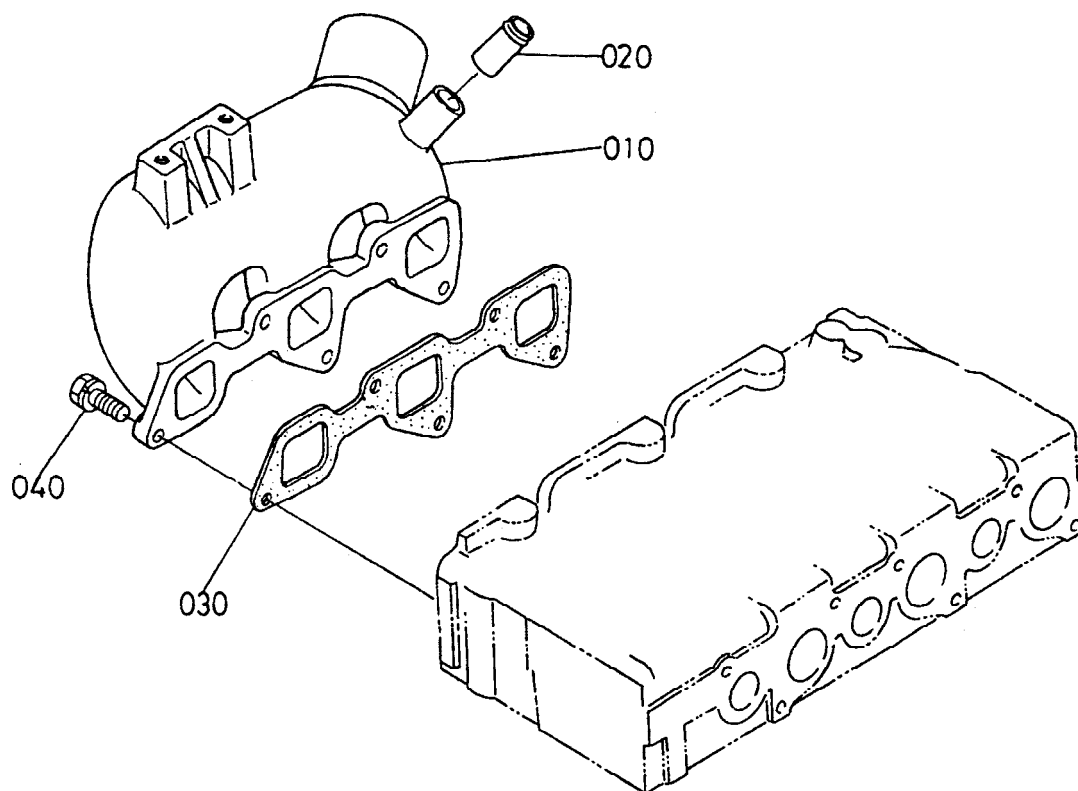
## KUBOTA D1403 — MAIN BEARING CASE ASSY.

### MAIN BEARING CASE ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>        | <u>QTY.</u> | <u>REMARKS</u> |
|------------|-----------------|-------------------------|-------------|----------------|
| 010        | 1901304090      | MAIN BEARING CASE ASSY. | 1           |                |
| 020        | 1901304540      | BEARING CASE BOLT       | 6           |                |
| 030        | 1907704360      | BEARING CASE GASKET     | 1           |                |
| 040        | 1901304813      | BEARING CASE COVER      | 1           |                |
| 050        | 1711804830      | CASE COVER GASKET       | 1           |                |
| 060        | 0112350825      | BOLT                    | 8           |                |
| 070        | 0112350828      | BOLT                    | 8           |                |
| 080        | 1920204460      | OIL SEAL                | 1           |                |
| 090        | 1901304040      | MAIN BEARING CASE ASSY. | 1           |                |
| 100        | 1901304050      | MAIN BEARING CASE ASSY. | 1           |                |
| 110        | 1901304060      | MAIN BEARING CASE ASSY. | 1           |                |
| 120        | 1560104560      | BEARING CASE BOLT       | 2           |                |

# KUBOTA D1403— INLET MANIFOLD ASSY.

INLET MANIFOLD ASSY.



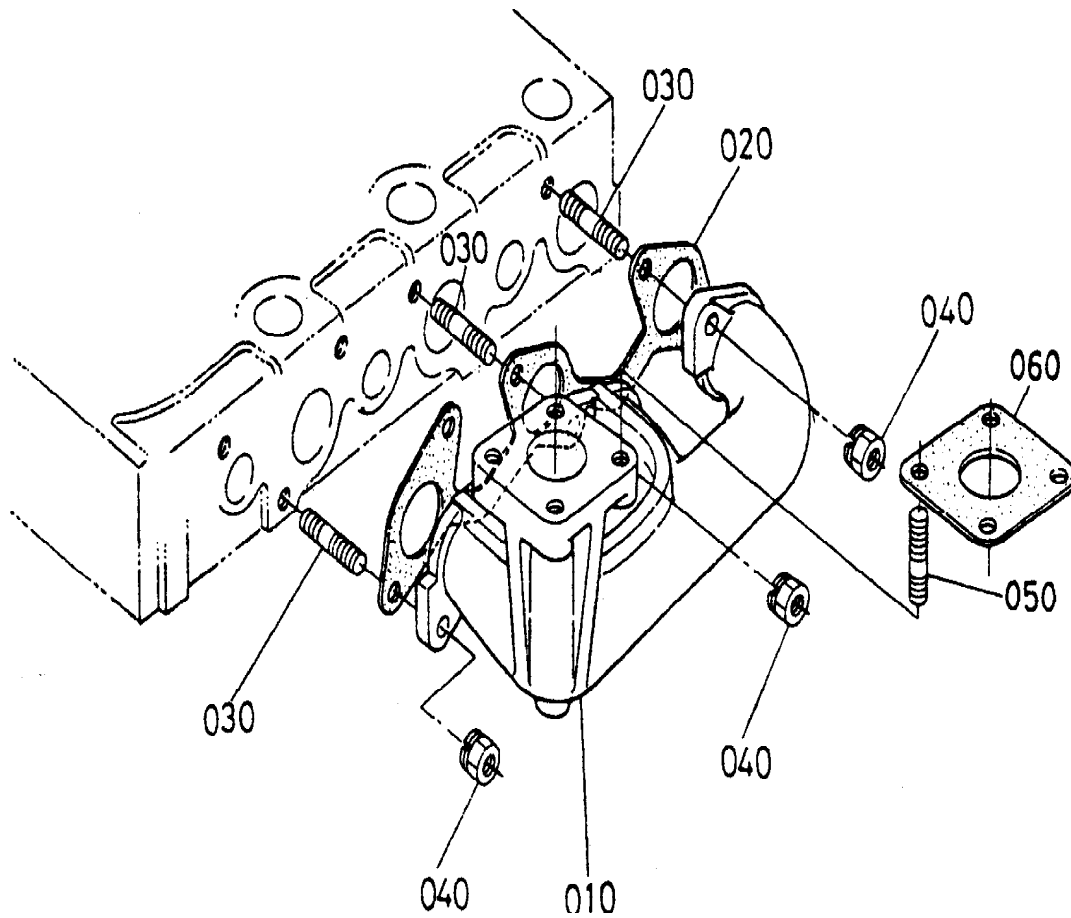
# KUBOTA D1403— INLET MANIFOLD ASSY.

## INLET MANIFOLD ASSY.

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

# KUBOTA D1403— EXHAUST MANIFOLD ASSY.

EXHAUST MANIFOLD ASSY.





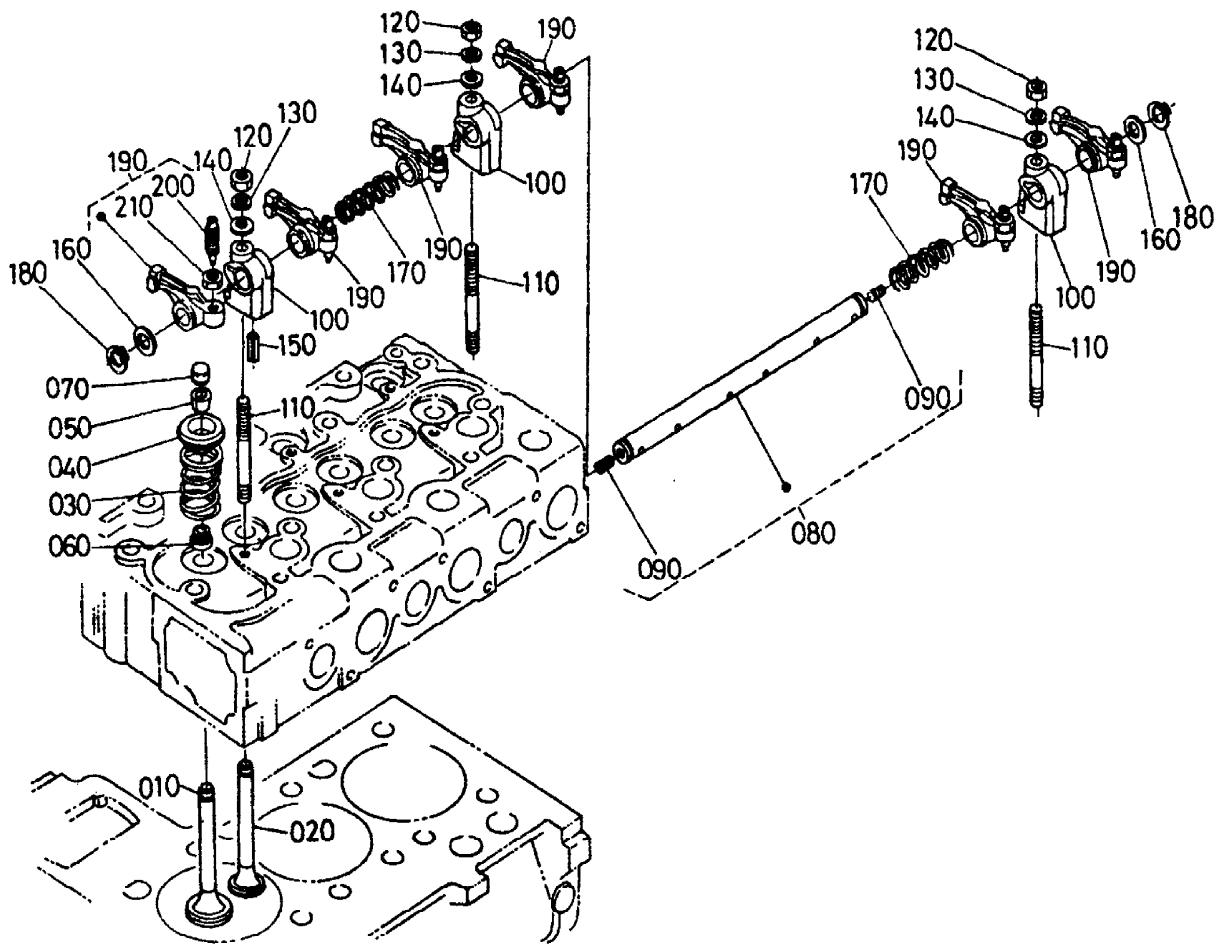
# KUBOTA D1403— EXHAUST MANIFOLD ASSY.

## EXHAUST MANIFOLD ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>   | <u>QTY.</u> | <u>REMARKS</u> |
|------------|-----------------|--------------------|-------------|----------------|
| 010        | 1927412312      | EXHAUST MANIFOLD   | 1           |                |
| 020        | 1531312350      | EX-MANIFOLD GASKET | 1           |                |
| 030        | 1522191530      | STUD               | 6           |                |
| 040        | 1642992010      | NUT                | 6           |                |
| 050        | 151350822       | STUD               | 4           |                |
| 060        | 1526312370      | MUFFLER GASKET     | 1           |                |

# KUBOTA D1403—VALVE AND ROCKER ASSY.

## VALVE AND ROCKER ASSY.



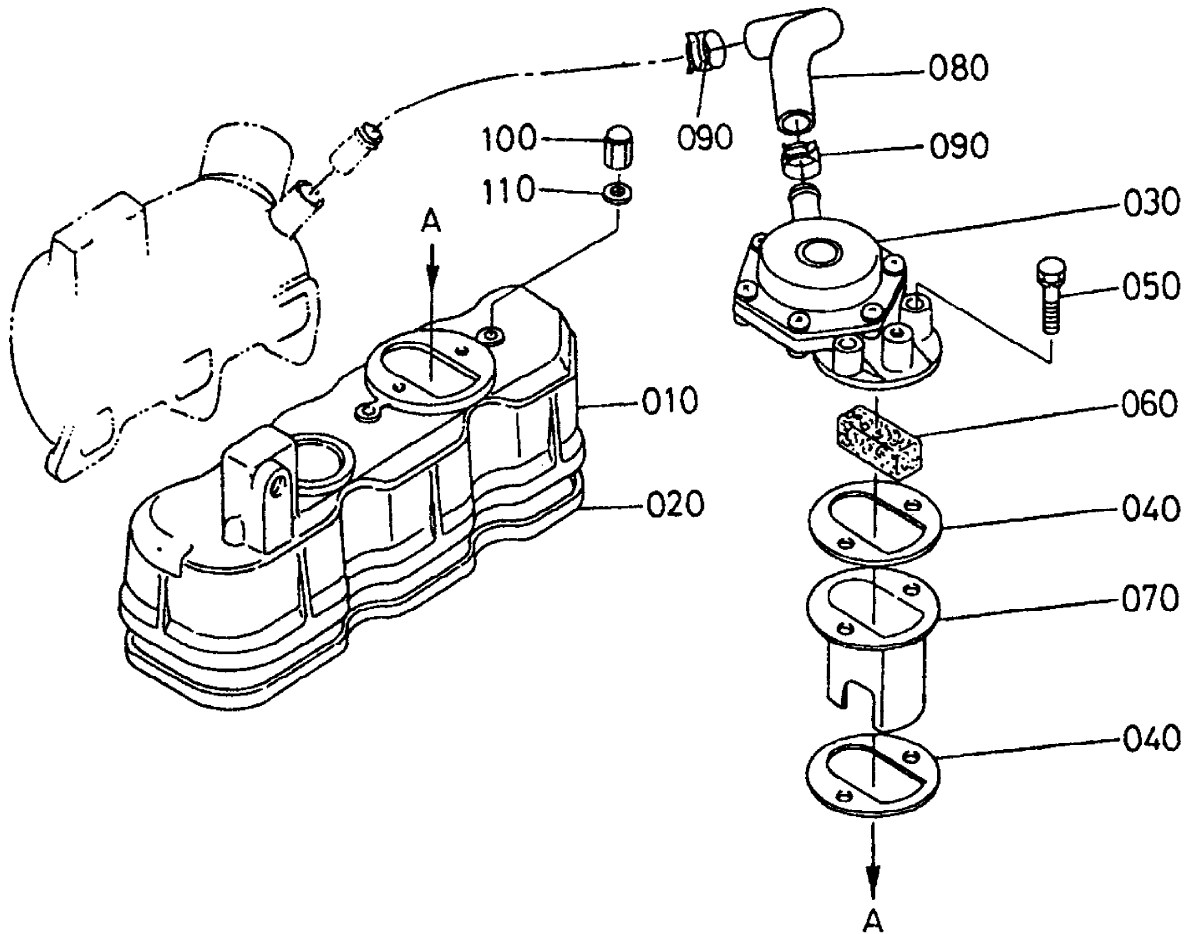
# KUBOTA D1403—VALVE AND ROCKER ASSY.

## VALVE AND ROCKER ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>            | <u>QTY.</u> | <u>REMARKS</u>     |
|------------|-----------------|-----------------------------|-------------|--------------------|
| 010        | 1648413110      | 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        | 1540114052      | ROCKER ARM SHAFT ASSY. .... | 1           | INCLUDES ITEMS W/* |
| 090*       | 0341000808      | SET SCREW                   | 2           |                    |
| 100        | 1522114350      | ROCKER ARM BRACKET          | 3           |                    |
| 110        | 1552191500      | STUD                        | 3           |                    |
| 120        | 0215650080      | NUT                         | 3           |                    |
| 130        | 0451260080      | LOCK WASHER                 | 3           |                    |
| 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      | EXTERNAL CIR CLIP           | 2           |                    |
| 190        | 1562114030      | ROCKER ARM ASSY. ....       | 6           | INCLUDES ITEMS W/# |
| 200#       | 1552114230      | ADJUSTING SCREW             | 6           |                    |
| 210#       | 1502114240      | NUT                         | 6           |                    |

# KUBOTA D1403—HEAD COVER ASSY.

HEAD COVER ASSY.



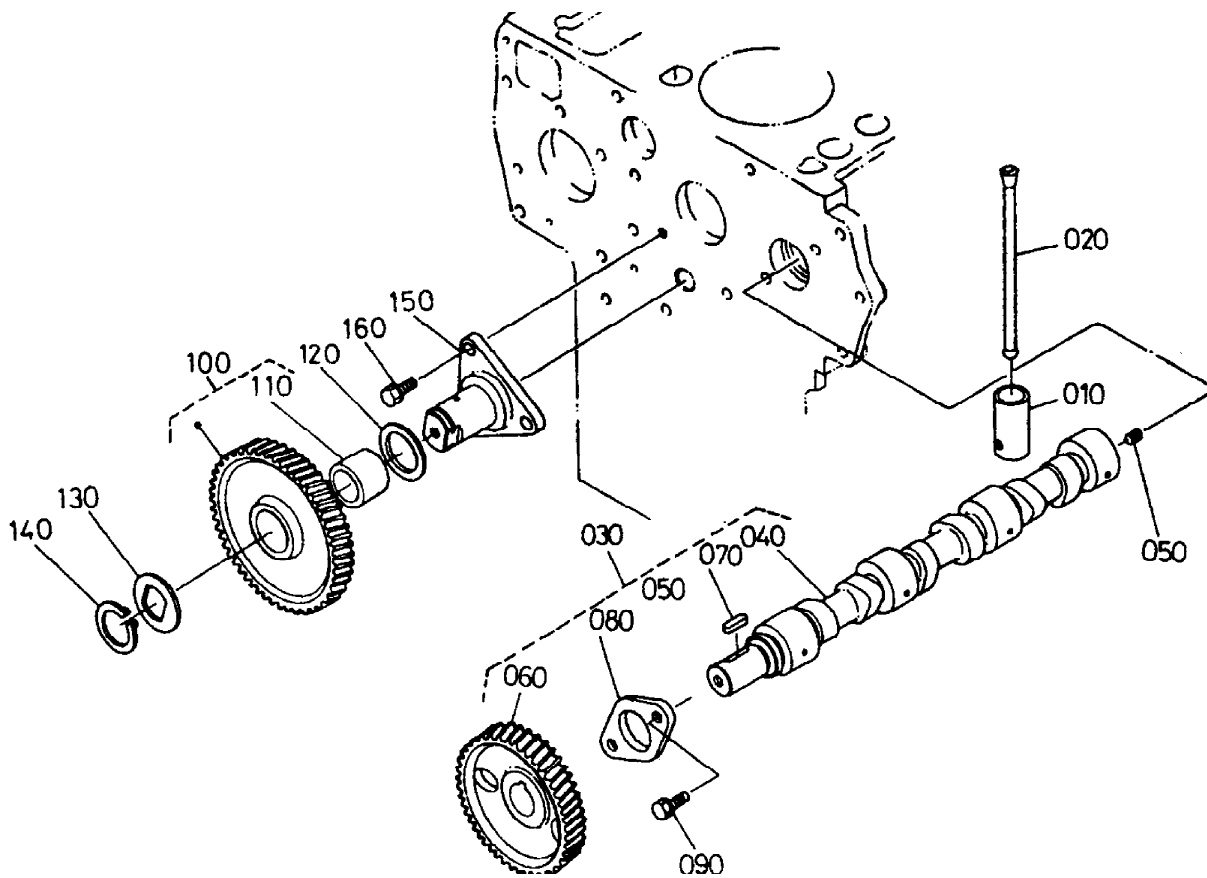
# KUBOTA D1403— HEAD COVER ASSY.

## HEAD COVER ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>  | <u>QTY.</u> | <u>REMARKS</u> |
|------------|-----------------|-------------------|-------------|----------------|
| 010        | 1718214510      | HEAD COVER        | 1           |                |
| 020        | 1552114520      | HEAD COVER GASKET | 1           |                |
| 030        | 1718205020      | COMP. BREATHER    | 1           |                |
| 040        | 1711405130      | 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 D1403—CAMSHAFT ASSY.

CAMSHAFT ASSY.



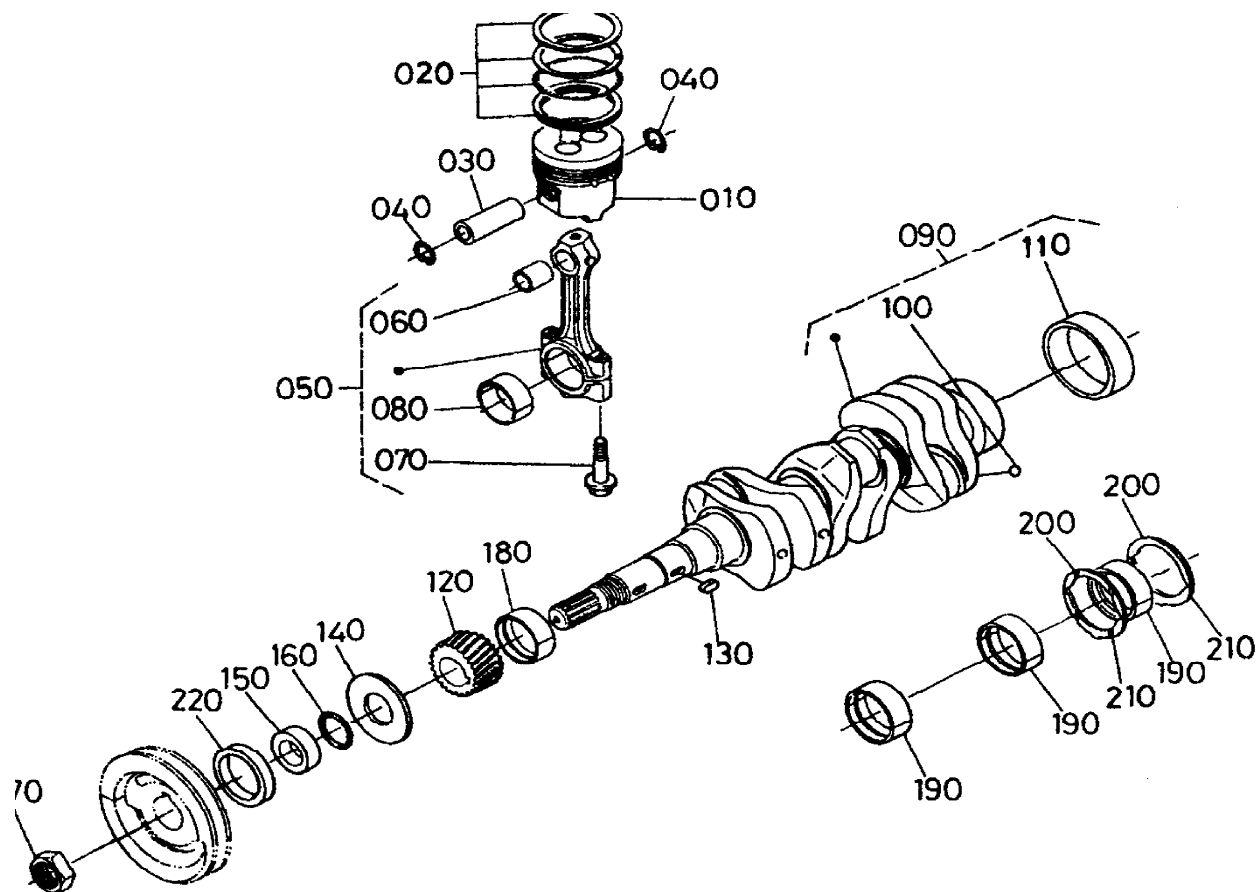
# KUBOTA D1403—CAMSHAFT ASSY.

## CAMSHAFT ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>      | <u>QTY.</u> | <u>REMARKS</u>     |
|------------|-----------------|-----------------------|-------------|--------------------|
| 010        | 1560115550      | TAPPET                | 6           |                    |
| 020        | 1901315110      | PUSH ROD              | 6           |                    |
| 030        | 1733116010      | CAMSHAFT ASSY. ....   | 1.....      | INCLUDES ITEMS W/* |
| 040*       | 1733116150      | 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        | 1522124010      | IDLE COMP. GEAR ..... | 1.....      | INCLUDES ITEMS W/# |
| 110#       | 1642724980      | IDLE GEAR BUSHING     | 1           |                    |
| 120        | 1552124360      | COLLAR                | 1           |                    |
| 130        | 1552124370      | COLLAR                | 1           |                    |
| 140        | 1522124320      | IDLE GEAR CIR. CLIP   | 1           |                    |
| 150        | 1981824250      | IDLE GEAR SHAFT       | 1           |                    |
| 160        | 0112350818      | BOLT                  | 3           |                    |

# KUBOTA D1403— PISTON AND CAMSHAFT ASSY.

PISTON AND CAMSHAFT ASSY.





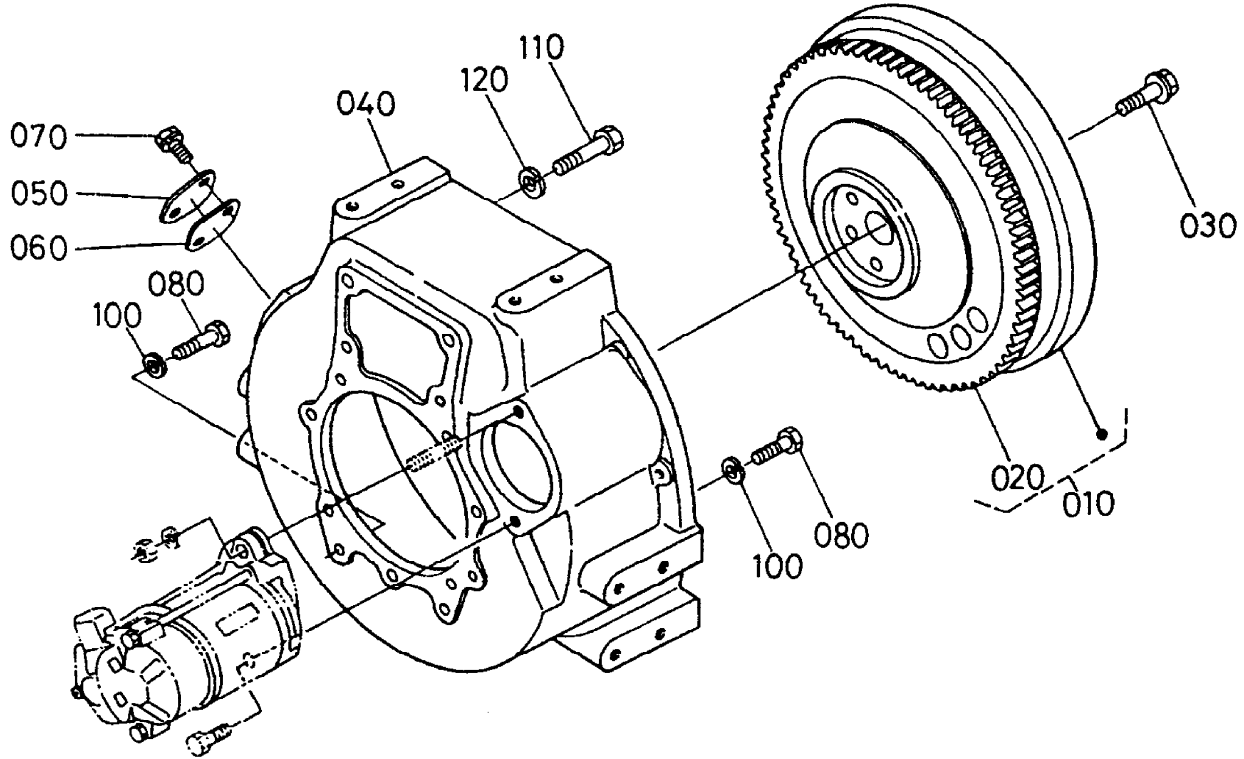
# KUBOTA D1403— PISTON AND CAMSHAFT ASSY.

## PISTON AND CRANKSHAFT ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>          | <u>QTY.</u> | <u>REMARKS</u>     |
|------------|-----------------|---------------------------|-------------|--------------------|
| 010        | 1642721110      | PISTON .....              | 3           | STD                |
| 010        | 1642721910      | PISTON .....              | 3           | + 0.5 M M          |
| 020        | 1642721050      | PISTON RING ASSY. ....    | 3           | STD                |
| 020        | 1642721090      | PISTON RING ASSY .....    | 3           | +0.50MM            |
| 030        | 1490121310      | PISTON PIN                | 3           |                    |
| 040        | 1410921330      | PISTON PIN CLIP           | 6           |                    |
| 050        | 1731122010      | CONNECTING ROD ASSY. .... | 3           | INCLUDES ITEMS W/* |
| 060*       | 1733121980      | PISTON PIN BUSHING        | 3           |                    |
| 070*       | 1552122142      | CONNECTING ROD BOLT       | 6           |                    |
| 080*       | 1731122310      | METAL CRANKPIN .....      | 3           | STD SET            |
| 080        | 1733122970      | METAL CRANKPIN .....      | 3           | -0.20MM, SET       |
| 080        | 1733122980      | METAL CRANKPIN .....      | 3           | -0.40MM, SET       |
| 090        | 1641423010      | COMP. CRANKSHAFT .....    | 1           | INCLUDES 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      | METAL CRANKSHAFT .....    | 1           | STD                |
| 180        | 1731123910      | METAL CRANKSHAFT .....    | 1           | -0.20MM            |
| 180        | 1731123920      | METAL CRANKSHAFT .....    | 1           | -0.40MM            |
| 190        | 1731123480      | METAL CRANKSHAFT .....    | 3           | STD SET            |
| 190        | 1731123930      | METAL CRANKSHAFT .....    | 3           | -0.20MM, SET       |
| 190        | 1731123940      | METAL CRANKSHAFT .....    | 3           | -0.40MM, SET       |
| 200        | 1552123530      | SIDE METAL .....          | 2           | STD                |
| 200        | 1522123950      | SIDE METAL .....          | 2           | +0.20MM            |
| 200        | 1522123960      | SIDE METAL .....          | 2           | +0.40MM            |
| 210        | 1920223540      | SIDE METAL .....          | 2           | STD                |
| 210        | 1920223970      | SIDE METAL .....          | 2           | +0.20MM            |
| 210        | 1920223980      | SIDE METAL .....          | 2           | +0.40MM            |
| 220        | 1920204140      | OIL SEAL                  | 1           |                    |

# KUBOTA D1403— FLYWHEEL ASSY.

FLYWHEEL ASSY.



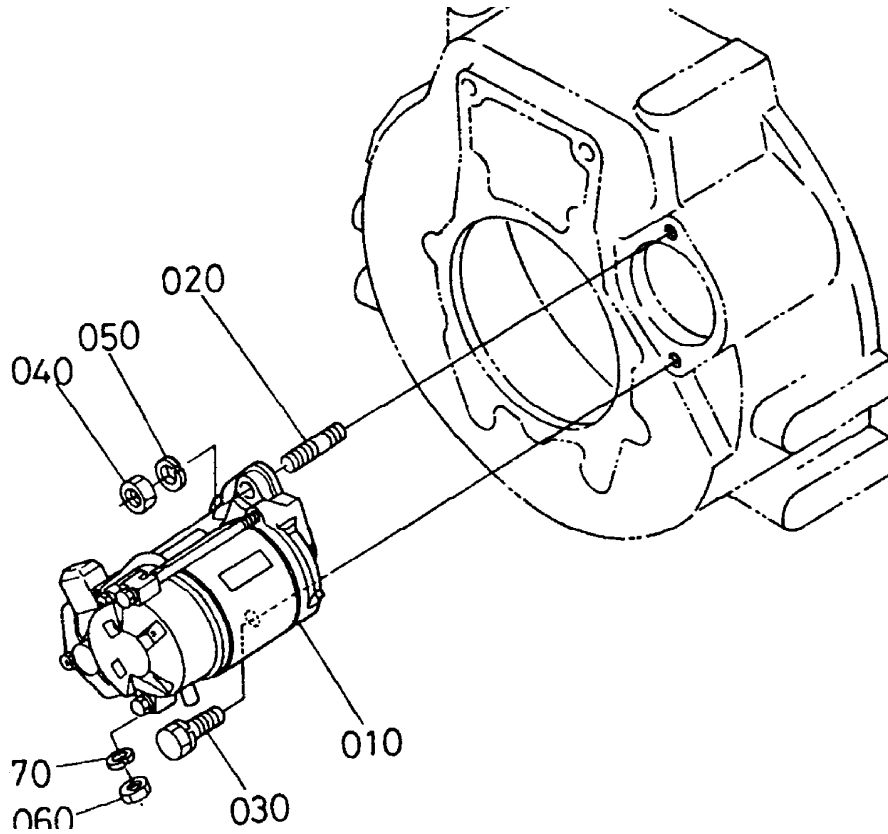
# KUBOTA D1403— FLYWHEEL ASSY.

## FLYWHEEL ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>    | <u>QTY.</u> | <u>REMARKS</u>     |
|------------|-----------------|---------------------|-------------|--------------------|
| 010        | 1722225010      | FLYWHEEL COMP. .... | 1           | INCLUDES ITEMS W/* |
| 020*       | 1560263820      | RING GEAR           | 1           |                    |
| 030        | 1532125163      | FLYWHEEL BOLT       | 6           |                    |
| 040        | 1747504610      | FLYWHEEL HOUSING    | 1           |                    |
| 050        | 0152104680      | COVER               | 1           |                    |
| 060        | 1552104790      | COVER PACKING       | 1           |                    |
| 070        | 0112360816      | BOLT                | 2           |                    |
| 080        | 0107351032      | BOLT                | 11          |                    |
| 100        | 0451260100      | LOCK WASHER         | 11          |                    |
| 110        | 0107351250      | BOLT                | 2           |                    |
| 120        | 0451260120      | LOCK WASHER         | 2           |                    |

# KUBOTA D1403— STARTER ASSY.

STARTER ASSY.



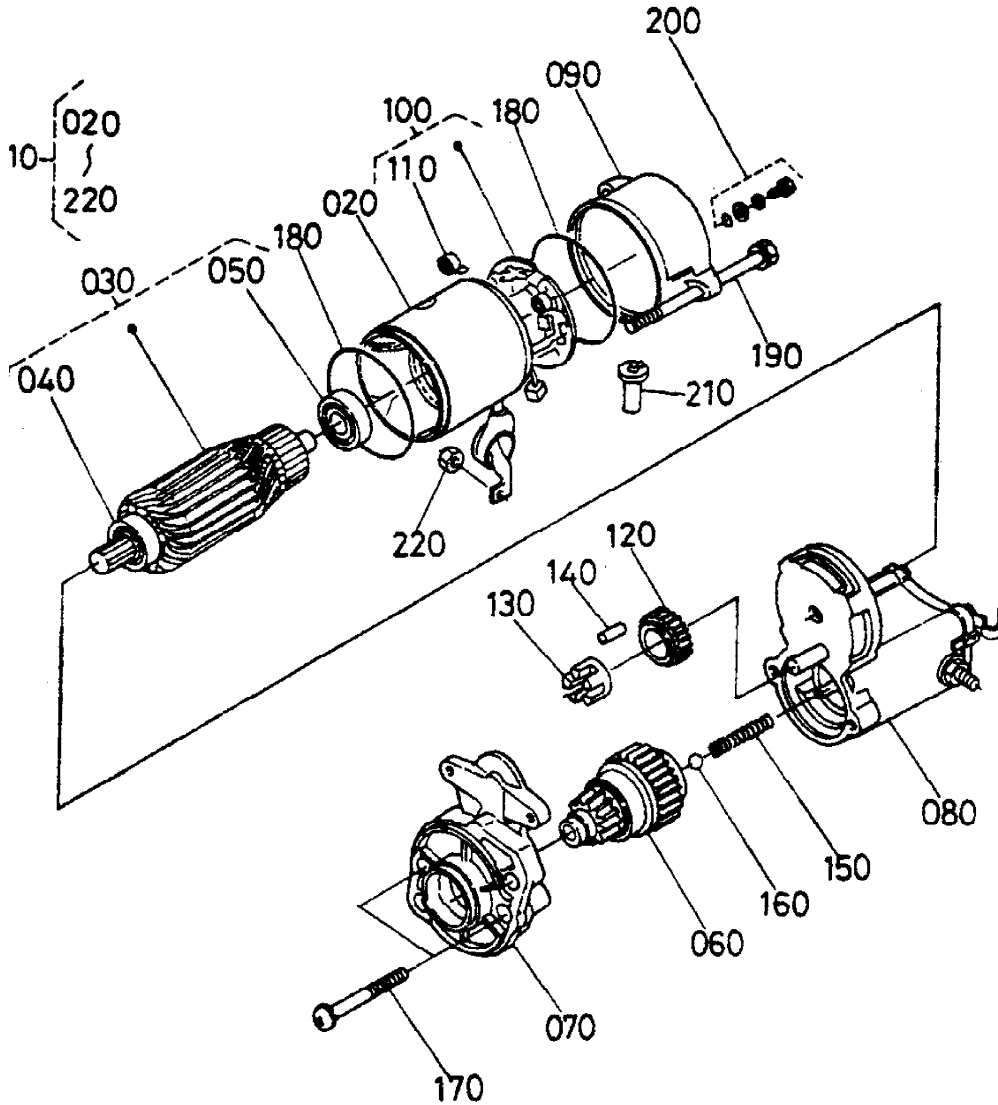
## KUBOTA D1403— STARTER ASSY.

### STARTER ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>   | <u>QTY.</u> | <u>REMARKS</u>      |
|------------|-----------------|--------------------|-------------|---------------------|
| 010        | 7000065440      | STARTER ASSY. .... | 1 .....     | REPLACES 1738163012 |
| 020        | 0151751028      | STUD               | 1           |                     |
| 030        | 0113351030      | BOLT               | 1           |                     |
| 040        | 0217650100      | NUT                | 1           |                     |
| 050        | 0451260100      | LOCK WASHER        | 1           |                     |
| 060        | 0211450080      | NUT                | 1           |                     |
| 070        | 0451260080      | LOCK WASHER        | 1           |                     |

# KUBOTA D1403—STARTER (COMPONENTS) ASSY.

STARTER (COMPONENTS) ASSY.



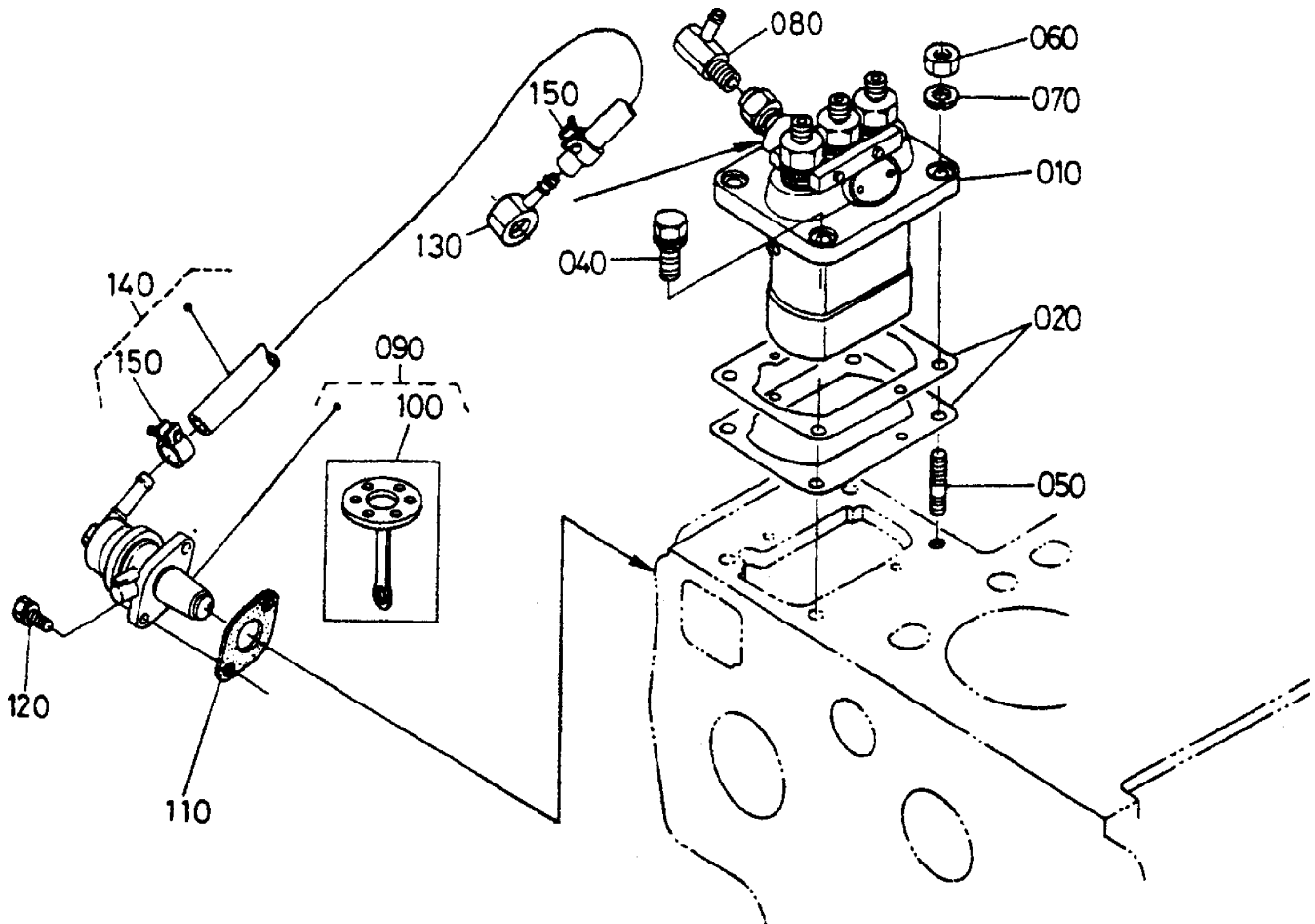
# KUBOTA D1403— STARTER (COMPONENTS) ASSY.

## STARTER (COMPONENTS) ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>        | <u>QTY.</u> | <u>REMARKS</u>                             |
|------------|-----------------|-------------------------|-------------|--|
| 010        | 7000065440      | STARTER ASSY. ....      | 1 .....     | INCLUDES ITEMS W/*;<br>REPLACES 1738163012 |
| 020*       | 1119763080      | YOKE ASSY.              | 1           |  |
| 030*       | 1119763070      | ARMATURE ASSY. ....     | 1 .....     | INCLUDES ITEMS W/#                         |
| 040*#      | 1146063500      | BEARING                 | 1           |  |
| 050*#      | 1146063530      | BEARING                 | 1           |  |
| 060*       | 1562163040      | OVER RUNNING CLUTCH     | 1           |  |
| 070*       | 1648463030      | DRIVE END FRAME         | 1           |  |
| 080*       | 1648463020      | MAGNETIC SWITCH         | 1           |  |
| 090*       | 1648463200      | END FRAME               | 1           |  |
| 100*       | 1738163380      | BRUSH HOLDER ASSY. .... | 1 .....     | INCLUDES ITEMS W/%                         |
| 110*%      | 1540163390      | BRUSH SPRING            | 4           |  |
| 120*       | 1146063270      | GEAR                    | 1           |  |
| 130*       | 1146063110      | RETAINER                | 1           |  |
| 140*       | 1921263100      | ROLLER                  | 5           |  |
| 150*       | 1146063120      | SPRING                  | 1           |  |
| 160*       | 1921297130      | BALL                    | 1           |  |
| 170*       | 1146093310      | BOLT                    | 2           |  |
| 180*       | 1551196660      | O RING                  | 2           |  |
| 190*       | 1119763320      | BOLT                    | 2           |  |
| 200*       | 1551163760      | BOLT ASSY.              | 2           |  |
| 210*       | 1628563570      | DRAIN PIPE              | 1           |  |
| 220*       | 1396392010      | HEXAGON NUT             | 1           |  |

# KUBOTA D1403— INJECTION PUMP 1 ASSY.

INJECTION PUMP 1 ASSY.





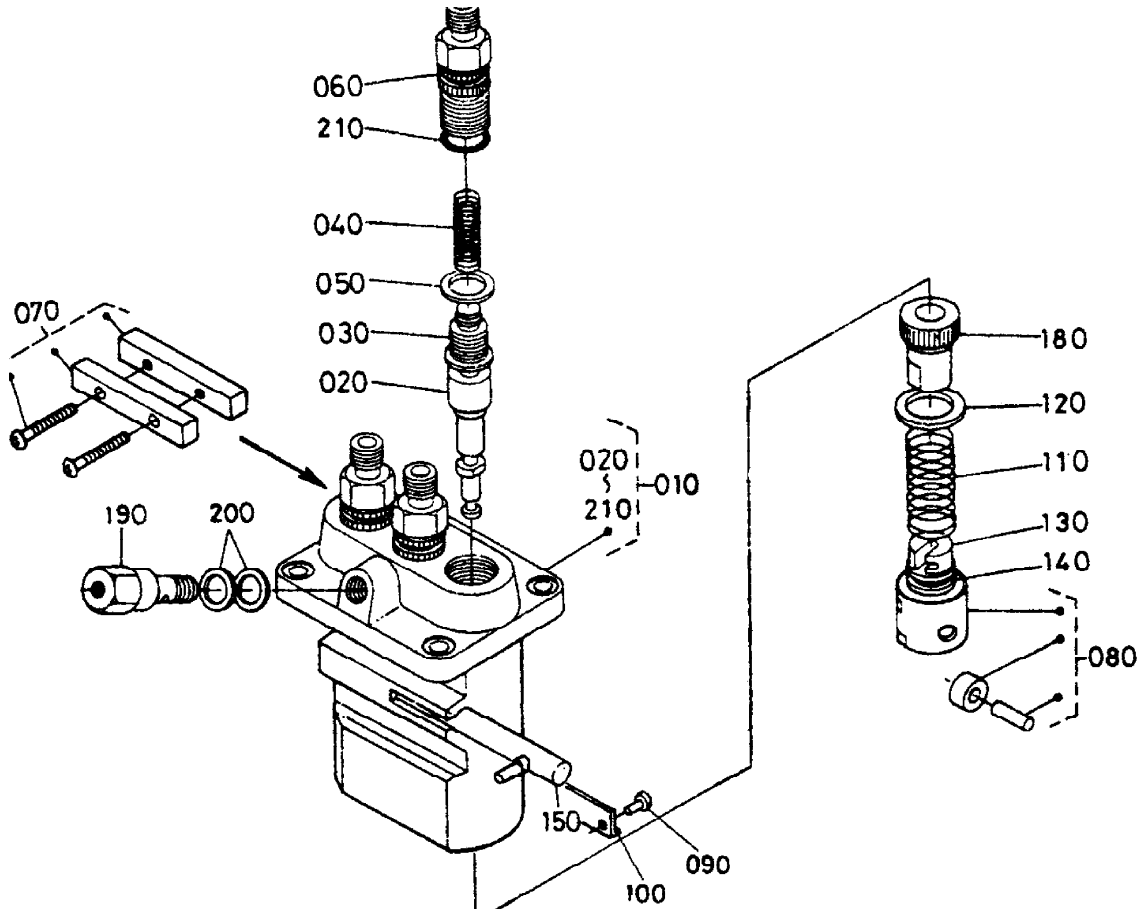
# KUBOTA D1403— INJECTION PUMP 1 ASSY.

## INJECTION PUMP 1 ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>     | <u>QTY.</u> | <u>REMARKS</u>     |
|------------|-----------------|----------------------|-------------|--------------------|
| 010        | 1718251010      | INJECTION PUMP ASSY. | 1           |                    |
| 020        | 1641452090      | INJECTION SHIM ..... | 1           | 0.20MM             |
| 020        | 1641452110      | INJECTION SHIM ..... | 1           | 0.25MM             |
| 020        | 1641452120      | INJECTION SHIM ..... | 1           | 0.30MM             |
| 040        | 0112350822      | BOLT                 | 2           |                    |
| 050        | 1522191530      | STUD                 | 2           |                    |
| 060        | 0215650080      | NUT                  | 2           |                    |
| 070        | 0451260080      | LOCK WASHER          | 2           |                    |
| 080        | 1574860570      | ORIFICE ASSY.        | 1           |                    |
| 090        | 1712152030      | FUEL PUMP ASSY.....  | 1           | INCLUDES ITEMS W/* |
| 100*       | 1984452040      | DIAPHRAGM COMP.      | 1           |                    |
| 110        | 1526352140      | FUEL PUMP GASKET     | 1           |                    |
| 120        | 0102350616      | BOLT                 | 2           |                    |
| 130        | 1411142410      | EYE JOINT            | 1           |                    |
| 140        | 1468142010      | FUEL PIPE ASSY.....  | 1           | INCLUDES ITEMS W/# |
| 150#       | 1430142750      | PIPE CLIP            | 2           |                    |

# KUBOTA D1403—INJECTION PUMP 2 ASSY.

INJECTION PUMP 2 ASSY.



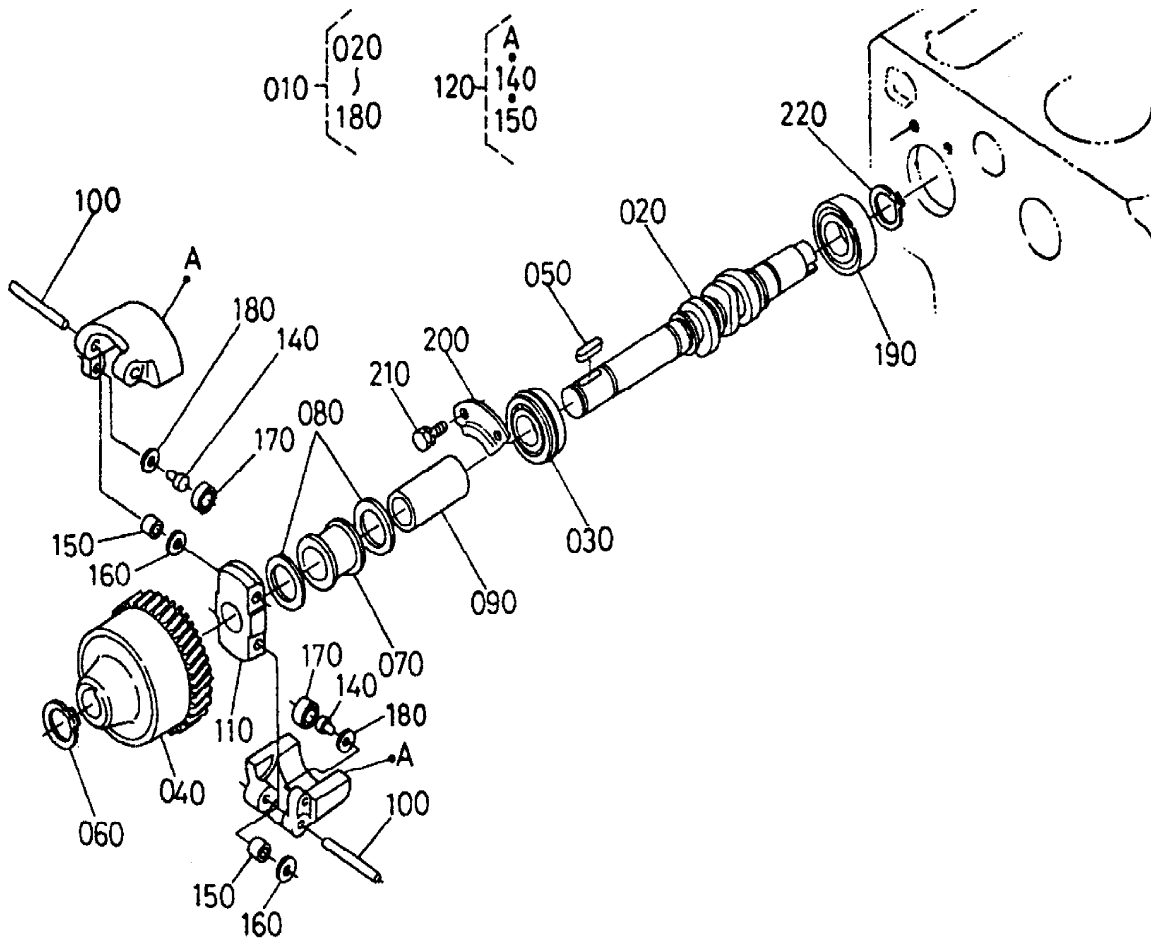
# KUBOTA D1403— INJECTION PUMP 2 ASSY.

## INJECTION PUMP ASSY. 2

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>          | <u>QTY.</u> | <u>REMARKS</u>     |
|------------|-----------------|---------------------------|-------------|--------------------|
| 010        | 1718251010      | INJECTION PUMP ASSY. .... | 1           | INCLUDES ITEMS W/* |
| 020*       | 1718251050      | PUMP PLUNGER              | 3           |                    |
| 030*       | 1647551030      | DELIVERY VALVE            | 3           |                    |
| 040*       | 1647551230      | DELIVERY VALVE SPRING     | 3           |                    |
| 050*       | 1142051240      | DELIVERY VALVE GASKET     | 3           |                    |
| 060*       | 1641551220      | DELIVERY VALVE HOLDER     | 3           |                    |
| 070*       | 1641551610      | LOCK PLATE 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 SPRING SEAT         | 3           |                    |
| 130*       | 1522151290      | LOWER SPRING SEAT         | 3           |                    |
| 140*       | 1907751490      | SHIM                      | 3           |                    |
| 150*       | 1718251060      | CONTROL RACK              | 1           |                    |
| 180*       | 1707951380      | CONTROL SLEEVE            | 3           |                    |
| 190*       | 1552151320      | FOLLOW SCREW              | 1           |                    |
| 200*       | 1522196650      | GASKET                    | 2           |                    |
| 210*       | 1461151200      | O RING                    | 3           |                    |

# KUBOTA D1403—FUEL CAMSHAFT ASSY.

FUEL CAMSHAFT ASSY.



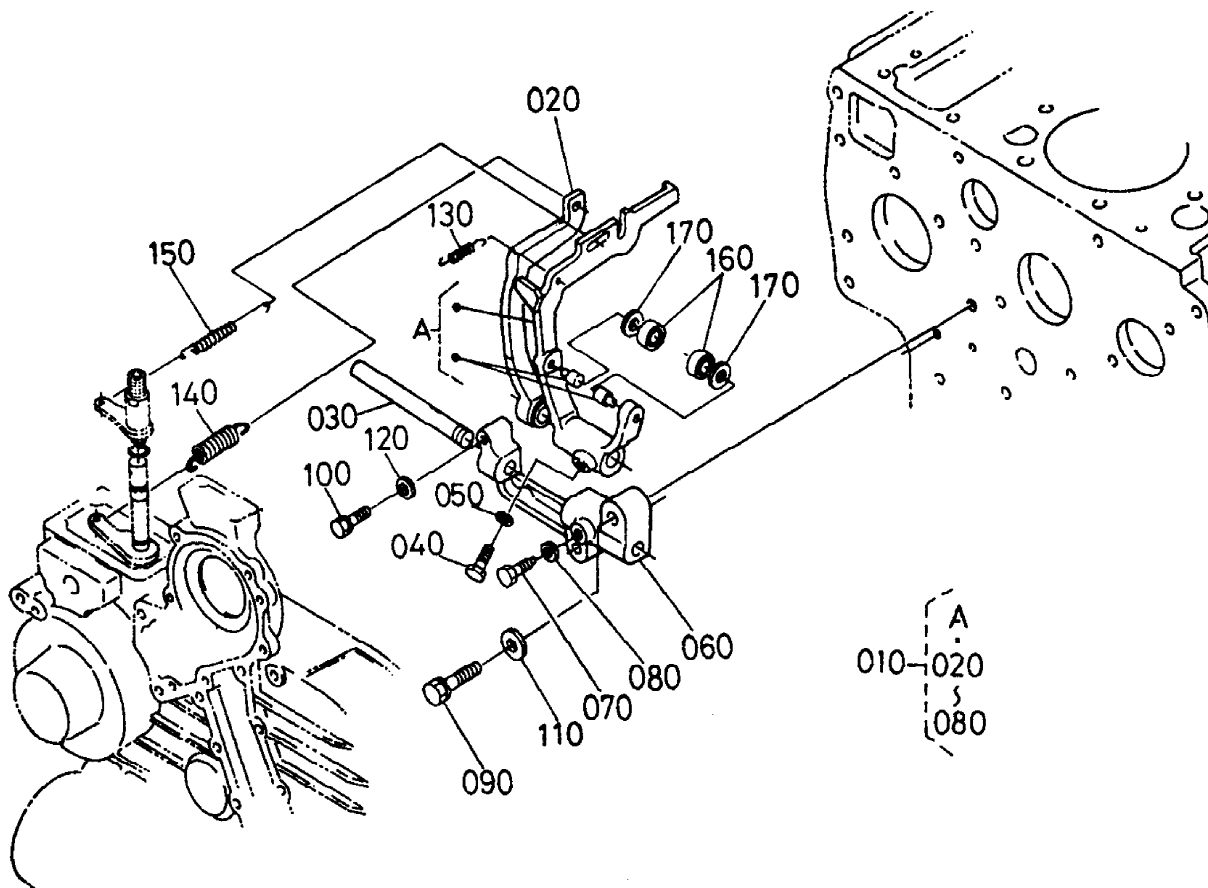
# KUBOTA D1403— FUEL CAMSHAFT ASSY.

## FUEL CAMSHAFT ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>           | <u>QTY.</u> | <u>REMARKS</u>     |
|------------|-----------------|----------------------------|-------------|--------------------|
| 010        | 1718216020      | FUEL CAMSHAFT ASSY. ....   | 1           | INCLUDES ITEMS W/* |
| 020*       | 1718216170      | FUEL CAMSHAFT              | 1           |                    |
| 030*       | 0815306205      | BALL BEARING               | 1           |                    |
| 040*       | 1666251150      | INJECTION PUMP GEAR        | 1           |                    |
| 050*       | 0571200525      | FEATHER KEY                | 1           |                    |
| 060*       | 0461200240      | EXTERNAL CIR. CLIP         | 1           |                    |
| 070*       | 1981855450      | GOVERNOR SLEEVE            | 1           |                    |
| 080*       | 1981855460      | THRUST WASHER              | 2           |                    |
| 090*       | 1981855510      | GOVERNOR WEIGHT COLLAR     | 1           |                    |
| 100*       | 1981855260      | GOVERNOR WEIGHT SHAFT      | 2           |                    |
| 110*       | 1666255270      | GOVERNOR WEIGHT HOLDER     | 1           |                    |
| 120*       | 1666255060      | GOVERNOR WEIGHT COMP. .... | 2           | INCLUDES ITEMS W/# |
| 140*#      | 1981855280      | GOVERNOR WEIGHT PIN        | 2           |                    |
| 150*#      | 198185380       | GOVERNOR BUSHING           | 4           |                    |
| 160*       | 166255620       | PLAIN WASHER               | 4           |                    |
| 170*       | 1981855600      | BEARING                    | 2           |                    |
| 180*       | 1981855340      | WASHER                     | 2           |                    |
| 190        | 0810306205      | BALL BEARING               | 1           |                    |
| 200        | 152216320       | CAMSHAFT FUEL STOPPER      | 1           |                    |
| 210        | 0112360814      | BOLT                       | 2           |                    |
| 220        | 0461200250      | EXTERNAL CIR. CLIP         | 1           |                    |

# KUBOTA D1403— GOVERNOR ASSY.

GOVERNOR ASSY.



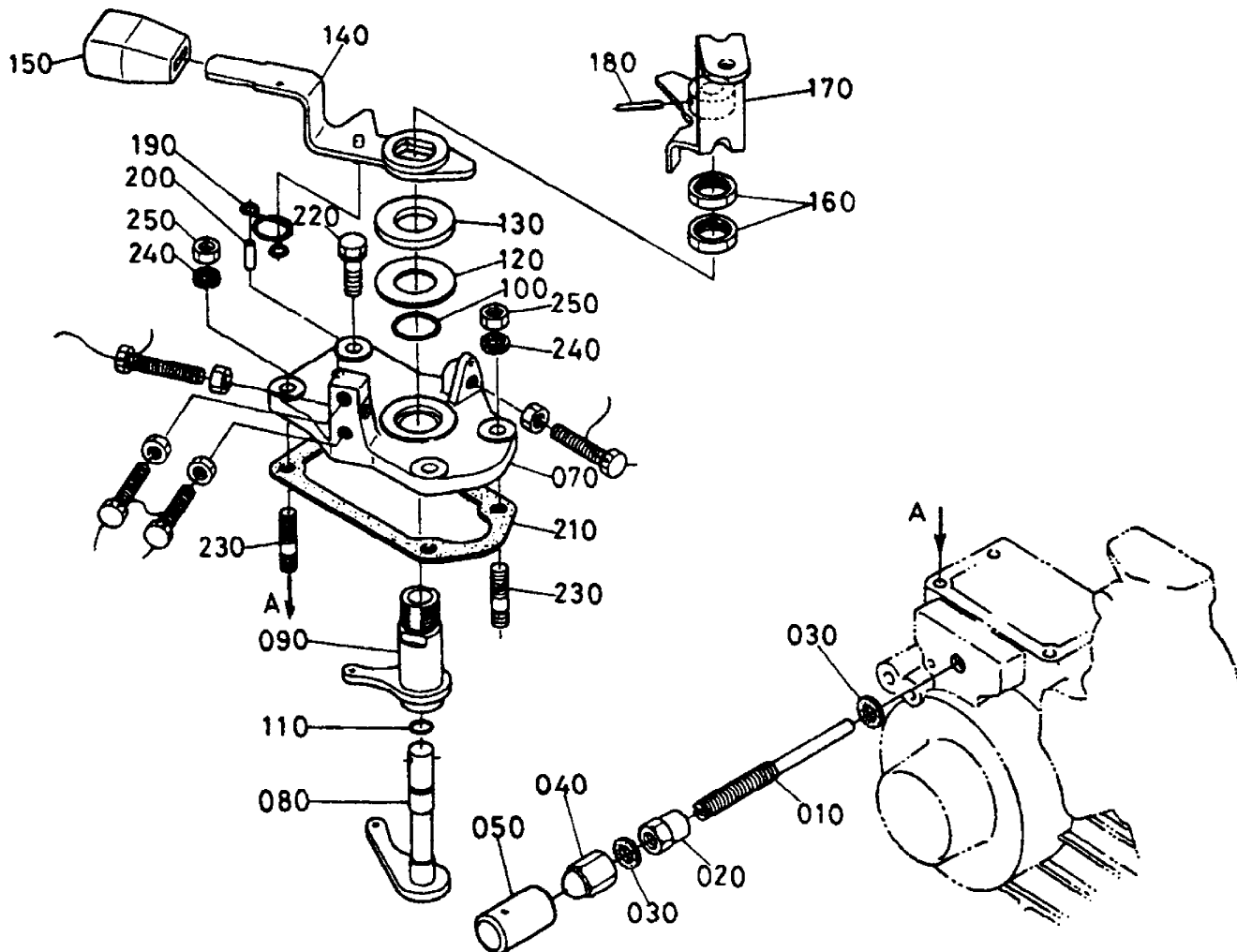
# KUBOTA D1403— GOVERNOR ASSY.

## GOVERNOR ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>      | <u>QTY.</u> | <u>REMARKS</u>     |
|------------|-----------------|-----------------------|-------------|--------------------|
| 010        | 1718256050      | FORK LEVER ASSY. .... | 1           | INCLUDES ITEMS W/* |
| 020*       | 1707656130      | FORK LEVER            | 1           |                    |
| 030*       | 1981856150      | FORK LEVER SHAFT      | 1           |                    |
| 040*       | 0105350518      | BOLT                  | 1           |                    |
| 050*       | 0451260050      | LOCK WASHER           | 1           |                    |
| 060*       | 1707656230      | FORK LEVER HOLDER     | 1           |                    |
| 070*       | 1522166410      | BOLT                  | 1           |                    |
| 080*       | 0451260060      | LOCK WASHER           | 1           |                    |
| 090        | 0112350832      | BOLT                  | 2           |                    |
| 100        | 0102350628      | BOLT                  | 1           |                    |
| 110        | 0401250080      | PLAIN WASHER          | 2           |                    |
| 120        | 0401250060      | PLAIN WASHER          | 1           |                    |
| 130        | 1981856480      | START SPRING          | 1           |                    |
| 140        | 1718256412      | GOVERNOR SPRING       | 1           |                    |
| 150        | 1718256420      | GOVERNOR SPRING       | 1           |                    |
| 160        | 1981855600      | BEARING               | 2           |                    |
| 170        | 1981855340      | WASHER                | 2           |                    |

# KUBOTA D1403— SPEED CONTROL PLATE ASSY.

SPEED CONTROL PLATE ASSY.





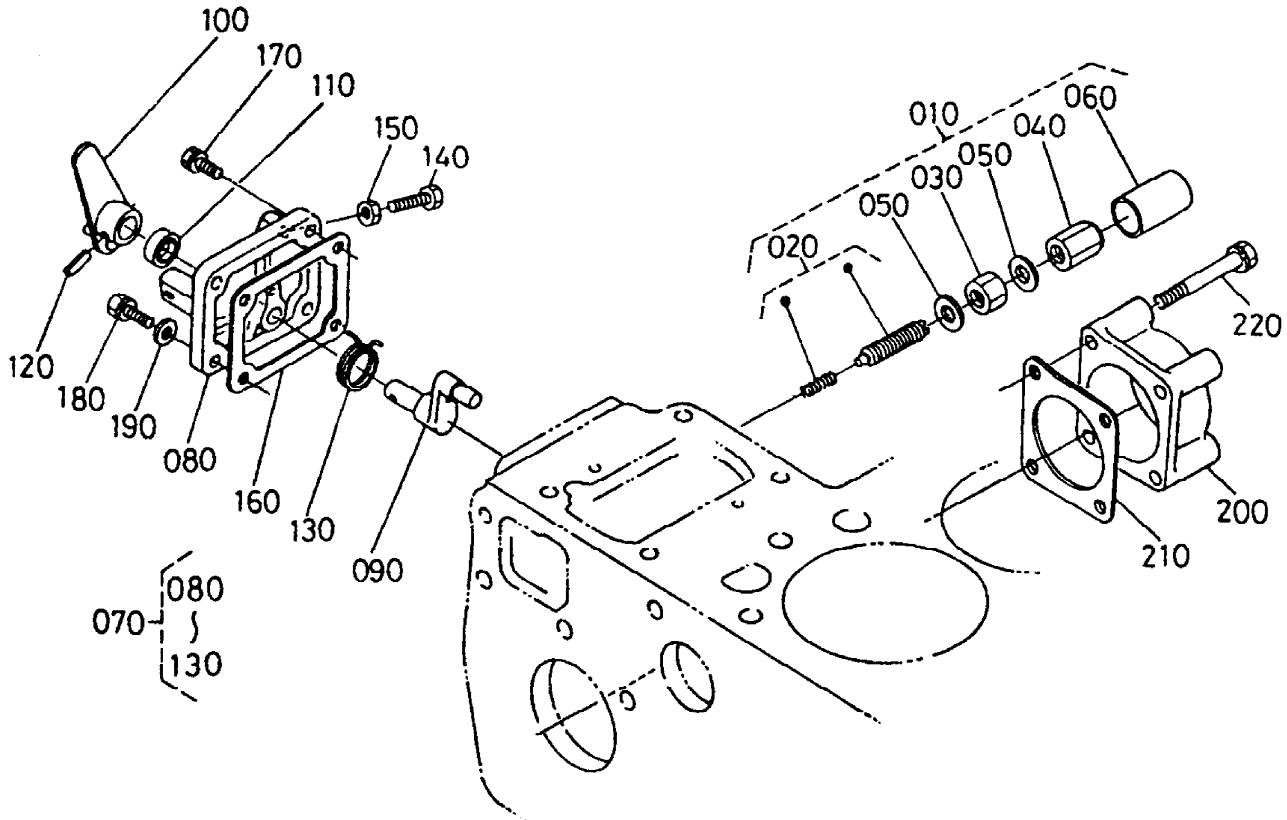
# KUBOTA D1403— SPEED CONTROL PLATE ASSY.

## SPEED CONTROL PLATE ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>    | <u>QTY.</u> | <u>REMARKS</u> |
|------------|-----------------|---------------------|-------------|----------------|
| 010        | 1981854120      | ADJUSTING BOLT      | 1           |                |
| 020        | 1560192010      | NUT                 | 1           |                |
| 030        | 1560196650      | GASKET              | 2           |                |
| 040        | 1584114620      | CAP NUT             | 1           |                |
| 050        | 1622154420      | CAP                 | 1           |                |
| 070        | 1707657110      | SPEED CONTROL PLATE | 1           |                |
| 080        | 1707657740      | LEVER SHAFT         | 1           |                |
| 090        | 1707656110      | GOVERNOR LEVER      | 1           |                |
| 100        | 0481110160      | O RING              | 1           |                |
| 110        | 0481110070      | O RING              | 1           |                |
| 120        | 1362216670      | CAMSHAFT SHIM       | 1           |                |
| 130        | 1707957380      | COLLAR              | 1           |                |
| 140        | 1707657162      | CHANGE LEVER        | 1           |                |
| 150        | 3691927820      | PTO LEVER GRIP      | 1           |                |
| 160        | 1584192010      | SPEED CONTROL NUT   | 2           |                |
| 170        | 1707657152      | SPEED CONTROL LEVER | 1           |                |
| 180        | 0541100318      | SPRING PIN          | 1           |                |
| 190        | 1707657510      | CHANGE SPRING       | 1           |                |
| 200        | 0501200412      | STRAIGHT PIN        | 1           |                |
| 210        | 1543957210      | GASKET              | 1           |                |
| 220        | 0102350620      | BOLT                | 2           |                |
| 230        | 1522188210      | STUD                | 2           |                |
| 240        | 0451260060      | LOCK WASHER         | 2           |                |
| 250        | 0205650060      | NUT                 | 2           |                |

# KUBOTA D1403—ENGINE STOP LEVER ASSY.

ENGINE STOP LEVER ASSY.



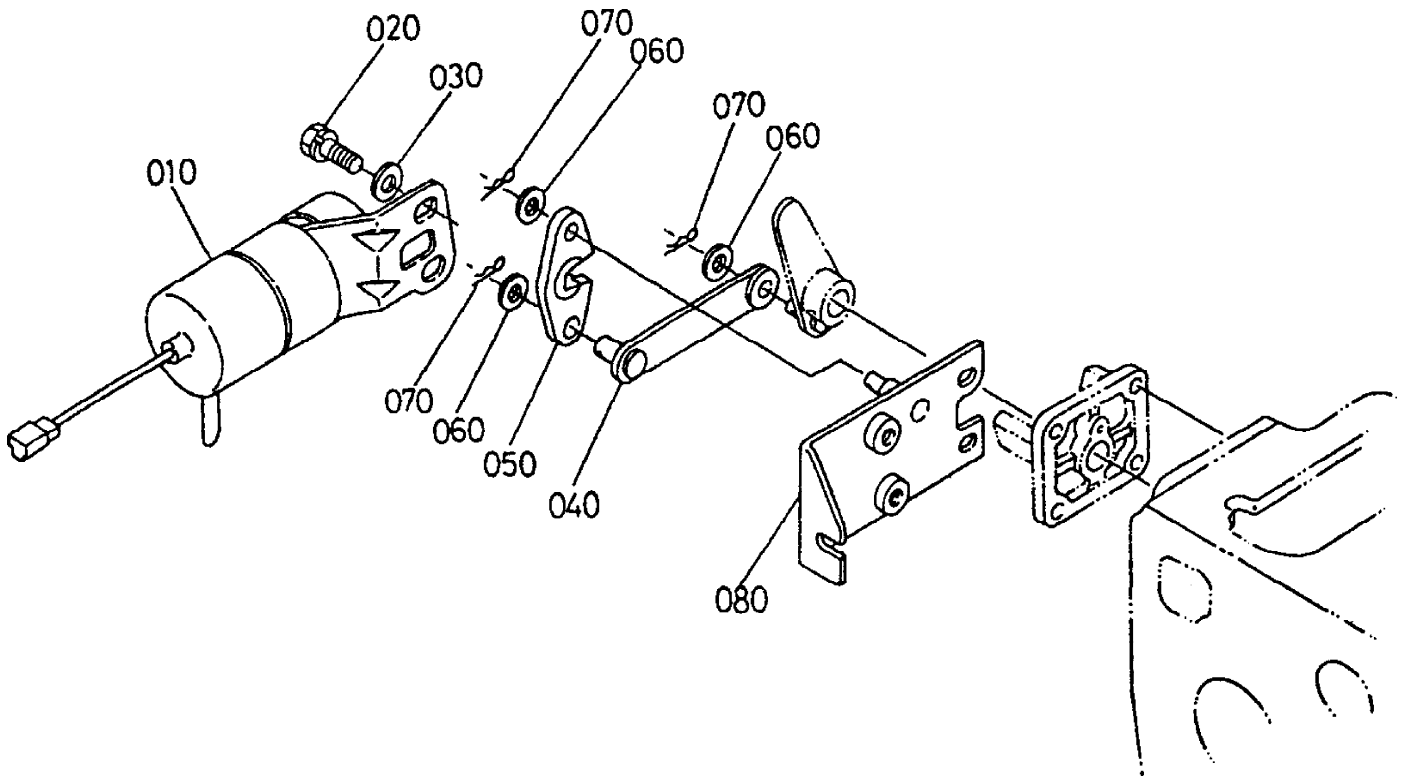
# KUBOTA D1403 — ENGINE STOP LEVER ASSY.

## ENGINE STOP LEVER ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>             | <u>QTY.</u> | <u>REMARKS</u>     |
|------------|-----------------|------------------------------|-------------|--------------------|
| 010        | 1707654093      | IDILING APPARATUS .....      | 1 .....     | INCLUDES ITEMS W/* |
| 020*       | 1707654103      | ASJUSTMENT BOLT ASSY.        | 1           |                    |
| 030*       | 1540192010      | NUT                          | 1           |                    |
| 040*       | 1552192330      | CAP NUT                      | 1           |                    |
| 050*       | 1502133660      | GASKET                       | 2           |                    |
| 060*       | 1552154270      | CAP                          | 1           |                    |
| 070        | 1748257702      | ENGINE STOP LEVER ASSY. .... | 1 .....     | INCLUDES ITEMS W/# |
| 080#       | 1718351650      | INJECTION PUMP COVER         | 1           |                    |
| 090#       | 1733157740      | LEVER SHAFT                  | 1           |                    |
| 100#       | 1748257720      | ENGINE STOP LEVER            | 1           |                    |
| 110#       | 1547157980      | OIL SEAL                     | 1           |                    |
| 120#       | 0541100420      | SPRING PIN                   | 1           |                    |
| 130#       | 1748257920      | RETURN SPRING                | 1           |                    |
| 140        | 1510857280      | STOPPER                      | 1           |                    |
| 150        | 0205650060      | NUT                          | 1           |                    |
| 160        | 1529651660      | PUMP COVER GASKET            | 1           |                    |
| 170        | 0102350618      | BOLT                         | 2           |                    |
| 180        | 0102350622      | BOLT                         | 2           |                    |
| 190        | 0401250060      | PLAIN WASHER                 | 2           |                    |
| 200        | 1718316210      | FUEL CAMSHAFT COVER          | 1           |                    |
| 210        | 3539437860      | GASKET                       | 1           |                    |
| 220        | 0112350865      | BOLT                         | 4           |                    |

# KUBOTA D1403— STOP SOLENOID ASSY.

STOP SOLENOID ASSY.



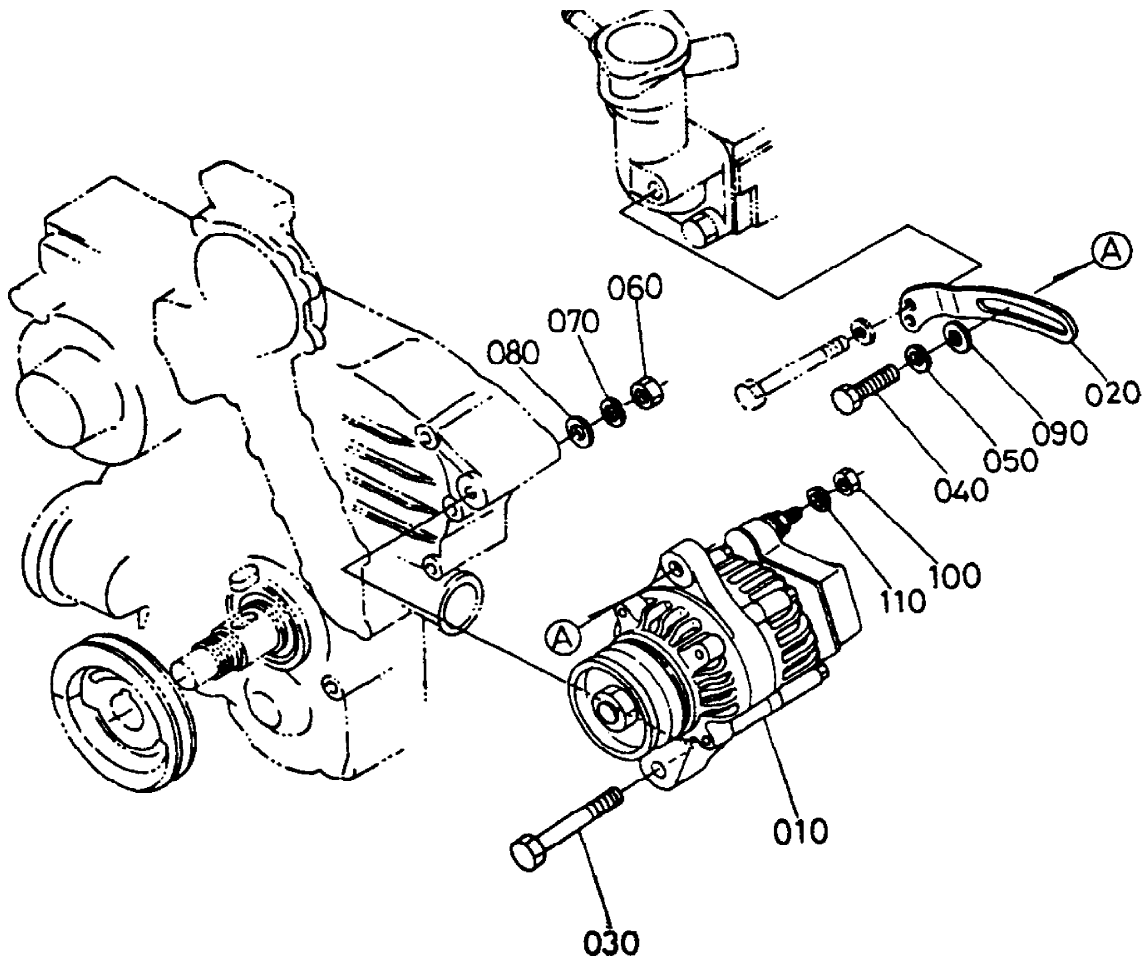
## KUBOTA D1403— STOP SOLENOID ASSY.

### STOP SOLENOID ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u> | <u>QTY.</u> | <u>REMARKS</u> |
|------------|-----------------|------------------|-------------|----------------|
| 010        | 1547160010      | STOP SOLENOID    | 1           |                |
| 020        | 0112360816      | BOLT             | 2           |                |
| 030        | 0401250080      | PLAIN WASHER     | 2           |                |
| 040        | 1733160150      | STOP LEVER       | 1           |                |
| 050        | 1547160162      | STOP LEVER       | 1           |                |
| 060        | 0401250060      | PLAIN WASHER     | 3           |                |
| 070        | 0552550600      | SNAP PIN         | 3           |                |
| 080        | 1718260110      | SOLENOID SUPPORT | 1           |                |

# KUBOTA D1403 — ALTERNATOR ASSY.

ALTERNATOR ASSY.



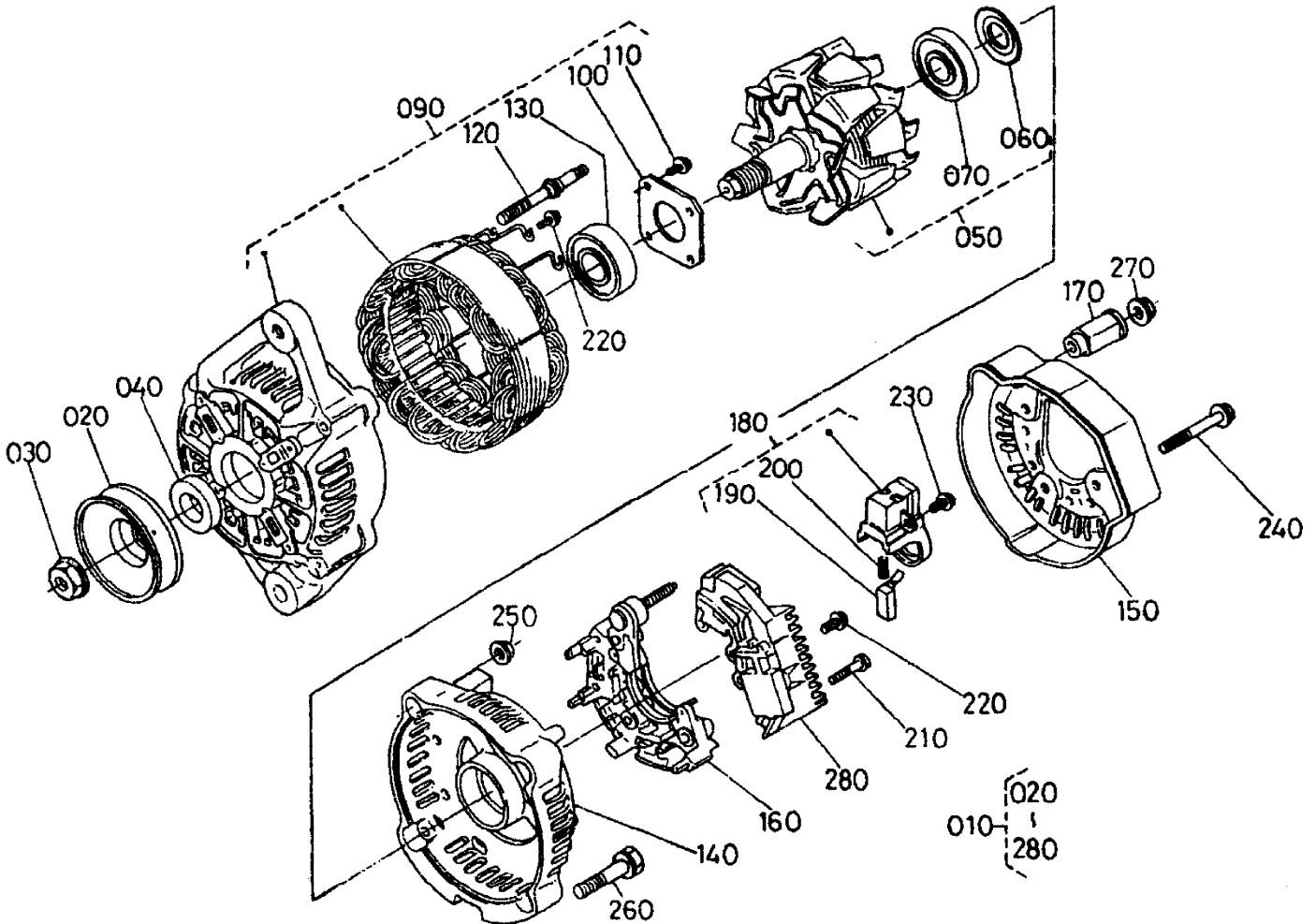
## KUBOTA D1403 — ALTERNATOR ASSY.

### ALTERNATOR ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u> | <u>QTY.</u> | <u>REMARKS</u> |
|------------|-----------------|------------------|-------------|----------------|
| 010        | 1642764010      | ALTERNATOR ASSY. | 1           |                |
| 020        | TA04074020      | DYNAMO STAY      | 1           |                |
| 030        | 0117351000      | BOLT             | 1           |                |
| 040        | 0115360830      | BOLT             | 1           |                |
| 050        | 0451260080      | LOCK WASHER      | 1           |                |
| 060        | 0215650100      | NUT              | 1           |                |
| 070        | 0451260100      | LOCK WASHER      | 1           |                |
| 080        | 0401150100      | PLAIN WASHER     | 1           |                |
| 090        | 0401560080      | PLAIN WASHER     | 1           |                |
| 100        | 0205650060      | NUT              | 1           |                |
| 110        | 0451260060      | LOCK WASHER      | 1           |                |

# KUBOTA D1403— ALTERNATOR (COMPONENTS) ASSY.

ALTERNATOR (COMPONENTS) ASSY.



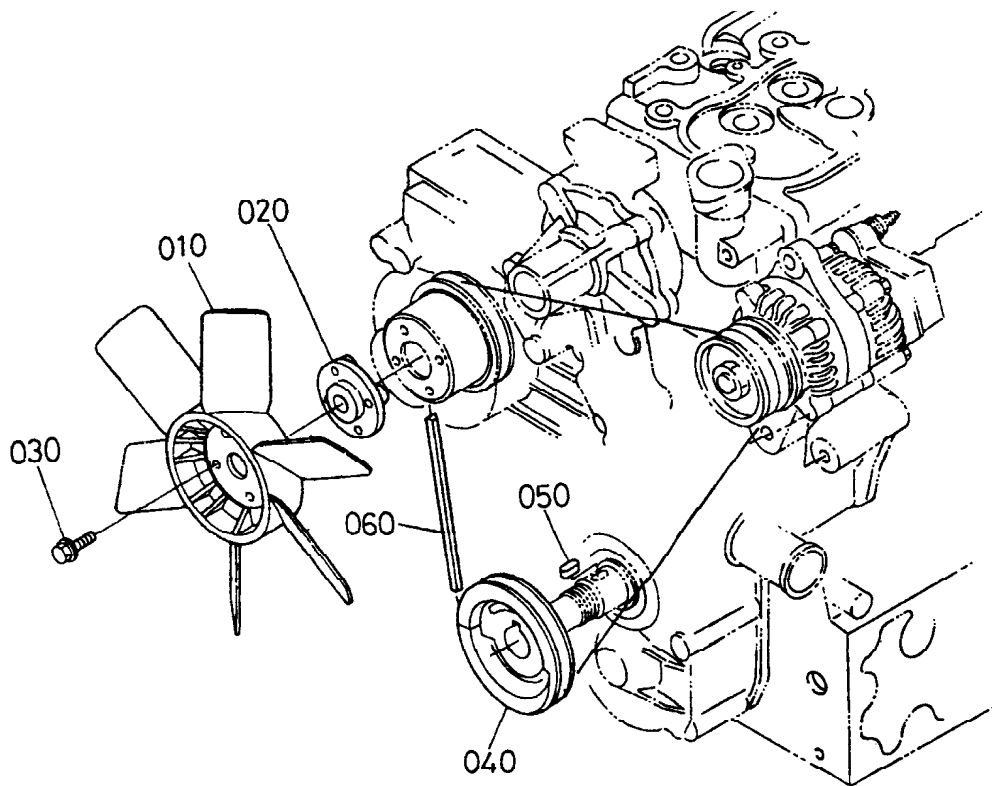


# KUBOTA D1403— ALTERNATOR (COMPONENTS) ASSY.

## ALTERNATOR (COMPONENTS) ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>      | <u>QTY.</u> | <u>REMARKS</u>     |
|------------|-----------------|-----------------------|-------------|--------------------|
| 010        | 1642764010      | ALTERNATOR ASSY. .... | 1           | INCLUDES ITEMS W/* |
| 020*       | 1642764110      | ALTERNATOR PULLEY     | 1           |                    |
| 030*       | 1588192010      | NUT                   | 1           |                    |
| 040*       | 1588164150      | COLLAR                | 1           |                    |
| 050*       | 1588164040      | ROTOR .....           | 1           | INCLUDES ITEMS W/# |
| 060*#      | 1588164800      | BEARING COVER         | 1           |                    |
| 070*#      | 1588164770      | BALL BEARING          | 1           |                    |
| 090*       | 1642764020      | DRIVE END FRAME       | 1           |                    |
| 100*       | 1588164710      | RETAINER PLATE .....  | 1           | INCLUDES ITEMS W/% |
| 110*%      | 1588193010      | ROUND HEAD SCREW      | 4           |                    |
| 120*%      | 1588164260      | THROUGH BOLT          | 2           |                    |
| 130*%      | 1588164780      | BALL BEARING          | 1           |                    |
| 140*%      | 1624164060      | END FRAME             | 1           |                    |
| 150*       | 1624164230      | END COVER             | 1           |                    |
| 160*       | 1623164850      | RECTIFIER ASSY.       | 1           |                    |
| 170*       | 1624164900      | INSULATION BUSH       | 1           |                    |
| 180*       | 1588164310      | BRUSH HOLDER .....    | 1           | INCLUDES 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*       | 1588164600      | REGULATOR ASSY.       | 1           |                    |

FAN ASSY.



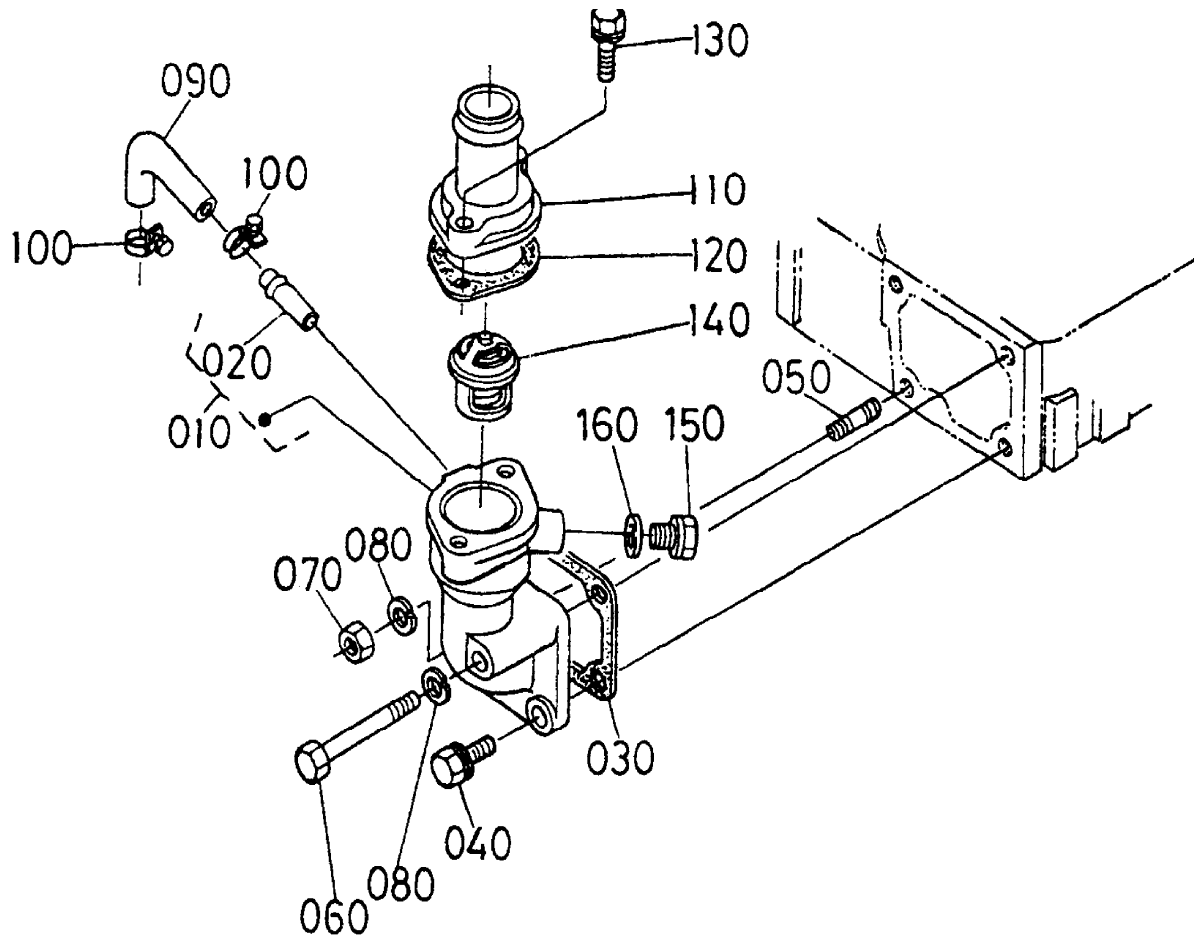
# KUBOTA D1403— FAN ASSY.

FAN ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u> | <u>QTY.</u> | <u>REMARKS</u>      |
|------------|-----------------|------------------|-------------|---------------------|
| 010        | 1734574110      | FAN              | 1           |                     |
| 020        | 1981874150      | FAN COLLAR       | 1           |                     |
| 030        | 0175450625      | FLANGE BOLT      | 4           |                     |
| 040        | 1728874280      | FAN DRIVE PULLEY | 1           |                     |
| 050        | 0571200720      | FEATHER KEY      | 1           |                     |
| 060        | 1726697011      | V BELT .....     | 1 .....     | REPLACES 1726697010 |

# KUBOTA D1403 — WATER FLANGE AND THERMOSTAT ASSY.

WATER FLANGE AND THERMOSTAT ASSY.



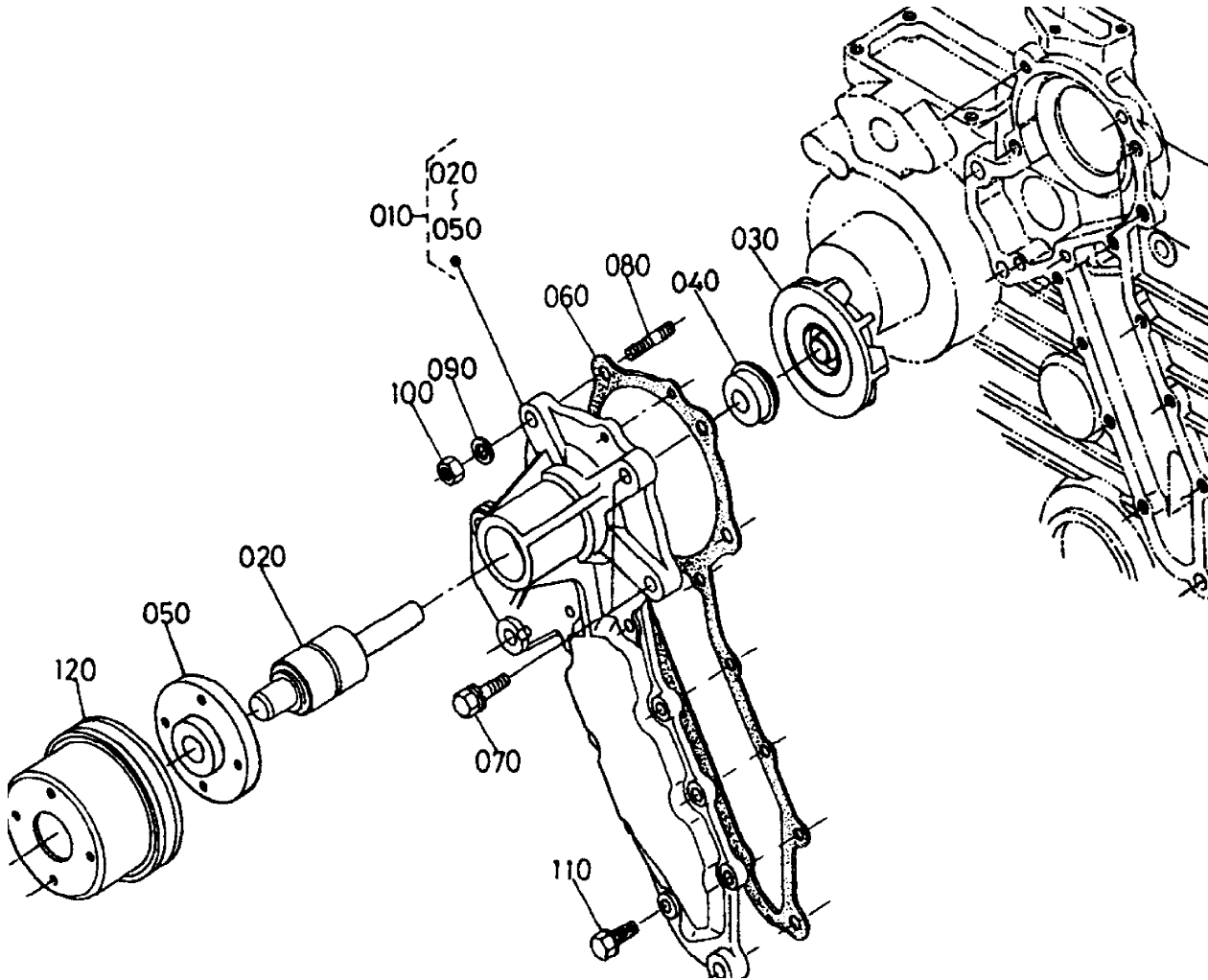
## KUBOTA D1403 — WATER FLANGE AND THERMOSTAT ASSY.

### WATER FLANGE AND THERMOSTAT ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>        | <u>QTY.</u> | <u>REMARKS</u>     |
|------------|-----------------|-------------------------|-------------|--------------------|
| 010        | 1551272702      | WATER FLANGE COMP. .... | 1 .....     | INCLUDES ITEMS W/* |
| 020*       | 1733173342      | WATER RETURN PIPE       | 1           |                    |
| 030        | 1576672920      | WATER FLANGE GASKET     | 1           |                    |
| 040        | 0112350822      | BOLT                    | 2           |                    |
| 050        | 0151350822      | STUD                    | 1           |                    |
| 060        | 0115350870      | BOLT                    | 1           |                    |
| 070        | 0215650080      | NUT                     | 1           |                    |
| 080        | 0451260080      | LOCK WASHER             | 2           |                    |
| 090        | 1552173340      | WATER RETURN PIPE       | 1           |                    |
| 100        | 1510973360      | PIPE BAND               | 2           |                    |
| 110        | 1532173260      | THERMOSTAT COVER        | 1           |                    |
| 120        | 1531373270      | THERMOSTAT GASKET       | 1           |                    |
| 130        | 0112350835      | BOLT                    | 2           |                    |
| 140        | 1943473010      | THERMOSTAT ASSY.        | 1           |                    |
| 150        | 1551296010      | PLUG                    | 1           |                    |
| 160        | 0471702150      | WASHER WITH RUBBER      | 1           |                    |

# KUBOTA D1403— WATER PUMP ASSY.

WATER PUMP ASSY.



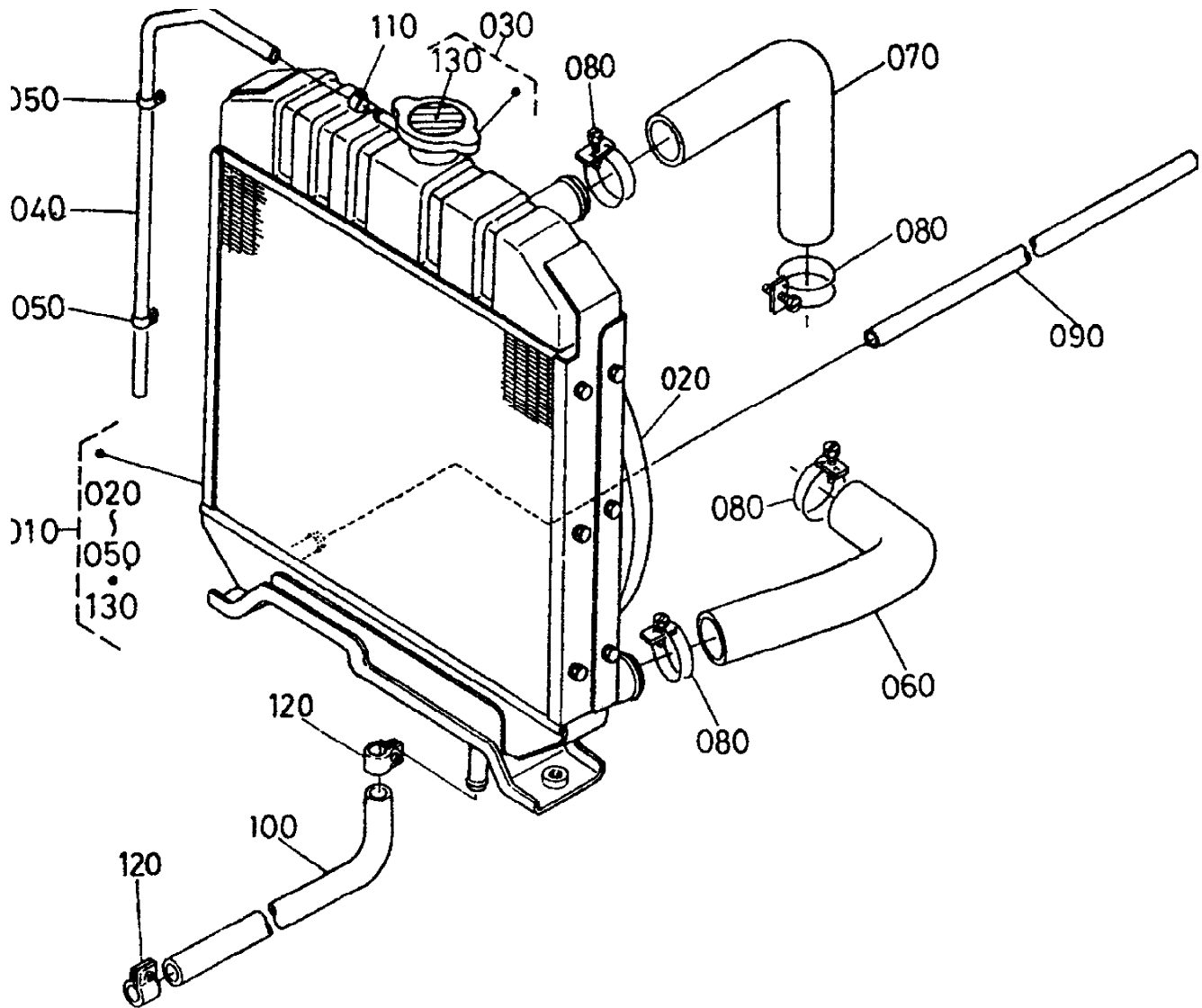
# KUBOTA D1403— WATER PUMP ASSY.

## WATER PUMP ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>      | <u>QTY.</u> | <u>REMARKS</u>     |
|------------|-----------------|-----------------------|-------------|--------------------|
| 010        | 1552173033      | WATER PUMP ASSY.....  | 1           | INCLUDES 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        | 0451260080      | LOCK WASHER           | 2           |                    |
| 100        | 0215650080      | NUT                   | 2           |                    |
| 110        | 0102350618      | BOLT                  | 8           |                    |
| 120        | 1547174250      | FAN PULLEY            | 1           |                    |

# KUBOTA D1403— RADIATOR ASSY.

RADIATOR ASSY.





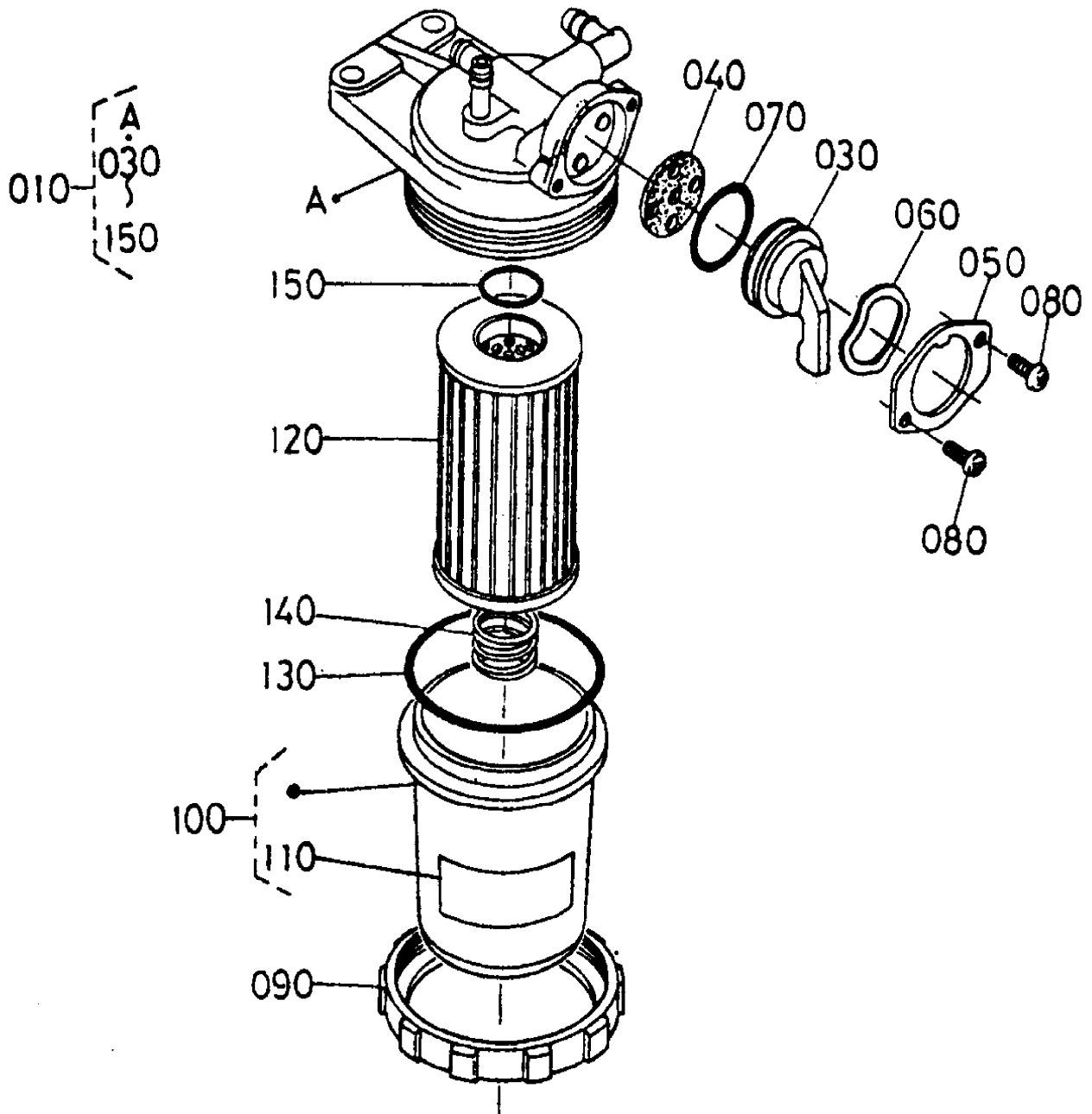
# KUBOTA D1403— RADIATOR ASSY.

## RADIATOR ASSY.

| <u>NO.</u> | <u>PART NO.</u> | <u>PART NAME</u>   | <u>QTY.</u> | <u>REMARKS</u>     |
|------------|-----------------|--------------------|-------------|--------------------|
| 010        | 1559672060      | RADIATOR ASSY..... | 1.....      | INCLUDES ITEMS W/* |
| 020*       | 1552172330      | FAN SHROUD         | 1           |                    |
| 030*       | 1527272020      | CAP ASSY.....      | 1.....      | INCLUDES ITEMS W/# |
| 040*       | 1559672710      | HOSE               | 1           |                    |
| 050*       | 1547172730      | HOSE BAND          | 2           |                    |
| 060        | 1546172850      | LOWER HOSE         | 1           |                    |
| 070        | 170637294       | UPPER HOSE         | 1           |                    |
| 080        | 1510872870      | HOSE BAND          | 4           |                    |
| 090        | 1553772410      | OVERFLOW HOSE      | 1           |                    |
| 100        | 1718273340      | HOSE               | 1           |                    |
| 110        | 1540111720      | HOSE BAND          | 2           |                    |
| 120        | 1430142750      | HOSE BAND          | 4           |                    |
| 130*#      | 1907787240      | DECAL; CAUTION     | 1           |                    |

# KUBOTA D1403 — FUEL FILTER ASSY.

FUEL FILTER ASSY.



# KUBOTA D1403 — 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 .....     | INCLUDES 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      | WASHER WITH SCREW      | 2           |                    |
| 090*       | 1552143150      | RETAINER RING          | 1           |                    |
| 100*       | 1552143100      | FILTER CUP ASSY. ....  | 1 .....     | INCLUDES ITEMS 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           |                    |

**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.



# **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 Multiquip Inc.  
by  
DENYO MANUFACTURING CO., USA



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