

PARTS AND OPERATION MANUAL

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MQ POWER DCA-70SSJU DCA-70SSJU2 WHISPERWATT™ GENERATOR (STANDARD)

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PARTS LIST No. M2870000174A
S/N UP TO 73002140 - 70SSJU
S/N73002141 - 70SSJU2

Revision #3 (11/30/01)



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WARNING



CALIFORNIA — Proposition 65 Warning

Diesel 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

800/427-1244 or 310/537-3700

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

SERVICE DEPARTMENT

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FAX: 310/638-8046

WARRANTY DEPARTMENT

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MQPower DCA70SSJU AC Generator

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NOTE

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

PARTS ORDERING PROCEDURES

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

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

Earn Extra Discounts when you order by FAX!

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

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

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

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

No other allowances on freight shipped by any other carrier.

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

DISCOUNTS ARE SUBJECT TO CHANGE

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

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

**Up to 5%
extra savings!**

**UPS
Special**
For faxed orders only

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

Toll-free nationwide:

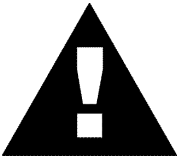
800-421-1244

Toll-free FAX:

800/6-PARTS-7 • 800-672-7877

RULES FOR SAFE OPERATION

CAUTION:



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

The following safety guidelines should always be used when operating the DCA-70SSJU 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.

- Manufacturer 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.

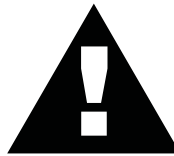
- **NEVER** touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing engine or generator.



- **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.



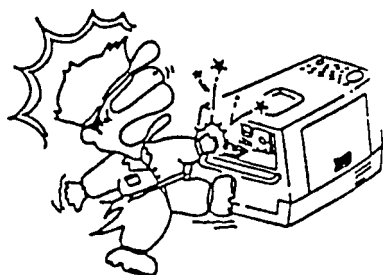
- Always use extreme caution when working with **flammable** liquids. When refueling, **stop the engine** and allow it to cool. **DO NOT** smoke around or near the machine. Fire or explosion could result from fuel vapors, or if fuel is spilled on a hot engine.

- **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.

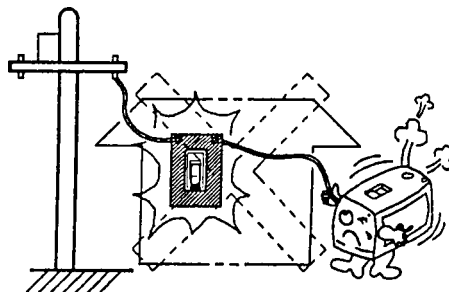
RULES FOR SAFE OPERATION

CAUTION:



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

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 force out of the radiator, 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 force 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 force out of the oil drain plug, therefore causing severe scalding to any persons in the general area of the generator.

RULES FOR SAFE OPERATION

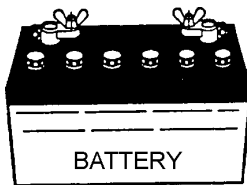
Battery

CAUTION:



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

The battery contains 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 that 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 not in use. 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.
- Refer to the ***John Deere 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.
- 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 strap) 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 rough terrain.
- 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, coolant, fuel, and fuel filters.
- **DO NOT** use plastic containers to dispose of hazardous waste.
- **DO NOT** pour waste, oil, coolant or fuel directly onto the ground, down a drain or into any water source

DCA-70SSJU — TOWING

Towing Safety Precautions

CAUTION :

Check with your county or state safety towing regulations department before towing your generator.

To reduce the possibility of an accident while transporting the generator on public roads, always make sure the trailer (Figure 1) that supports the generator 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 towing vehicle and 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 working properly.
- Remember the maximum speed unless otherwise posted for highway towing is **55 MPH**. Recommended off-road towing is not to exceed **15 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.

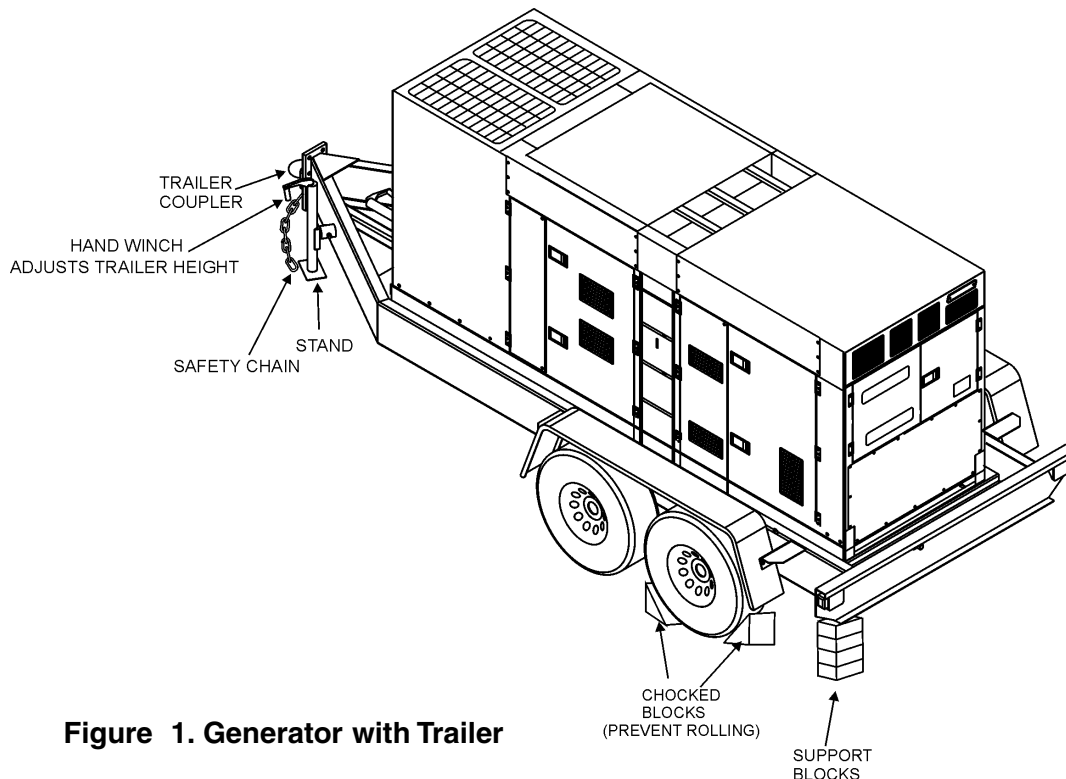


Figure 1. Generator with Trailer

DCA-70SSJU — TRAILER-SAFETY GUIDELINES

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 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-70SSJU —TRAILER-SPECIFICATIONS

Table 1. Specifications

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

DCA-70SSJU —TRAILER-SPECIFICATIONS

Table 1. Specifications (Con't)

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

DCA-70SSJU —TRAILER SAFETY GUIDELINES

Brakes

If your trailer has a braking system, the brakes should be inspected the first 200 miles of operation. This will allow the brake shoes and drums to seat properly. After the first 200 mile interval, inspect the brakes every 3,000 miles. If driving over rough terrain, inspect the brakes more frequently.

Electric Brakes

Electrically actuated brakes (Figure 2) are similar to hydraulic brakes. The basic difference is that hydraulic brakes are actuated by an electromagnet.

Listed below are some of the advantages that electric brakes have over hydraulic brakes:

- Brake system can be manually adjusted to provide the corrected braking capability for varying road and load conditions
- Brake system can be modulated to provide more or less braking force, thus easing the brake load on the towing vehicle
- Brake system has very little lag time between the time the vehicle's brakes are actuated and the trailer's brakes are actuated
- Brake system can provide an independent emergency brake system

Remember in order to properly synchronize the tow vehicle's braking to the trailer's braking, can only be accomplished by road testing. Brake lockup, grabbiness or harshness is due to lack of synchronization between the tow vehicle and the trailer being towed or under-

adjusted brakes.

Before any brake synchronizations adjustments can be made, the trailer brakes should be burnished-in by applying the brakes 20-30 times with approximately a 20 m.p.h. decrease in speed, e.g. 40 m.p.h. to 20 m.p.h. Allow ample time for brakes to cool between application. This allows the brake shoes to slightly be seated into the brake drum surface.

Figure 2 displays the major electric brake components that will require inspection and maintenance. Please inspect these components as required.

Electric Brake Adjustment

1. Place the trailer on jack stands. Make sure the jack stands are placed on secure level ground.
2. Check the wheel and drum for free rotation.
3. Remove the adjusting hole cover from the adjusting slot at the bottom brake backing plate.
4. With a screwdriver or standard adjusting tool, rotate the star wheel of the adjuster assembly to expand the brake shoes.
5. Adjust the brake shoes outward until the pressure of the lining against the wheel drum makes the wheel difficult to turn.
6. Rotate the star wheel in the opposite direction until the wheel rotates freely with slight lining drag.
7. Replace the adjusting hole cover and lower the trailer to the ground.
8. Repeat steps 1 through 6 on the remaining brakes.

DCA-70SSJU — TRAILER SAFETY GUIDELINES

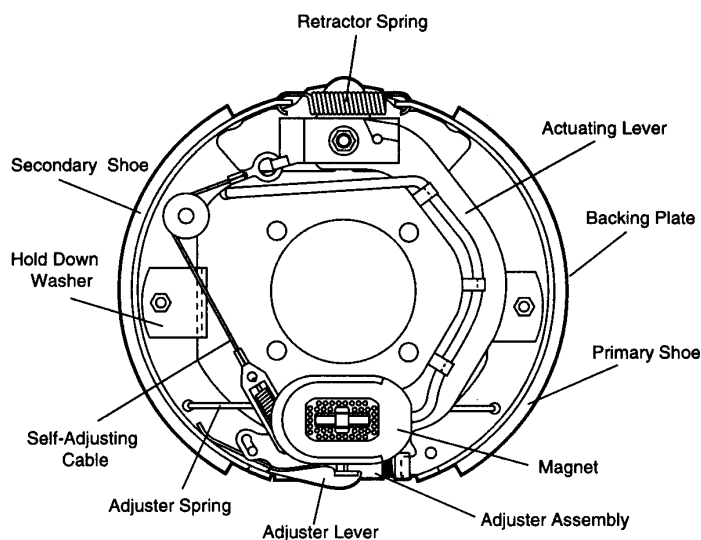


Figure 2. Electrical Brake Components

Hydraulic/Air/Surge Brakes

Hydraulic brakes (Figure 3) should not require any special attention with the exception of routine maintenance such as shoe and lining replacement. These brakes can be adjusted in the same manner as electric brakes. Brake lines should be periodically checked for cracks, kinks, or blockage.

Figure 3 below displays the major hydraulic/air/surge brake

components that will require inspection and maintenance. Please inspect these components as required using steps 1 through 6 as referenced in the electric brake adjustments section.

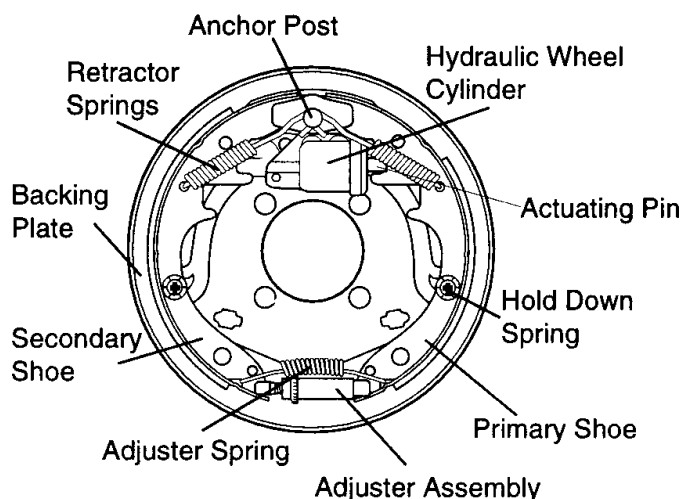


Figure 3. Hydraulic Brake Components

DCA-70SSJU — TRAILER SAFETY GUIDELINES

Tires/Wheels/Lug Nuts

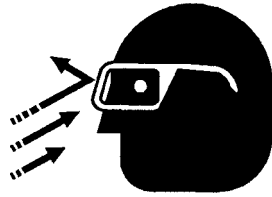
Tires and wheels are a very important and critical components of the trailer. When specifying or replacing the trailer wheels it is important the wheels, tires, and axle are properly matched.

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.

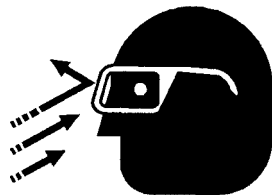


Tire Wear/Inflation

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

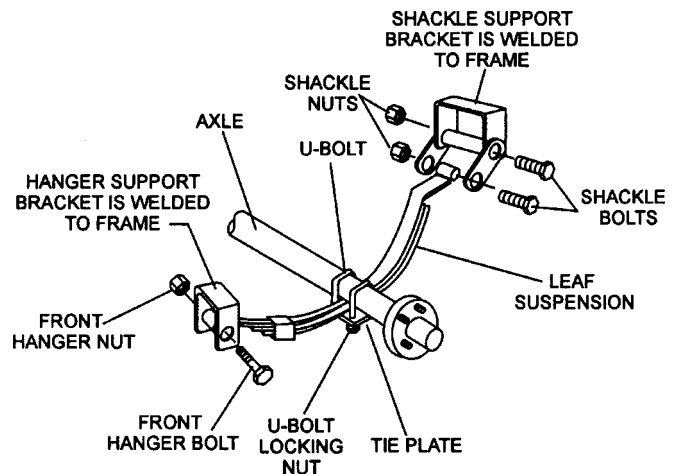


Figure 4. Major Suspension Components

DCA-70SSJU —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 SPRING EYE BOLT	SNUG FIT ONLY. PARTS MUST ROTATE FREELY. LOCKING NUTS OR COTTER PINS ARE PROVIDED TO RETAIN NUT-BOLT ASSEMBLY.
SHOULDER TYPE SHACKLE BOLT	MIN-30 MAX-50

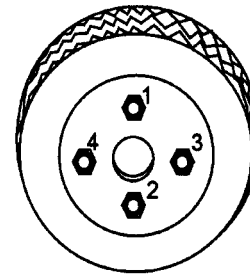
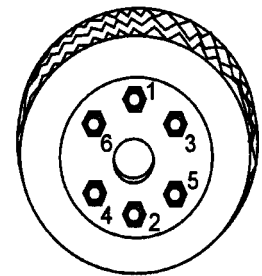
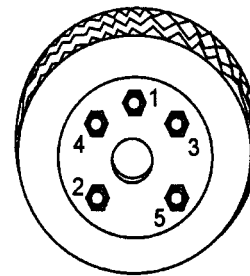
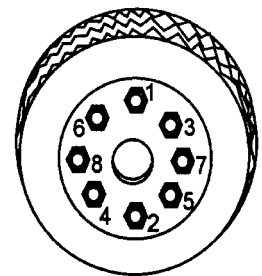
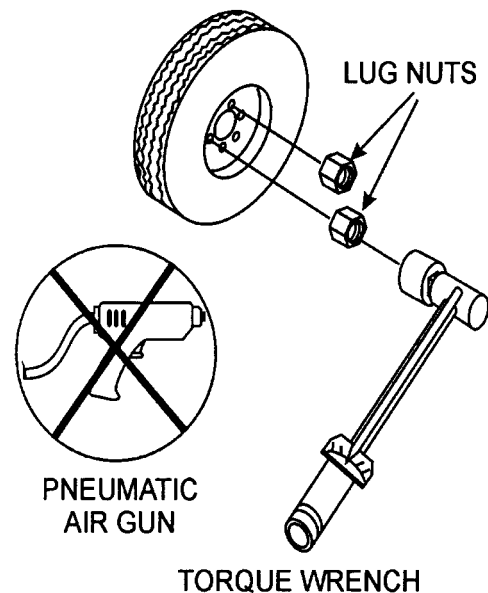
Lug Nut Torque Requirements

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

1. Start all wheel lug nuts by hand.
2. Torque all lug nuts in sequence. See Figure 5. DO NOT torque the wheel lug nuts all the way down. Tighten each lug nut in 3 separate passes as defined by Table 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

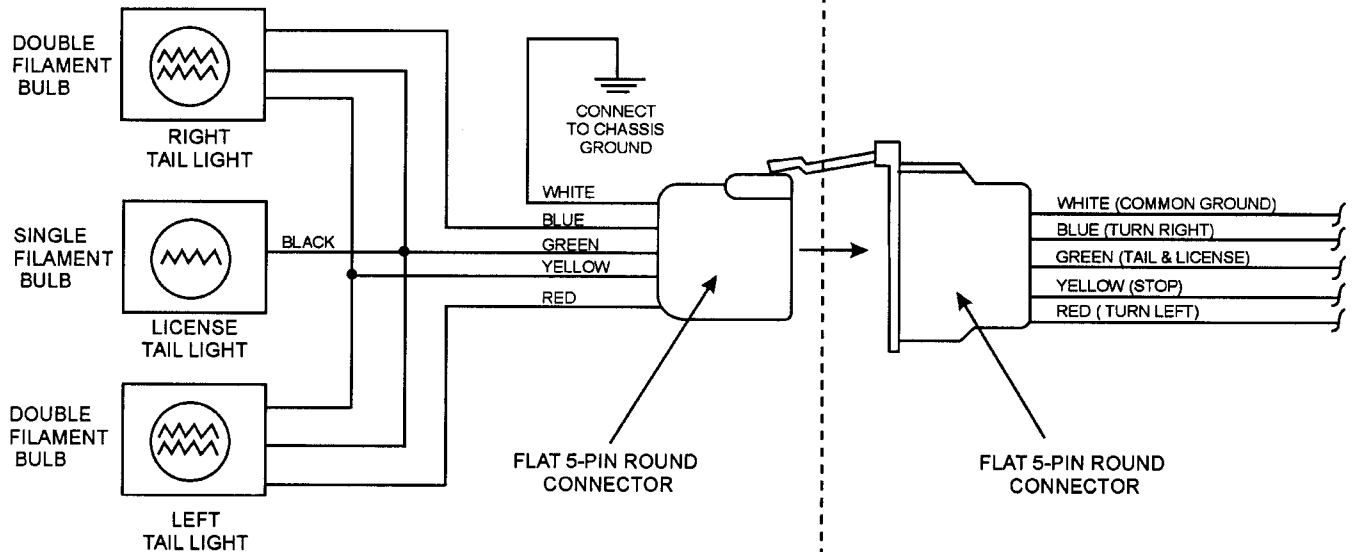
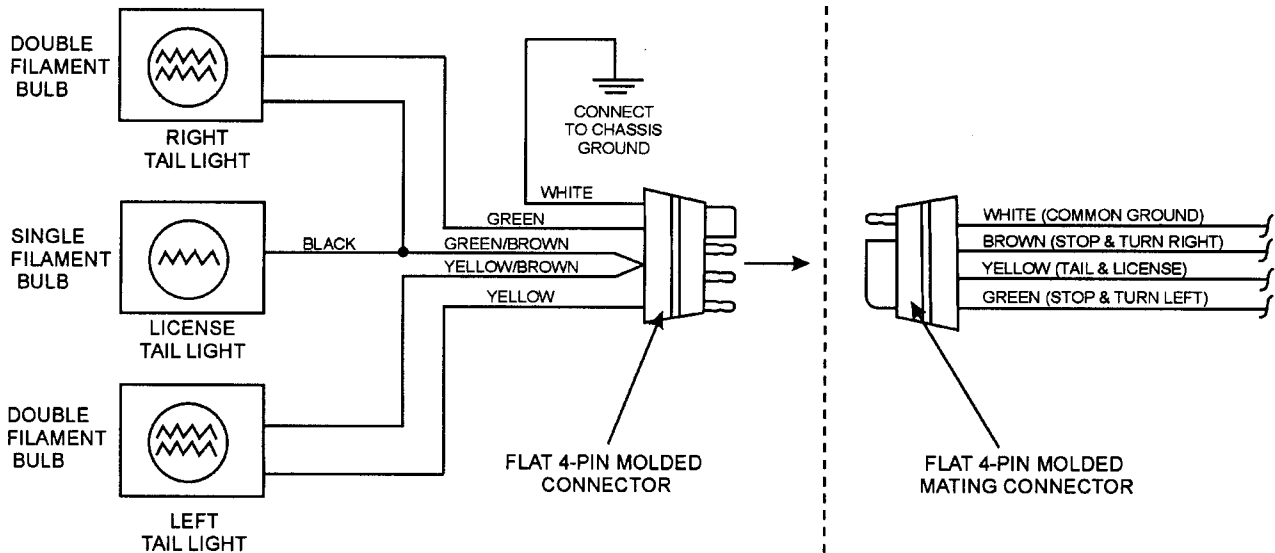

4-LUG NUTS

6-LUG NUTS

5-LUG NUTS

8-LUG NUTS

Figure 5. Wheel Lug Nuts Tightening Sequence
NOTE

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

DCA-70SSJU —TRAILER-WIRING DIAGRAM

TRAILER SIDE

TOWING VEHICLE SIDE



DCA-70SSJU —TRAILER-BRAKE TROUBLESHOOTING

Table 5. Electric Brake Troubleshooting

Symptom	Possible Cause	Solution
No Brakes or Intermittent Brakes	Any open circuits or broken wires?	Find and correct.
	Any short circuits?	Find and correct.
	Faulty controller?	Test and correct.
	Any loose connections?	Find and repair.
	Ground wire secure?	Find and secure.
Weak Brakes or Brakes Pull to One Side	Grease or oil on magnets or linings?	Clean or replace.
	Connections corroded?	Clean and correct cause of corrosion.
	Brake drums scored or grooved?	Machine or replace.
	Brakes synchronized?	Correct.
Locking Brakes	Brake components loose, bent or broken?	Replace components.
	Brake drums out-of-round?	Replace.
Noisy Brakes	System lubricated?	Lubricate.
	Brake components correct?	Replace and correct.
Dragging Brakes	Bearings of the wheel adjusted?	Adjust.

DCA-70SSJU —TRAILER-BRAKE TROUBLESHOOTING

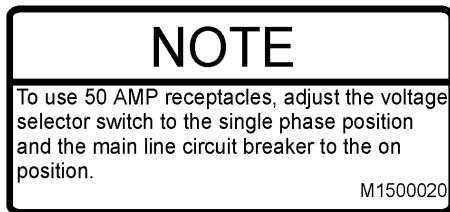
Table 6. Hydraulic Brake Troubleshooting

Symptom	Possible Cause	Solution
No Brakes	Brake line broken or kinked?	Repair or replace.
Weak Brakes or Brakes Pull to One Side	Brake lining glazed?	Reburnish or replace.
	Trailer overloaded?	Correct weight.
	Brake drums scored or grooved?	Machine or replace.
	Tire pressure correct?	Inflate all tires equally.
	Tires unmatched on the same axle?	Match tires.
Locking Brakes	Brake components loose, bent or broken?	Replace components.
	Brake drums out-of-round?	Replace.
Noisy Brakes	System lubricated?	Lubricate.
	Brake components correct?	Replace and correct.
Dragging Brakes	Brake lining thickness correct or in right wrong position?	Install new shoes and linings.
	Enough brake fluid or correct fluid?	Replace rubber parts fill with dot4 fluid.

OPERATION AND SAFETY DECALS

Machine Safety Decals

The DCA-70SSJU 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 shows the 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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P/N M1550000204



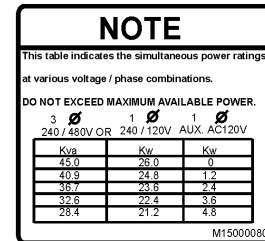
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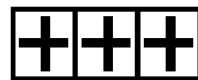
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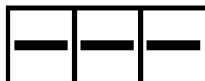


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P/N M1550000804



P/N M9500300104



P/N M9500300104



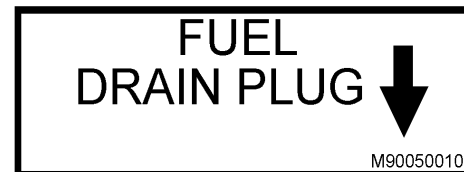
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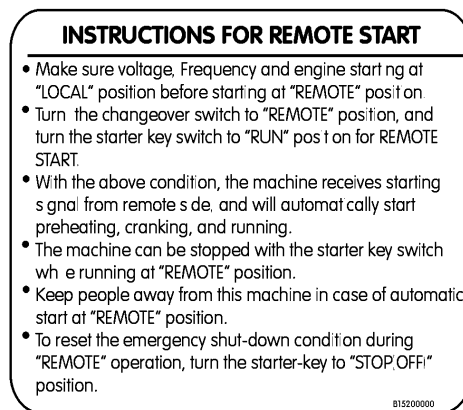
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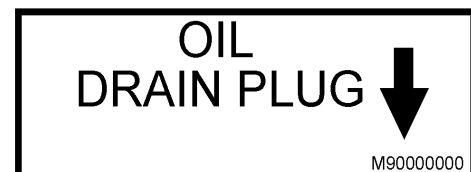
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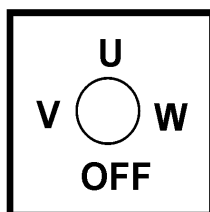
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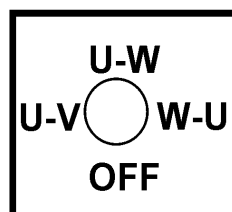


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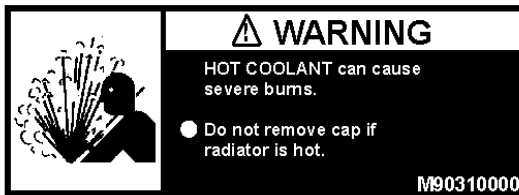
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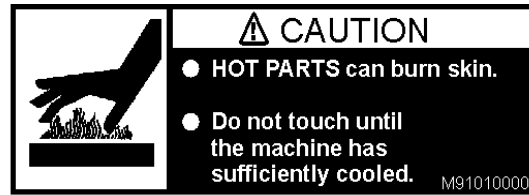
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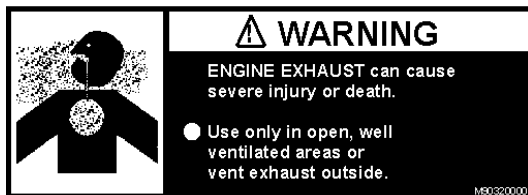
OPERATION AND SAFETY DECALS



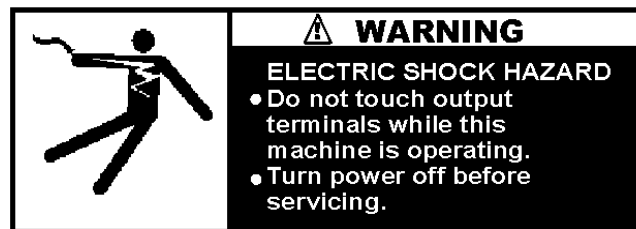
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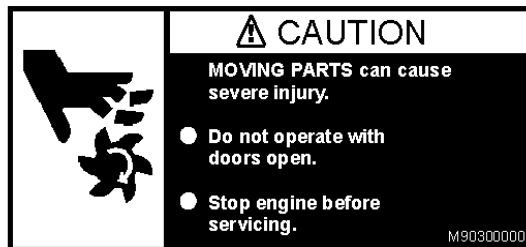
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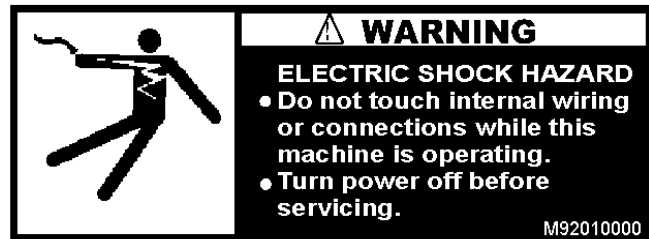
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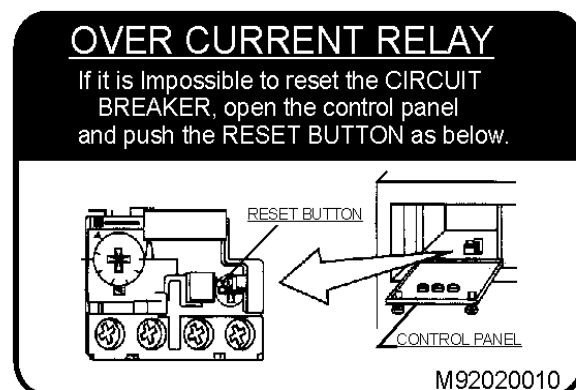
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P/N M9520100304



P/N M9520100404



P/N M9520200104

DCA-70SSJU SPECIFICATIONS

Table 7. Specifications		
Generator Specifications		
Model	DCA-70SSJU	
Type	Revolving field, self ventilated, open protected type synchronous generator	
Armature Connection	Star with Neutral	Zig Zag
Phase	3	Single
Standby Output	77 KVA (61.6 KW)	44 KW
Prime Output	70 KVA (56 KW)	40KW
Voltage	240V or 480V	240/120V
Frequency	60 Hz	
Speed	1800 rpm	
Power Factor	0.8	1
Aux. AC Power	Single Phase, 60 Hz	
Voltage	120 V	
Output	4.8 KW (2.4 KW x 2)	
Engine Specifications		
Model	JOHN DEERE 4045TF 150	
Type	4 Cycle, water-cooled, direct injection, turbo-charged	
No. of Cylinders	4 cylinders	
Bore x Stroke	4.19 in. x 5 in. (106 mm x 127 mm)	
Rated Output	90HP/1800 rpm	
Displacement	274 cu. in. (4500 cc)	
Starting	Electric	
Coolant Capacity	6.9 gal. (26 liters)	
Lube Oil Capacity	3.4 gal. (13 liters)	
Fuel Consumption	4.7 gal. (17.9L)/hr at full load	3.5 gal. (13.3L)/hr at 3/4 load
	2.6 gal. (9.9L)/hr at 1/2 load	1.6 gal. (6.1L)/hr at 1/4 load
Battery	12V- 120AH	
Fuel	#2 Diesel Fuel	

DCA-70SSJU — GENERAL INFORMATION

DCA-70SSJU FAMILIARIZATION

Generator

The MQ Power Model DCA-70SSJU is a 62 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.

Engine Control Panel

The "Engine Control Panel" is provided with the following:

- Tachometer
- Water Temperature Gauge
- Oil Pressure Gauge
- Charging Ammeter Gauge
- Engine Throttle Handle (up to S/N7302410)
- Engine Speed Switch (S/N7302141~_
- Pre-Heat Button
- Fuel Gauge
- Ignition Switch (up to S/N7302410)
- Auto On/Off Engine Controller (S/N7302141~)

Generator Control Panel

The "Generator Control Panel" is provided with the following:

- Output Voltage Adjustment Knob
- Frequency Meter (Hz)
- AC Ammeter (Amps)
- AC Voltmeter (Volts)
- Ammeter Change-Over Switch
- Voltmeter Change-Over Switch
- Panel Light
- Panel Light Switch

Output Terminal Panel

The "Output Terminal Panel" is provided with the following:

- Three 120/240V output receptacles, 50 amp
- Two 120V output receptacles, 20 amp
- 3 Circuit Breakers 240V @50 amps
- 2 GFCI Circuit Breakers 120V @ 20amps

Control Box

The "Control Box" is provided with the following:

- Main Circuit Breaker 175 amps
- Over-Current Relay
- Automatic Voltage Regulator
- Current Transformer

Microprocessor Controlled Alarm System

The DCA-70SSJU generator may be equipped with various alarms and LED status indicators. These alarms and status indicators are provided to add safety to the generator when operating under normal conditions. The DCA-70SSJU generator is designed to shutdown in the event of low oil, high coolant temperature, low battery and other operation conditions that may cause severe damage to the generator.

Open Delta Excitation System

The DCA-70SSJU 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 parallel connections 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 of adding the voltages to each phase provides better voltage response during heavy loads.

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

The open-delta design provides virtually unlimited excitation current, 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-70SSJU** and **DCA-70SSJU2** is powered by a 4 cycle, water cooled, turbocharged JOHN DEERE Model 4045TF150 **diesel** engine. This engine is designed to meet every performance requirement for the generator. Reference Table 7, page 23 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.

The basic controls and indicators for the DCA-70SSJU generator are addressed on the following pages.

DCA-70SSJU — MAJOR COMPONENTS

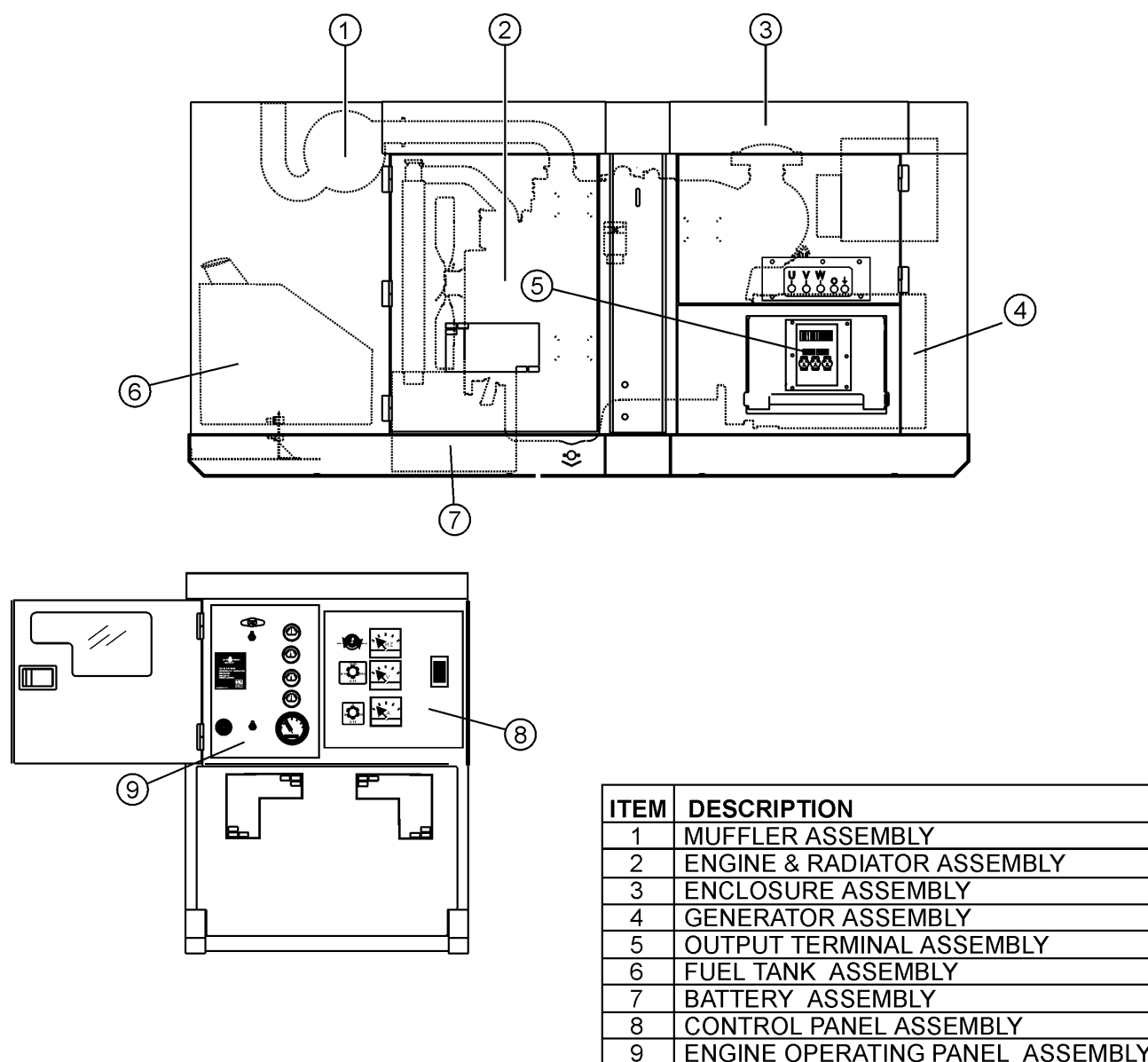


Figure 6. Major Components

DCA-70SSJU — DIMENSIONS (TOP, SIDE AND FRONT)

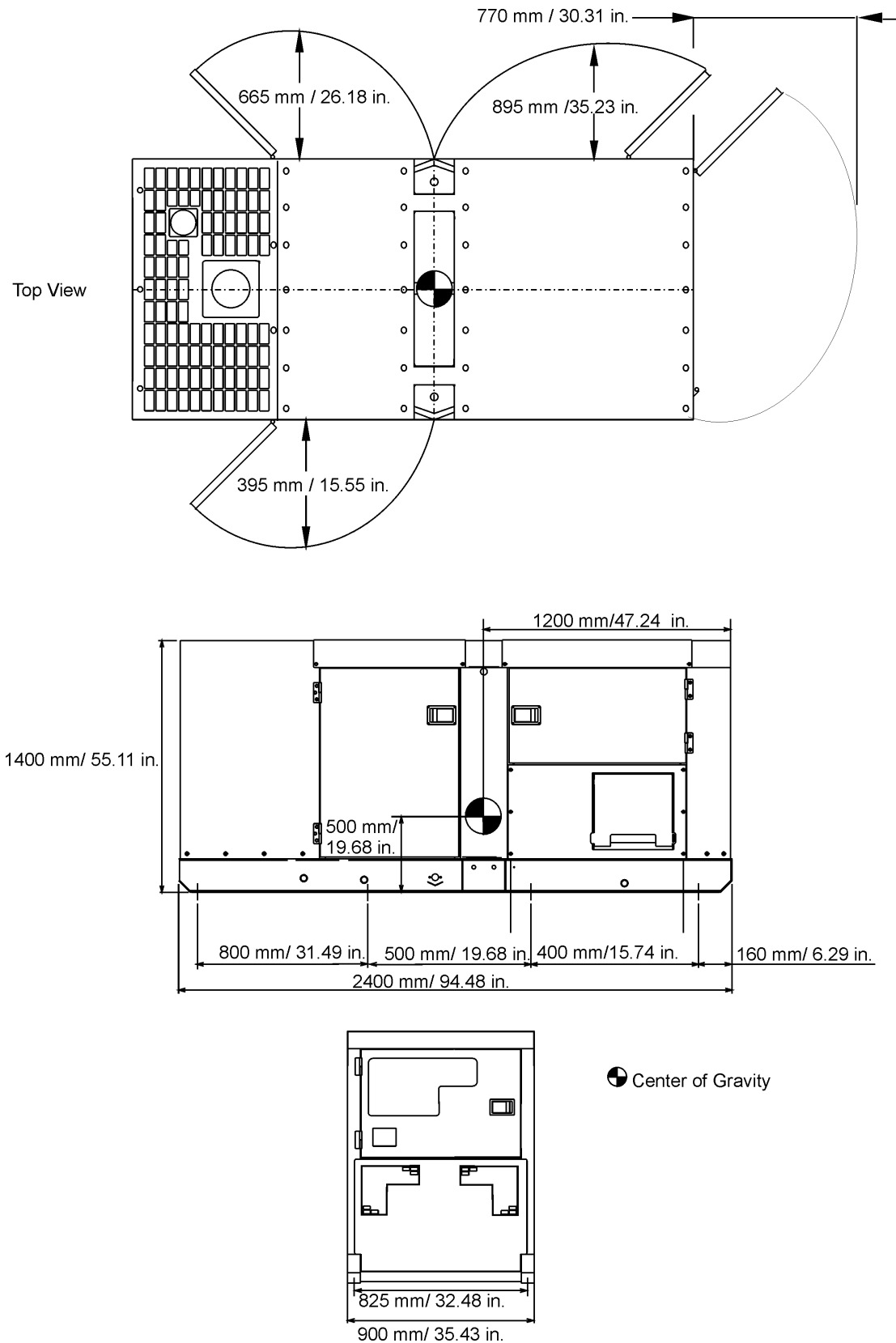
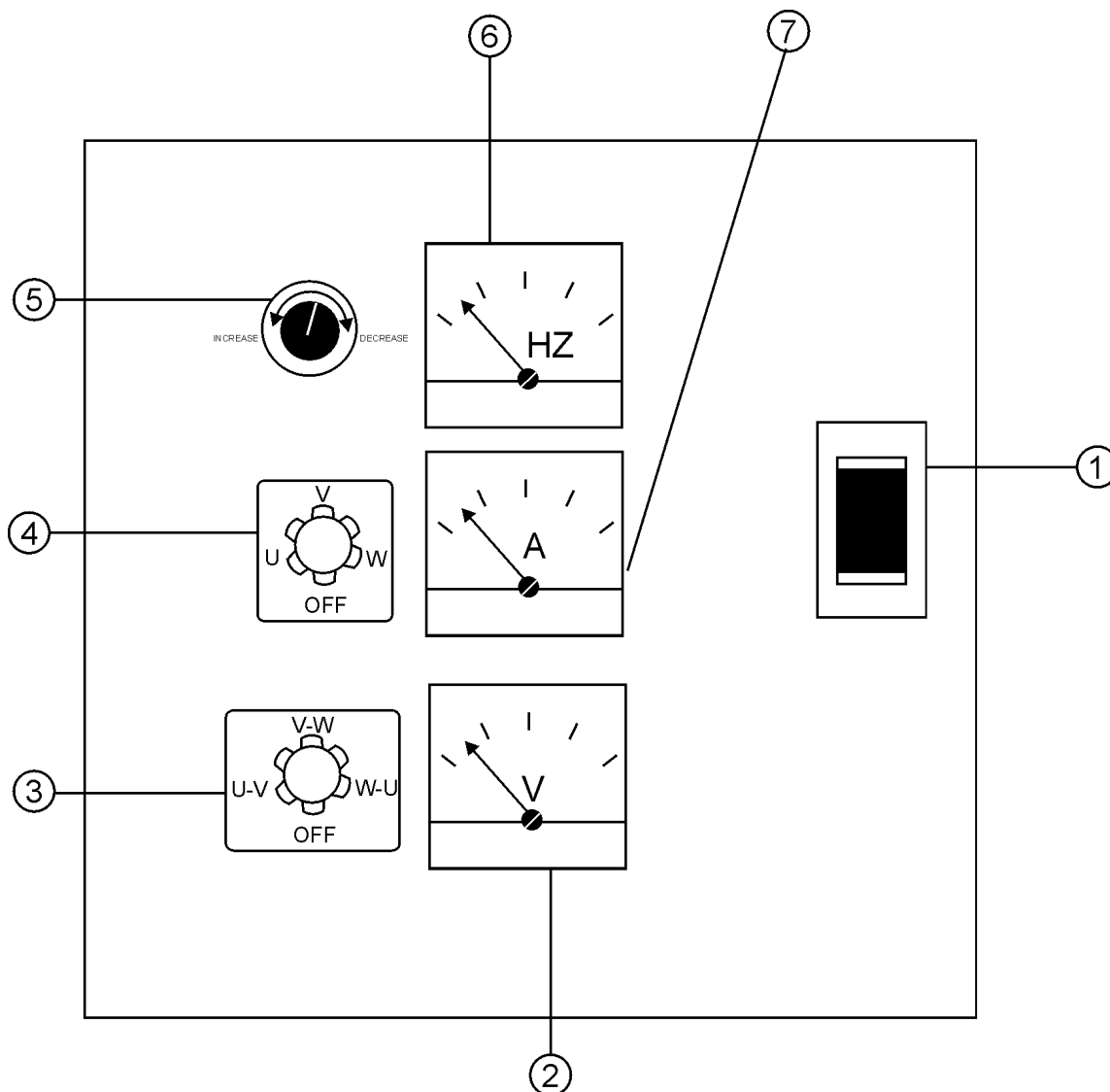


Figure 7. Dimensions

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DCA-70SSJU — CONTROL PANEL



NO	DESCRIPTION
1	CIRCUIT BREAKER
2	AC VOLTMETER
3	VOLTMETER CHANGE-OVER SWITCH
4	AMMETER CHANGE-OVER SWITCH
5	VOLTAGE REGULATOR
6	FREQUENCY METER
7	AC AMMETER

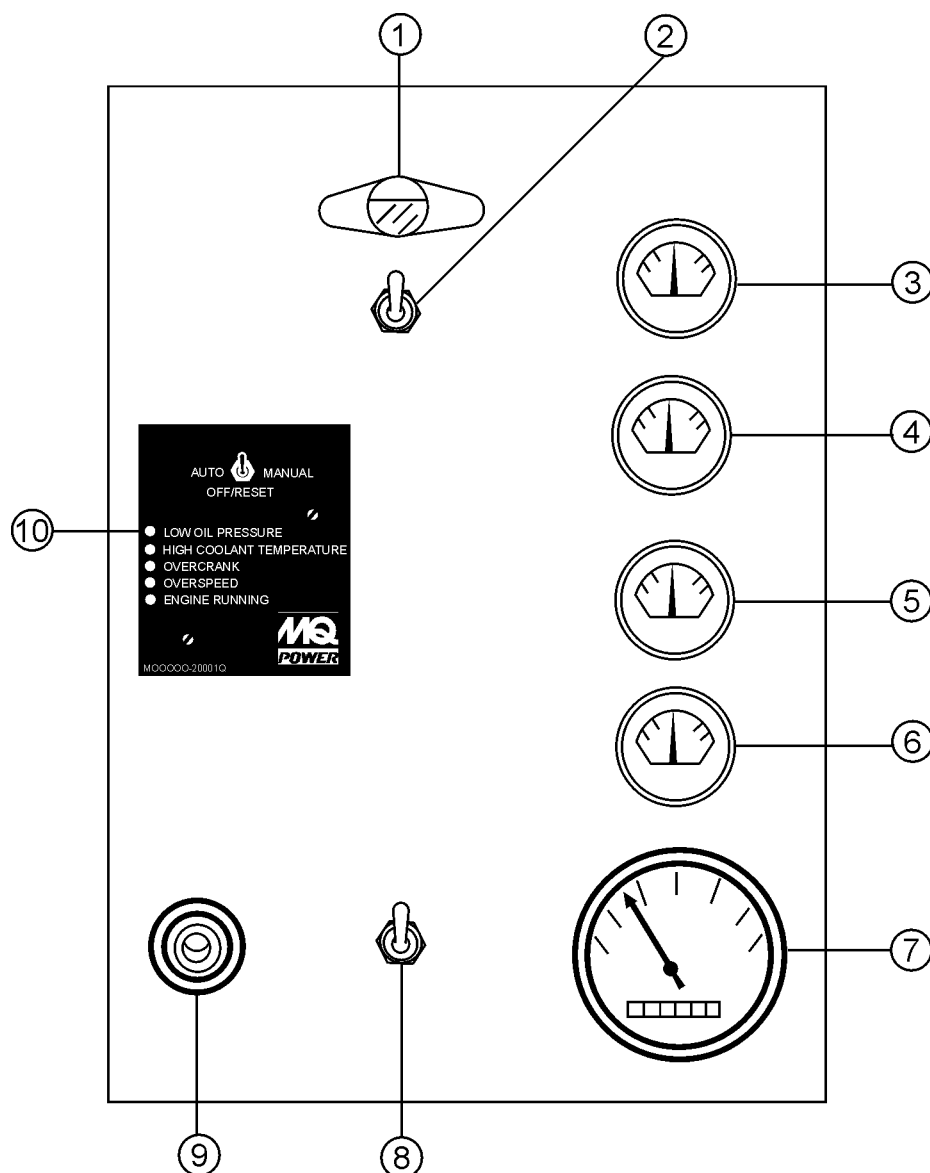
Figure 8. Control Panel

DCA-70SSJU — CONTROL PANEL

The definitions below describe the controls and functions of the DCA-70SSJU " **Control Panel** " (Figure 8).

1. **Main Circuit Breaker** – This three-pole, 175 amp main breaker is provided to protect the UVW voltage output terminals from overload.
2. **AC Voltmeter** – Indicates the single phase output voltage present at the UVW terminals.
3. **Voltmeter Change-Over Switch** – This switch allows the AC voltmeter to indicate phase to phase voltage between any two phases of the output terminals or to be switched off.
4. **Ammeter Change-Over Switch** – This switch allows the AC ammeter to indicate the current flowing to the load connected to any phase of the output terminals, or to be switched off.
5. **Voltage Regulator Control** – Allows manual adjustment of the generator's output voltage.
6. **Frequency Meter** – Indicates the output frequency in hertz (Hz). Normally 60 Hz $\pm$ 1 Hz .
7. **AC Ammeter** – Indicates the amount of current the load is drawing from the generator.

DCA-70SSJU — ENGINE OPERATING PANEL(ENGINE CONTROLLER)



NO	DESCRIPTION
1	PANEL LIGHT
2	PANEL LIGHT SWITCH
3	OIL PRESSURE GAUGE
4	WATER TEMPERATURE GAUGE
5	CHARGING AMMETER
6	FUEL GAUGE
7	TACHOMETER
8	ENGINE SPEED SWITCH
9	PREHEAT BUTTON
10	MICROPROCESSOR ENGINE CONTROL

Figure 9. Engine Operating Panel

DCA-70SSJU — ENGINE OPERATING PANEL(ENGINE CONTROLLER)

The definitions below describe the controls and functions of the DCA-70SSJU2 (S/N73002141~) " **Engine Operating Panel** " (Figure 9).

1. **Panel Light** – Normally used in dark areas or at night time. When activated, panel lights will illuminate. When the generator is not in use be sure to turn the panel light switch to the OFF position.
2. **Panel Light Switch** – When activated will turn on control panel light.
3. **Oil Pressure Gauge** – During normal operation this gauge be should read between 42 to 71 psi. When starting the generator the oil pressure may read a little bit higher, but after the engine warms up the oil pressure should return to the green zone.
4. **Water Temperature Gauge** – During normal operation this gauge be should read between 165° and 203°F.
5. **Charging Ammeter Gauge** – Indicates the current being supplied by the engine's alternator which provides current for generator's control circuits and battery charging system.
6. **Fuel Gauge** - Indicates amount of diesel fuel available.
7. **Tachometer** – Indicates engine speed in RPM's for 60 Hz operation. This meter should indicate 1800 RPM's when the rated load is applied. In addition a built in hour meter will record the number of operational hours that the generator has been in use.
8. **Engine Speed Switch** - This switch controls the speed of the engine (low or high).
9. **Pre-Heat Button** – Press hold this button until the preheat lamp is lit (ON).
10. **Auto On/Off Engine Controller** – This controller as a vertical row of status LED's (Figure 10), that when lit, indicate that an engine malfunction (fault), has been detected. When a fault has been detected the engine controller will evaluate the fault and all major faults will shutdown the generator.

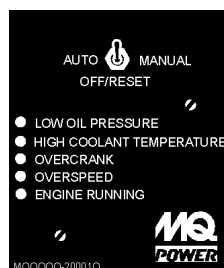


Figure 10.
Engine
Controller

During **cranking cycle**, The MPEC will attempt to crank the engine for 10 seconds before disengaging. If the engine does not engage (start) by the third attempt, the engine will be shutdown by the engine controller's " Over Crank Protection" mode. If the engine engages at a speed (RPM's) that is not safe, the controller will shutdown the engine by initializing the "Over Speed Protection" mode.

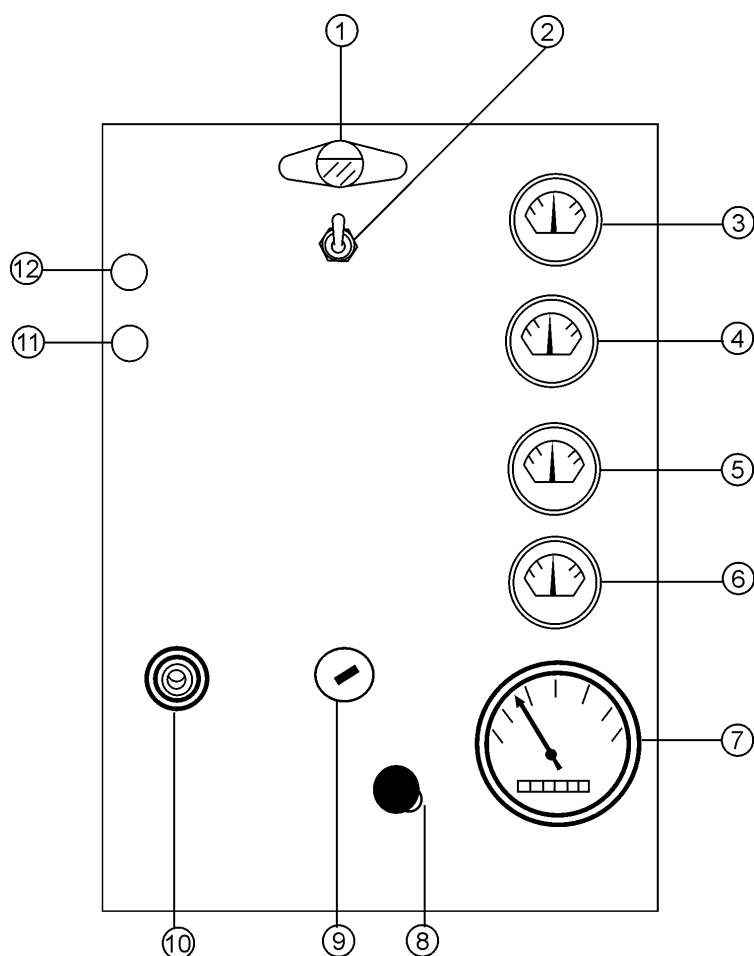
Also the engine controller will shutdown the generator in the event of low oil pressure, high coolant temperature, low coolant level, and loss of magnetic pickup. These conditions can be observed by monitoring the LED status indicators on the front of the controller module.

- A. Off/Manual/Auto Switch** – This switch controls the running of the generator. If this switch is left in the "OFF" position, the generator will not run. When this switch is set to the **manual** position, the generator will start immediately.

If the generator is to be connected to a building's AC power source via a transfer switch (isolation), place the switch in the **auto** position. In this position the generator will monitor the AC line output from the building's power source.

- B. Low Oil Pressure** – Indicates the engine pressure has fallen below 15 psi. The oil pressure is detected using variable resistive values from the oil pressure sending unit. This is considered a **major** fault.
- C. High Coolant Temperature** – Indicates the engine temperature has exceeded 215°F. The engine temperature is detected using variable resistive values from the temperature sending unit. This is considered a **major** fault.
- D. Overcrank Shutdown** – Indicates the unit has attempted to start a pre-programmed number of times, and has failed to start. The number of cycles and duration are programmable. It is pre-set at 3 cycles with a 10 second duration. This is considered a **major** fault.
- E. Overspeed Shutdown** – Indicates the engine is running at an unsafe speed. This is considered a **major** fault.
- F. Engine Running** – Indicates that engine is running at a safe operating speed.

DCA-70SSJU — ENGINE OPERATING PANEL(IGNITION SWITCH)



NO	DESCRIPTION
1	PANEL LIGHT
2	PANEL LIGHT SWITCH
3	OIL PRESSURE GAUGE
4	WATER TEMPERATURE GAUGE
5	CHARGING AMMETER
6	FUEL GAUGE
7	TACHOMETER
8	ENGINE SPEED THROTTLE
9	IGNITION SWITCH
10	PREHEAT LAMP
11	WATER TEMP. WARNING LIGHT
12	OIL PRESSURE WARNING LIGHT

Figure 11. Engine Operating Panel

DCA-70SSJU — ENGINE OPERATING PANEL(IGNITION SWITCH)

The definitions below describe the controls and functions of the DCA-70SSJU - up to S/N 73002140 " **Engine Operating Panel** " (Figure 11).

1. **Panel Light** – Normally used in dark areas or at night time. When activated, panel lights will illuminate. When the generator is not in use be sure to turn the panel light switch to the OFF position.
2. **Panel Light Switch** – When activated will turn on control panel light.
3. **Oil Pressure Gauge** – During normal operation this gauge be should read in the "GREEN" zone. When starting the generator the oil pressure mar read a little bit higher, but after the engine warms up the oil pressure should return to the green zone.
4. **Water Temperature Gauge** – During normal operation this gauge be should read in the "GREEN" zone.
5. **Charging Ammeter Gauge** – Indicates the current being supplied by the engine's alternator which provides current for generator's control circuits and battery charging system.
6. **Fuel Gauge** - Indicates amount of diesel fuel available.
7. **Tachometer** – Indicates engine speed in RPM's for 60 Hz operation. This meter should indicate 1800 RPM's when the rated load is applied. In addition a built in hour meter will record the number of operational hours that the generator has been in use.
8. **Engine Speed Throttle**- This lever controls the speed of the engine (low or high).
9. **Ignition Switch** – Turns the engine on, off or to preheat the engine.
10. **Preheat Lamp**– This indicator lets the operator know when the engine is warm enough to start.
11. **Water Temperature Warning Light** - Indicates if the coolant is low. This warning will shut off the engine.
12. **Oil Pressure Warning Light** - This will indicate if the oil pressure is too low or high. This warning will shut off the engine.

DCA-70SSJU — OUTPUT TERMINAL PANEL

Output Terminal Panel

The output control panel is located on the rear (control panel) end of the generator. The UVW lugs are protected by a face plate cover that can be secured in the close position by a pad lock.

120 Volt Receptacle

One GFCI Duplex NEMA 5-20R (120V, 20 Amp) receptacle is located 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 will reset the receptacle after being tripped. Pressing the "Test Button" (Figure 12) in the center of this receptacle will check the GFCI function. The receptacle should be tested at least once a month.

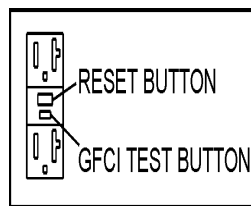


Figure 12. GFCI Test Button

Twist Lock Dual Voltage Receptacles - To use these receptacles, place the voltage selector switch in the single phase 240/120 voltage position and adjust the output voltage to 240 volts with the voltage regulator on the Control Panel (Figure 8, page 28). Place the voltmeter change-over switch to the U-W position and the ammeter change-over switch to the U or W to read the output.

Connecting Load

Loads can be connected to the generator by the UVWO lugs or the duplex receptacles. (See Figure 13). Make sure to read the operation manual before attempting to connect a load to the generator.

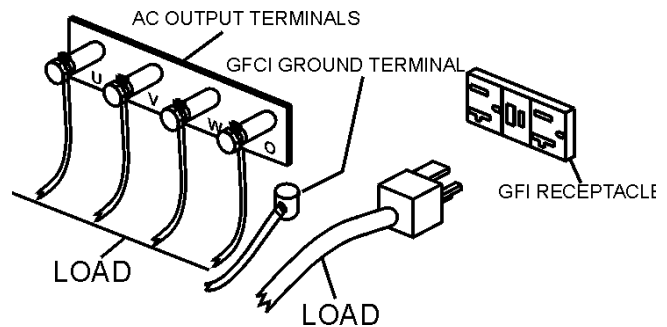


Figure 13. Load Application

Circuit Breakers

To protect the generator from an overload, a 3-pole, 150 amp, **main** circuit breaker is provided to protect the UVWO output terminals from overload. In addition two single-pole, 20 amp **GFCI** circuit breakers are provided to protect the GFCI receptacles from overload. Three 50 amp **load** circuit breakers have also been provided to protect the load side of the generator from overload. Make sure to switch **ALL** circuit breakers to the "OFF" position prior to starting the engine.

Maximum Output

The entire load connected to the UVWO lugs, all four slots in the duplex receptacles, and the must not exceed 52.8 kW in standby or 48 kW in prime output.

Generator Grounding

Make sure the generator is properly grounded before applying load. Generators are NOT considered grounded when mounted on a trailer.

DCA-70SSJU — OUTPUT TERMINAL VOLTAGE SELECTION

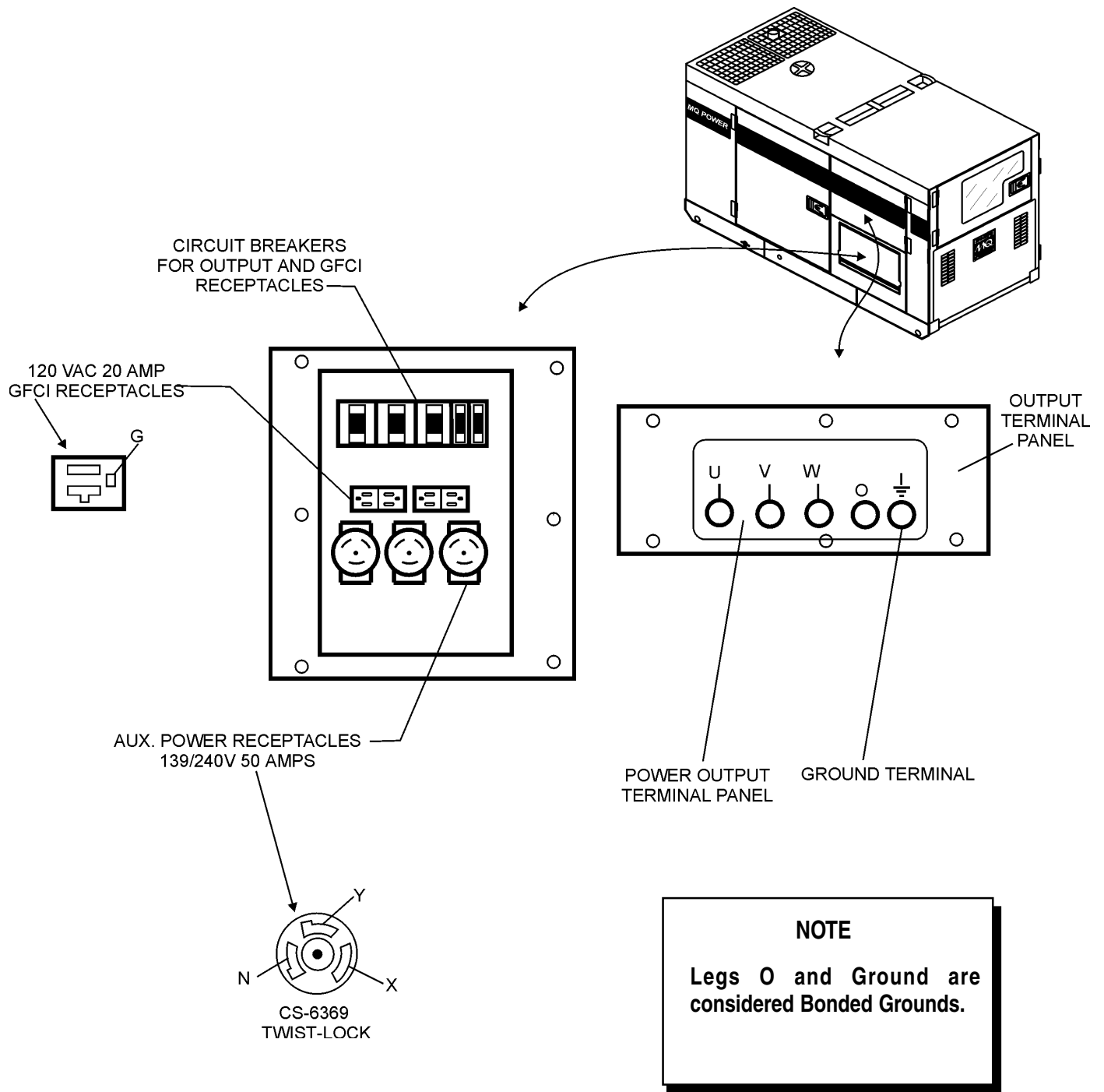


Figure 14. Output Panel Location

DCA-70SSJU — OUTPUT AMPERAGE SETUP

Output Terminal Panel Available Voltages

A wide range of voltages are available to supply load to many different applications. Voltages may be selected by using the voltage selector switch and depending how you hookup your hard wire connection to the generator. To obtain some of the voltages listed, fine adjustment with the voltage regulator on the control panel is necessary. See Table 8 for available voltages the generator will supply.

Over Current Relay

An over current relay is connected to the circuit breaker. During an over current situation, both the circuit breaker and the over current relay will trip. If the circuit breaker can not be reset, the reset button on the over current relay must be pressed. The over current relay is located inside the control box.

Table 8. Voltages Available

3 Phase (Switchable)	208 VOLT	220 VOLT	240 VOLT	416 VOLT	440 VOLT	480 VOLT
Single Phase (Switchable)	120 VOLT	127 VOLT	139 VOLT	240 VOLT	254 VOLT	277 VOLT

CAUTION :



NEVER switch Voltage Selector Switch position while the engine is engaged.

Maximum Amps

Table 9 shows the maximum amps the generator will provide. Do not exceed the maximum amps listed.

Voltage Selector Switch Locking Button

The voltage selector switch has a locking button to protect the generator and generator load from being switched while the engine is running. To lock the voltage selector switch, press in the red button located on the voltage selector switch, and use a pad lock to hold it into this position.

Table 9. Maximum Amps

Model:	DCA70SSJU
Rated Voltage	Maximum Amps
Single Phase 120 Volt	155.5 amps (4 wire)
Single Phase 240 Volt	77.8 amps (4 wire)
Three Phase 240 Volt	168 amps
Three Phase 480 Volt	84 amps

DCA-70SSJU — OUTPUT AMPERAGE SETUP

Receptacle Use

When the UVWO terminals are providing power, the receptacle power availability will decrease. Do not exceed receptacle power as listed on Table 10.

Table 10. Receptacle Use

Power in Use		Receptacle Power Available
240/480V 3-Phase	240/120V Single Phase or Twist Lock CS6369	Duplex NEMA 5-20R 120V
70	40.4	0
65.8	39.2	1.2
61.7	38.0	2.4
57.5	36.8	3.6
53.4	35.6	4.8

How To Read The Output Terminal Gauges.

The gauges (Figure 17 and 19) and change-over switches on the control panel DO NOT effect the generator output. They are to help observe how much power is being supplied at the UVWO legs.

When the voltage selector switch is in the 240/120V position (Figure 15), place the AC voltmeter change-over switch to the W-U position (Figure 16) and the AC ammeter change-over switch to the U or W position (Figure 18) to read the output on the selected leg.

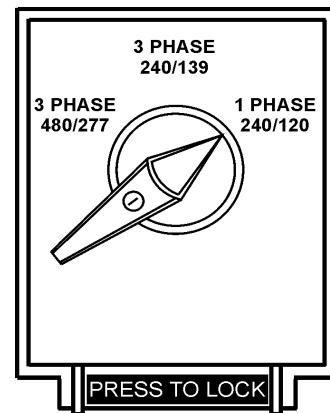


Figure 15. Voltage Selector Switch 240/120V Single Phase Position

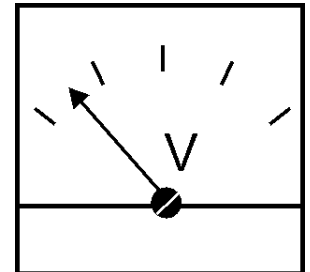
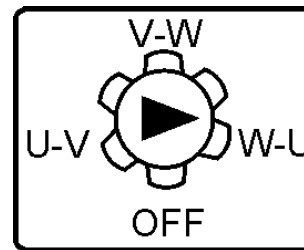


Figure 16 and 17. AC Voltmeter Change-over switch and Voltmeter Gauge

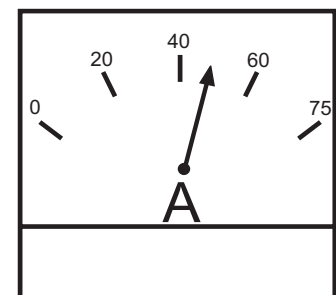
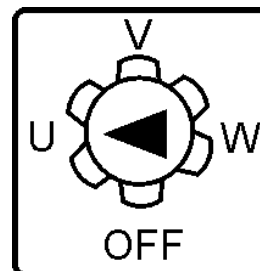


Figure 18 and 19. AC Ammeter Change-over Switch and Ammeter Gauge

NOTE

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

DCA-70SSJU — OUTPUT VOLTAGE SETUP

240/120V Hard Wire Hookup

With the voltage selector set and locked at 'single phase 240/120' and using single phase 120 volts, the generator will provide three legs available with 100 amps each on three different circuits (Figure 20).

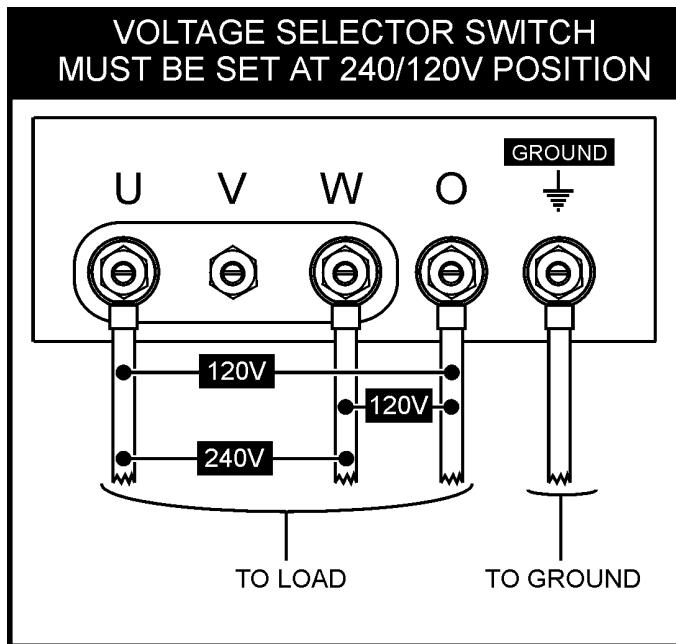


Figure 20. Hard Wire Hookup at 240/120V Position

480/240V Hard Wire Hookup

With the voltage selector set and locked at '3 phase 480/277' (Figure 21) and using the 3-phase 240 hookup, it will provide one circuit available at 108 amps with any two wires plus the ground (Figure 22).

When using the 3-phase 480 volts hookup, it will provide one circuit available at 50 amps with all three wires plus ground.

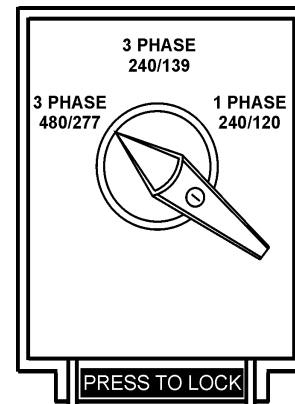


Figure 21. Voltage Selector Switch 480/277V Three Phase Position

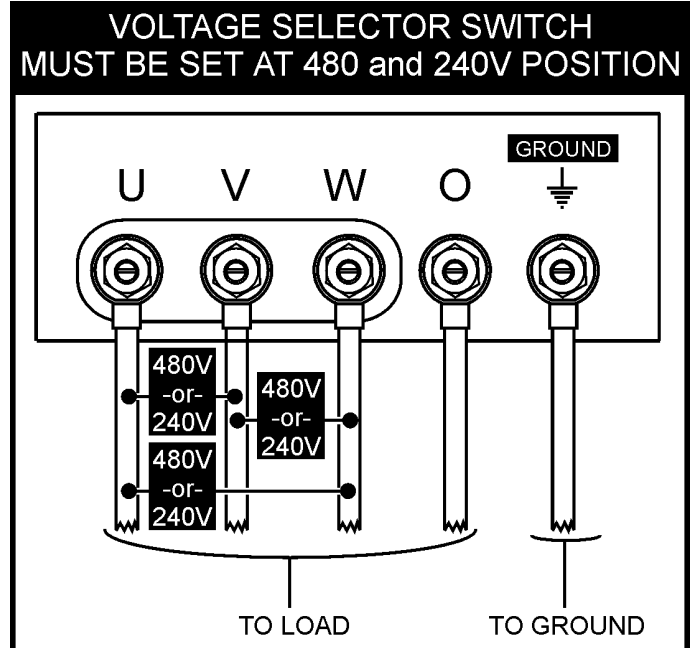


Figure 22. Hard Wire Hookup at 480/240V Position

DCA-70SSJU — OUTPUT VOLTAGE SETUP

Voltage Selector Switch- 3 Phase 480/277V Position

The following are additional voltages available when the voltage selector switch is in the '3 phase 480/277V' position.



Figure 23. Voltage Regulator Knob

3 Phase, 480V, 440V, or 416 Volt

This setting can provide 3-phase power at 480, 440, or 416 volts. After hooking up the hard wires to the lugs as shown in Figure 24, 480 volts can be obtained with the voltage regulator knob turned toward maximum; 440 volts can be obtained with the voltage regulator knob is turned down; and 416 volts can be obtained with the voltage regulator knob is at the lowest setting.

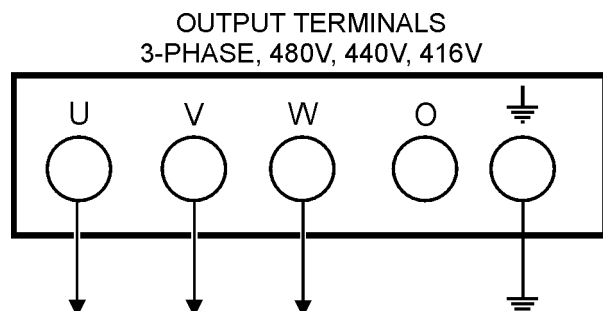


Figure 24. Hard Wire Hookup for Three Phase 480V, 440V, or 416V

Single Phase: 480V, 440V, or 416 Volt

This setting can provide single phase power at 480, 440, or 416 volts. After hooking up the hard wires to the lugs as shown in Figure 25, 480 volts can be obtained with the voltage regulator knob turned toward maximum; 440 volts can be obtained with the voltage regulator knob is turned down; and 416 volts can be obtained with the voltage regulator knob is at the lowest setting.

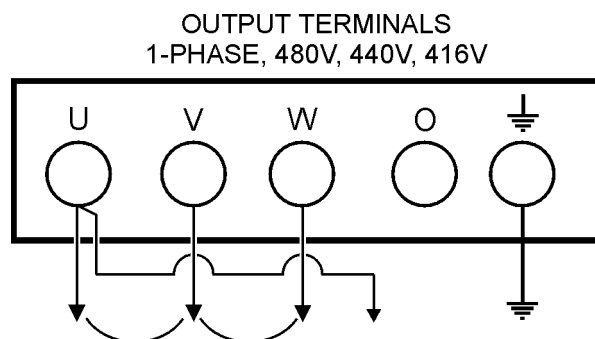


Figure 25. Hard Wire Hookup for Single Phase 480V, 440V, or 416V

Single Phase: 277V, 254V, or 240V

This setting can provide single phase power at 277, 254, or 240 volts. After hooking up the hard wires to the lugs as shown in Figure 26, 277 volts can be obtained with the voltage regulator knob turned toward maximum; 254 volts can be obtained with the voltage regulator knob is turned down; and 240 volts can be obtained with the voltage regulator knob is at the lowest setting.

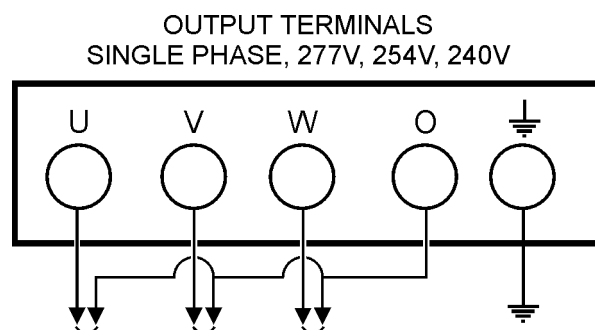


Figure 26. Hard Wire Hookup for Single Phase 277V, 254V, or 240V

DCA-70SSJU — OUTPUT VOLTAGE SETUP

Voltage Selector Switch- 3 Phase 240/139V Position

The following are additional voltages available when the voltage selector switch is in the '3 phase 240/139V' position.

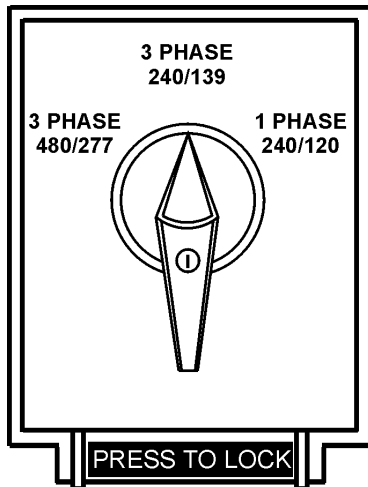


Figure 27. Voltage Selector Switch 240/139V Three Phase Position

3 Phase, 240V, 220V, or 208 Volt

This setting can provide 3-phase power at 240, 220, or 208 volts. After hooking up the hard wires to the lugs as shown in Figure 28, 240 volts can be obtained with the voltage regulator knob turned toward maximum; 220 volts can be obtained with the voltage regulator knob is turned down; and 208 volts can be obtained with the voltage regulator knob is at the lowest setting.

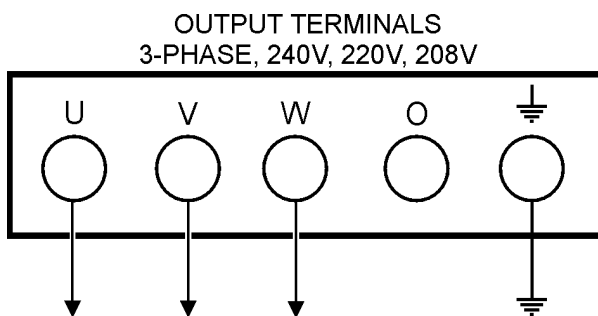


Figure 28. Hard Wire Hookup for Three Phase 240V, 220V, or 208V

Single Phase: 240V, 220V, or 208 Volt

This setting can provide single phase power at 240, 220, or 208 volts. After hooking up the hard wires to the lugs as shown in Figure 29, 240 volts can be obtained with the voltage regulator knob turned toward maximum; 220 volts can be obtained with the voltage regulator knob is turned down; and 208 volts can be obtained with the voltage regulator knob is at the lowest setting.

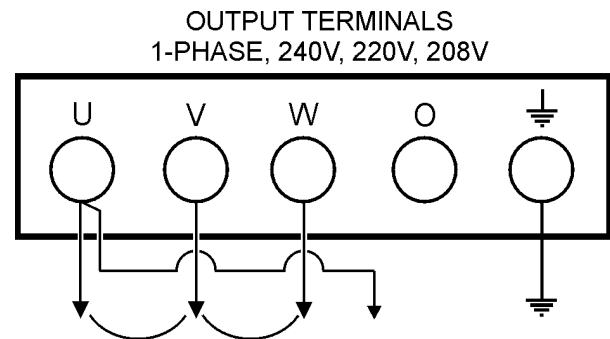


Figure 29. Hard Wire Hookup for Single Phase 240V, 220V, or 208V

Single Phase: 139V, 127V, or 120V

This setting can provide single phase power at 139, 127, or 120 volts. After hooking up the hard wires to the lugs as shown in Figure 30, 139 volts can be obtained with the voltage regulator knob turned toward maximum; 127 volts can be obtained with the voltage regulator knob is turned down; and 120 volts can be obtained with the voltage regulator knob is at the lowest setting.

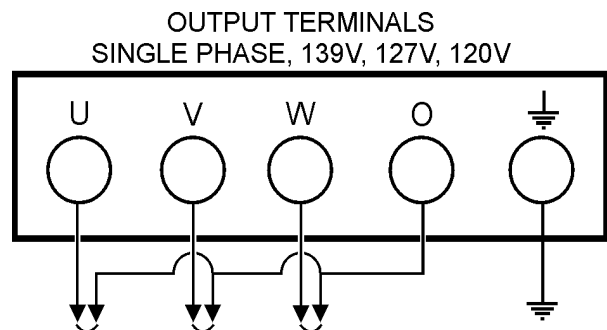


Figure 30. Hard Wire Hookup for Single Phase 139V, 127V, or 120V

DCA-70SSJU — OUTPUT VOLTAGE SETUP

Voltage Selector Switch- Single Phase 240/120V

Position

The following are additional voltages available when the voltage selector switch is in the 'single phase 240/120V' position.

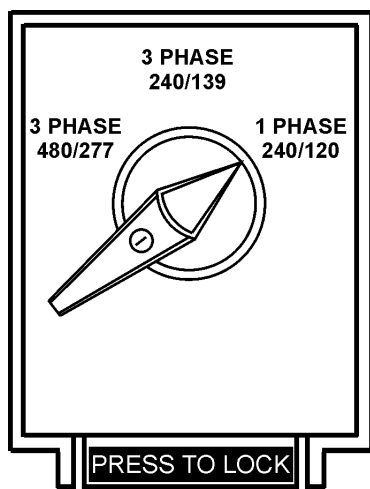


Figure 31. Voltage Selector Switch 240/120V Single Phase Position

Single Phase: 120 Volt

This setting can provide single phase power at 120 volts. After hooking up the hard wires to the lugs as shown in Figure 33, 120 volts can be obtained with the voltage regulator knob turned to fine tune.

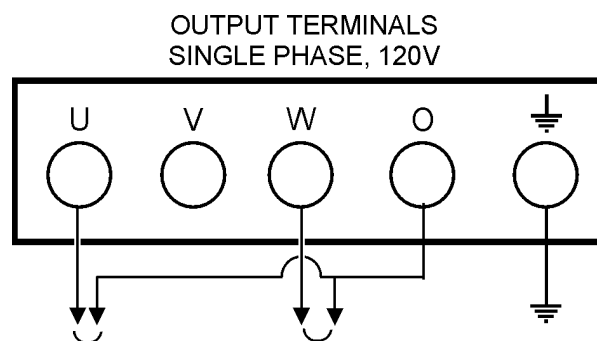


Figure 33. Hard Wire Hookup for Single Phase, 120 volt

Single Phase, 240 Volt

This setting can provide single phase power at 240 volts. After hooking up the hard wires to the lugs as shown in Figure 32, 240 volts can be obtained with the voltage regulator knob turned to fine tune.

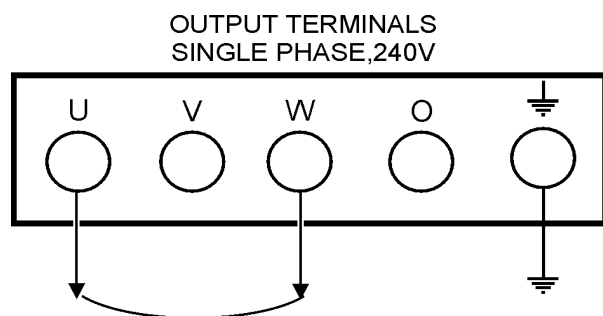


Figure 32. Hard Wire Hookup for Single Phase 240 volt

DCA-70SSJU — INSTALLATION

Outdoor Installation

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

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

Foreign materials such as dust, sand, lint and abrasive materials have a tendency to cause excessive wear to engine and 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.

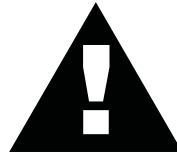
Indoor Installation

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 heat excessively and possibly burn the valves.

Mounting

The generator must be mounted on a solid foundation (such as concrete) and set firmly on the foundation to isolate vibration of the generator when it is running. The generator must set at least 6 inches above the floor or grade level (in accordance to NFPA 110, Chapter 5-4.1). DO NOT remove the metal skids on the bottom of the generator. They are to resist damage to the bottom of the generator and to maintain alignment.

CAUTION :



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

Generator Grounding

To guard against 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 mm²) or larger.
 - b. Aluminum - 8 AWG (8.4 mm²) or larger.
2. When grounding the generator (Figure 34) 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.

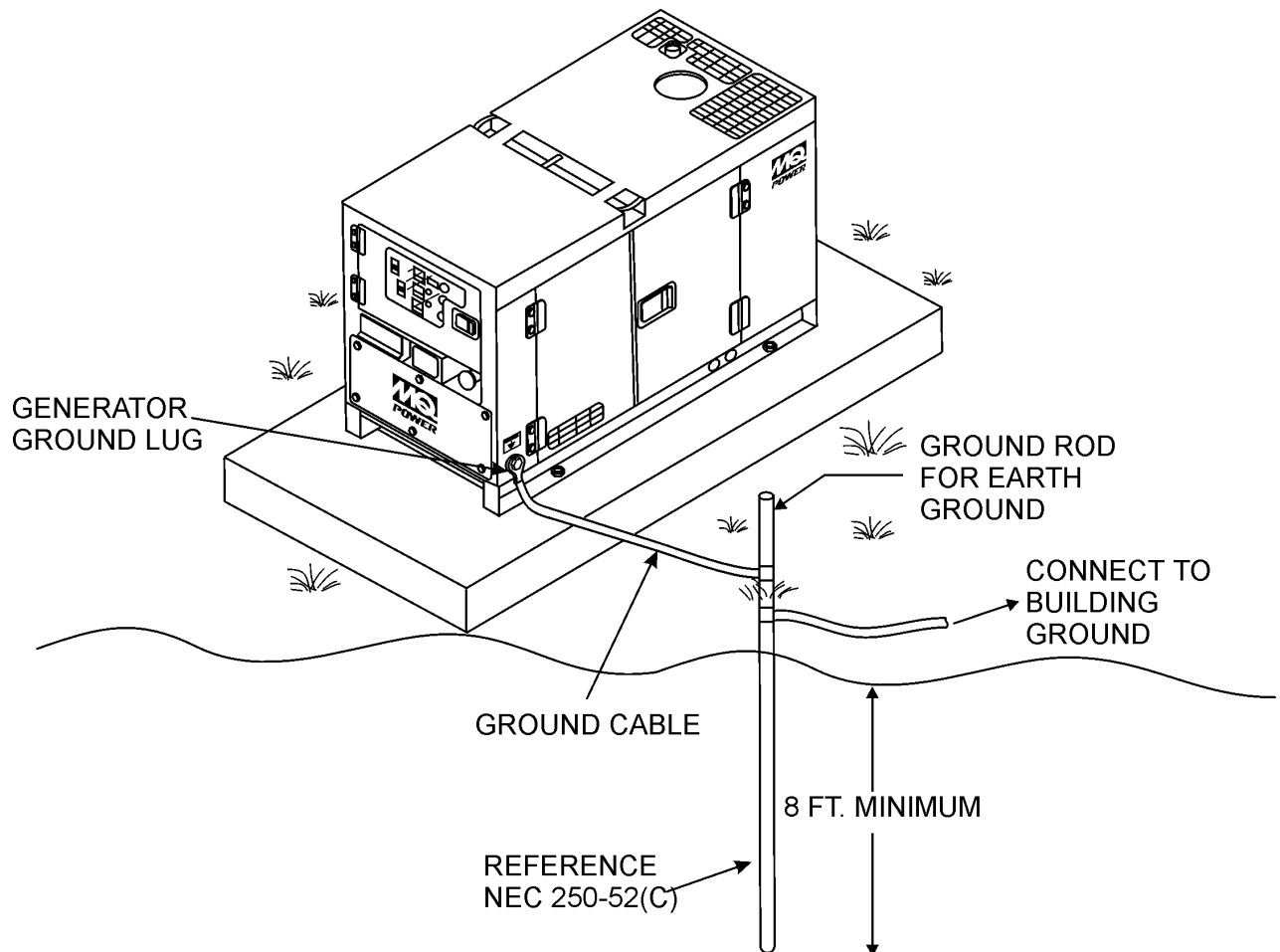
DCA-70SSJU — INSTALLATION

Figure 34. Typical Generator Grounding Application

DCA-70SSJU — PRE-SETUP

General Inspection Prior to Operation

The DCA-70SSJU 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 be provided to various tools or loads at some distance from the generator, extension cords are normally used. Cables should be sized to allow for distance in length and amperage so that the voltage drop between the generator and point of use (load) is held to a minimum.

Circuit Breakers

To protect the generator from an overload, a 3-pole, 175 amp, **main** circuit breaker is provided to protect the UVW output terminals from overload. In addition two single-pole, 20 amp **GFCI** circuit breakers are provided to protect the GFCI receptacles from overload. Three 50 amp **load** circuit breakers have also been provided to protect the load side of the generator from overload. Make sure to switch **ALL** circuit breakers to the "OFF" position prior to starting the engine.

NOTE

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

DCA-70SSJU — PRE-SETUP

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 35) on the dipstick. See Table 11 for proper selection of engine oil.

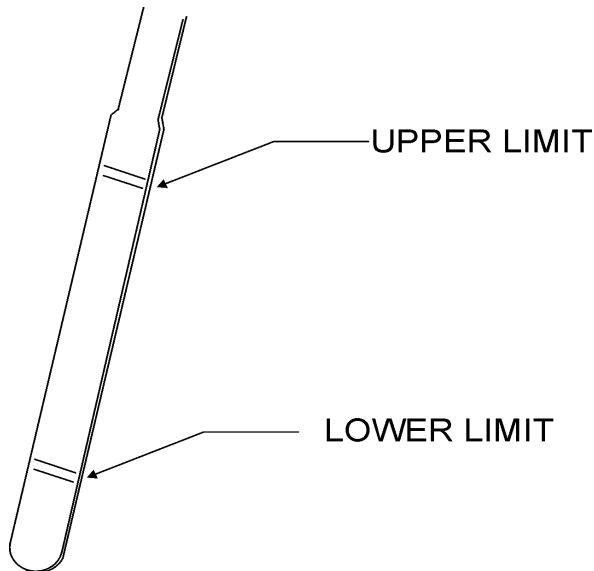


Figure 35. Engine Oil Dipstick

When checking the engine oil, be sure to check if the oil is clean and viscous. If the oil is not clean, drain the oil by removing the oil drain plug, and refill with the specified amount of oil as outlined in the **John Deere Engine Owner's Manual**.

Table 11. Recommended Motor Oil	
Temperature Range	Type Oil
122°F-50°F (50°C-10°C)	SAE 15W-40 or SAE 40
86°F-32°F (30°C-0°C)	SAE 5W-30 or SAE 30
50°F and below (10°C and below)	SAE 0W-30

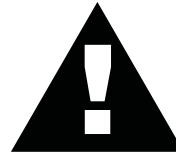
Fuel

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 23, Specification Table 7.

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. Diesel spillage on a hot engine can cause a fire or explosion. If diesel spillage occurs, wipe up the spilled diesel completely to prevent fire hazards.

Fuel Filter

Check the fuel filter for water or debris. Drain as needed based on daily inspection.

1. Loosen drain plug at bottom of fuel filter or bowl, two or three turns.
2. Loosen air bleed plug two full turns on the fuel filter base and drain water from bottom until fuel starts to drain out.
3. When fuel starts to drain out, tighten drain plug securely.
4. Prime by bleeding air from fuel system. Operate primer lever of the fuel supply pump until fuel flow is free from air bubbles.
5. Tighten bleed plug securely, continue operating hand primer until pumping action is not felt. Push hand primer inward (toward engine) as far as it will go. If system needs further bleeding, see Maintenance Section on page 52.

DCA-70SSJU — PRE-SETUP**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 12 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 12. Coolant Capacity

Engine and Radiator	6.9 Gal. (26 liters)
Reserve Tank	2 Quarts (1.9liters)

Operation in Freezing Weather

When operating in freezing weather, be certain the proper amount of antifreeze (Table 13) has been added.

Table 13. Anti-Freeze Operating Temperatures

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

NOTE

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

Cleaning the Radiator

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

Air Cleaner

The air cleaner is equipped with an automatic dust unloader valve located on the air filter holder. Squeeze the underloader valve to clear away any dust buildup.

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 **John Deere Engine Owner's Manual**.

The fan belt tension is proper if the fan belt bends 7 to 10 mm (Figure 36) when depressed with the thumb as shown below.

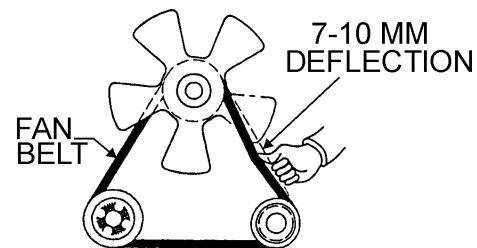


Figure 36. Fan Belt Tension

CAUTION :

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

Battery

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

The battery is sufficiently charged if the specific gravity of the battery fluid is 1.28 (at 68°F). If the specific gravity should fall to 1.245 or lower, it indicates the battery is discharged 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.

Battery Cable Installation

ALWAYS be sure the battery cables (Figure 37) 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.

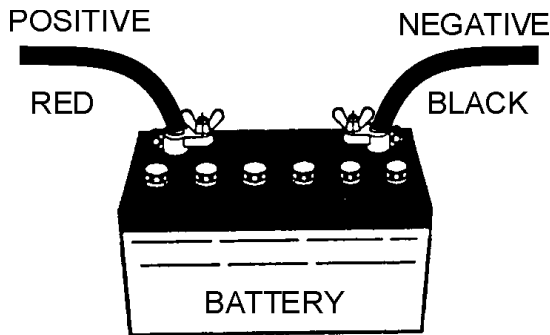


Figure 37. Battery Connections

CAUTION :

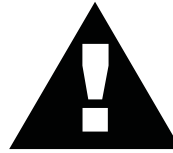


If the battery cable is connected incorrectly, electrical damage to the generator will occur. Pay close attention to the polarity of the battery when connecting the battery.

When connecting battery do the following:

1. **DO NOT** connect the battery cables to the battery terminals when the **Ignition key is in or if the Off/Manual/Auto** switch is in either the manual or auto position (ON). **ALWAYS** make sure that the Off/Manual/Auto switch is in the OFF position or the key is removed from the ignition switch 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.

DCA-70SSJU — LOAD APPLICATION

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.

WATTS = VOLTAGE x AMPERAGE

The power factor of this generator is 0.8. See Table 14. below when connecting loads.

Table 14. 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
Common power tools	0.8

Three Phase Load

When calculating the power requirements for 3-phase power use the following equation:

$$\text{KVA} = \frac{\text{VOLTAGE} \times \text{AMPERAGE} \times 1.732}{1000}$$

CAUTION:



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

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

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

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

CAUTION:



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

NOTE

If output (kVA) is not given on the equipment nameplate, approximate output may be determined by multiplying voltage by amperage by 1.732.

DCA-70SSJU — 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 3 on page 27).
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. If diesel spillage occurs, completely wipe up the spilled fuel immediately.

Before Starting

Generator and Control Panel

CAUTION:

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



1. Be sure to disconnect the electrical load and switch the **main**, **load** and **G.F.C.I.** circuit breakers (Figure 38) to the "OFF" position prior to starting the engine.

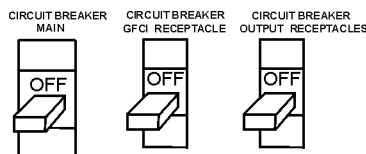


Figure 38. Main, GFCI and Load Circuit Breakers

2. Connect the load to the UVW terminals as shown in Figure 39. These terminals can be found on the output terminal panel, (see page 22, Figure 7). To gain access to the output terminals lift the UVW cover. Tighten terminal nuts securely to prevent load wires from slipping out.

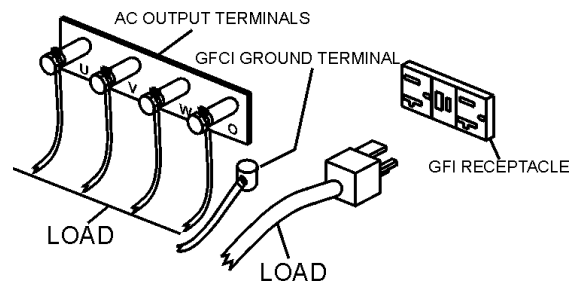


Figure 39. UVW Terminal Lugs (Load)

3. Connect the negative battery cable (BLACK) to the negative post on the battery (Figure 40).

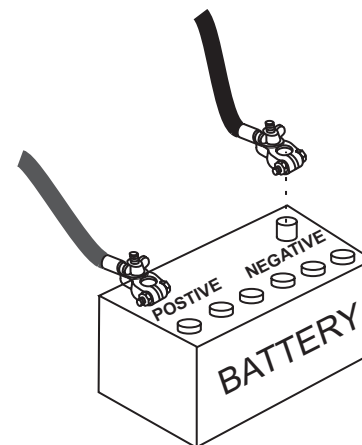


Figure 40. Battery Connections

DCA-70SSJU — START UP PROCEDURE (IGNITION KEY)

4. Close all engine enclosure doors (Figure 41).

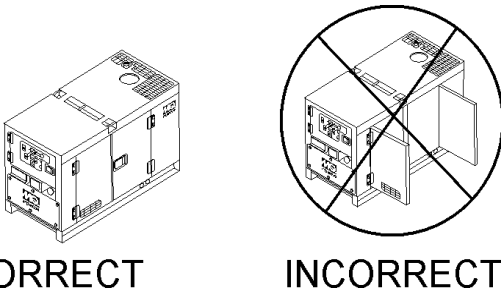


Figure 41. Engine Enclosure Doors

5. Set the terminal switch to desired phase for load being used (Figure 42).

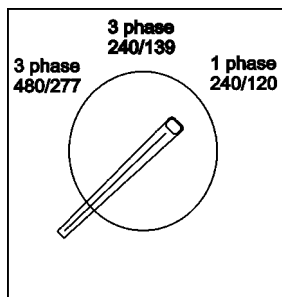


Figure 42. Terminal Switch

6. Make sure the engine throttle handle is pushed in (Figure 43).

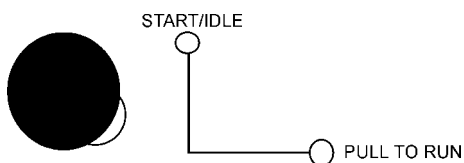


Figure 43. Engine Throttle Handle (Idle)

7. Before starting the generator, press the preheat button (during cold conditions). Turn the key to the right to 'Start' (Figure 44). Once the engine starts, release the key.

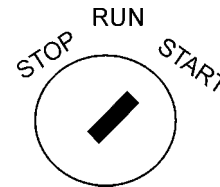


Figure 44. Ignition Switch (START)

8. Pull and turn the engine throttle handle to increase the RPM to 'high' (Figure 45).

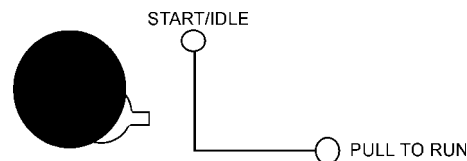


Figure 45. Engine Throttle Handle (HIGH)

9. The engine oil pressure gauge (Figure 46) will indicate the oil pressure (kg/cm^2) of the engine. Under normal operating conditions the oil pressure is approximately 25 psi.

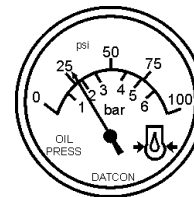


Figure 46. Oil Pressure Gauge

DCA-70SSJU —START UP PROCEDURE (IGNITION KEY)

10. The generator's frequency meter (Figure 47) displays the 60 cycle output frequency in HERTZ.

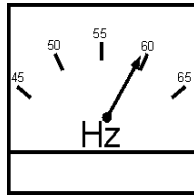


Figure 47. Frequency Meter

11. The generator's voltage meter (Figure 48) displays the 120VAC in VOLTS. If the voltage is not within the specified frequency tolerance, use the voltage adjustment control knob (Figure 49) to increase or decrease the desired voltage.

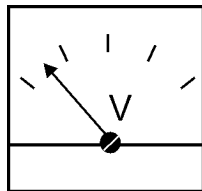


Figure 48. Voltage Meter (AC Volts)

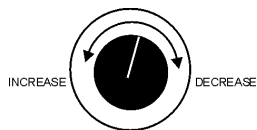


Figure 49. Voltage Adjustment Control Knob

12. The ammeter (Figure 50) 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's alternator.

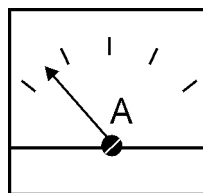


Figure 50. Ammeter (No load)

13. The water temperature gauge (Figure 51) will indicate the coolant temperature. Under normal operating conditions the coolant temperature is between 165 and 215 degrees Fahrenheit.

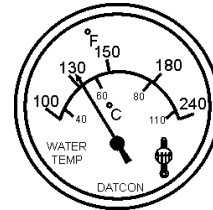


Figure 51. Coolant Temperature Gauge

14. The battery voltage gauge (Figure 52) 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.

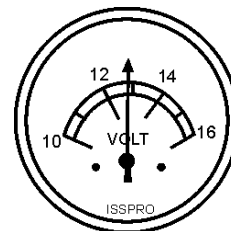


Figure 52. Battery Voltage Gauge

15. 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 53).

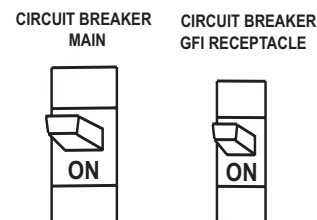


Figure 53. Main and GFCI Circuit Breakers

DCA-70SSJU —START UP PROCEDURE (ENG. CONTROLLER)

14. Observe at the generator's ammeter (Figure 54) 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.

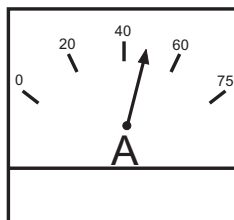


Figure 54. Ammeter (Load)

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

Start-up Procedures using Engine Controller (S/N 73002141~)

1. Close all engine enclosure doors (Figure 55).

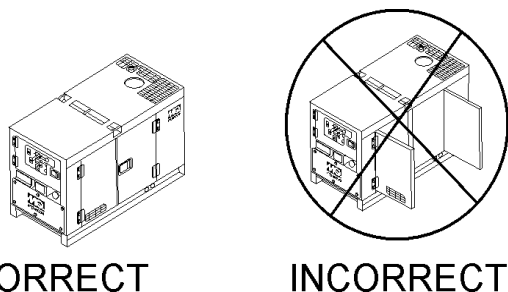


Figure 55. Engine Enclosure Doors

2. Set the terminal switch to desired phase for load being used (Figure 56).

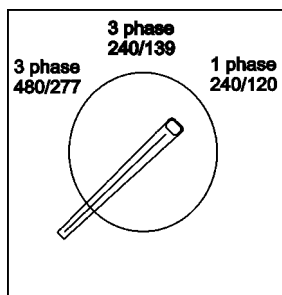


Figure 56. Terminal Switch

3. Make sure the engine speed switch is set on "LOW" (Figure 57).

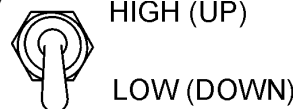


Figure 57. Engine Throttle Handle (Idle)

4. Before starting the generator, press the preheat button (during cold conditions). Turn the key to the right to 'Start' (Figure 58). Once the engine starts, release the key.



Figure 58. Engine Controller Switch (Manual)

5. Turn the switch on the engine speed to "HIGH" (Figure 59).

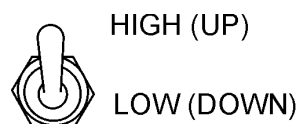


Figure 59. Engine Speed Switch(HIGH)

6. The engine oil pressure gauge (Figure 60) will indicate the oil pressure (kg/ cm²) of the engine. Under normal operating conditions the oil pressure is approximately 25 psi.

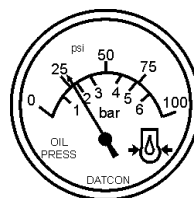


Figure 60. Oil Pressure Gauge

DCA-70SSJU —START UP PROCEDURE (ENG. CONTROLLER)

7. The generator's frequency meter (Figure 61) displays the 60 cycle output frequency in HERTZ.

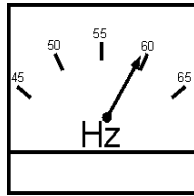


Figure 61. Frequency Meter

8. The generator's voltage meter (Figure 62) displays the 120VAC in VOLTS. If the voltage is not within the specified frequency tolerance, use the voltage adjustment control knob (Figure 63) to increase or decrease the desired voltage.

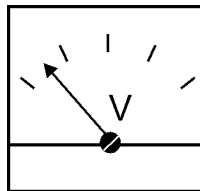


Figure 62. Voltage Meter (AC Volts)

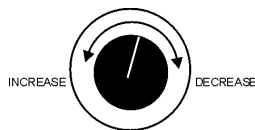


Figure 63. Voltage Adjustment Control Knob

9. The ammeter (Figure 64) 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's alternator.

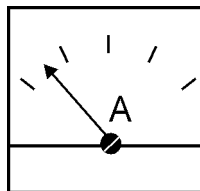


Figure 64. Ammeter (No load)

10. The water temperature gauge (Figure 65) will indicate the coolant temperature. Under normal operating conditions the coolant temperature is between 165 and 215 degrees Fahrenheit.

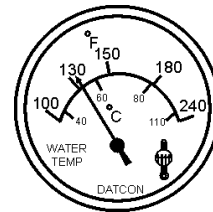


Figure 65. Coolant Temperature Gauge

11. The battery voltage gauge (Figure 66) 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.

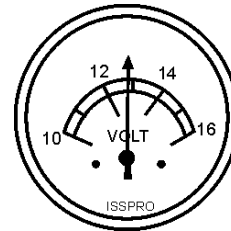


Figure 66. Battery Voltage Gauge

12. If there are no abnormal problems shown on the engine controller LED display, turn both the MAIN and GFCI circuit breakers to their ON position (Figure 67).

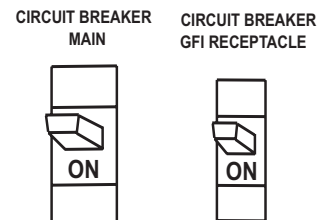


Figure 67. Main and GFCI Circuit Breakers

DCA-70SSJU — GENERATOR START-UP PROCEDURE (AUTO)

CAUTION:



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

When starting generator in Auto mode use the "Manual Start-up" procedure except where noted (see below).

1. Perform steps 1 through 5 (Before Starting, page 47-42) as outlined in the manual starting procedure.
2. Place the Off/Manual/Auto switch (Figure 68) in the **AUTO** position (up).

CAUTION:



When connecting the generator to a isolation (transfer) switch, **ALWAYS** have power applied to the generator's internal battery charger. This will ensure that the engine will not fail due to a dead battery.

Starting the generator in the "**AUTO**" mode is similar to starting the generator in the "**MANUAL**" mode, with a few exceptions.

CAUTION:



When running the generator in the **AUTO** mode, remember the generator can start up at any time without warning. **NEVER** attempt to perform any maintenance when the generator is in the auto mode.

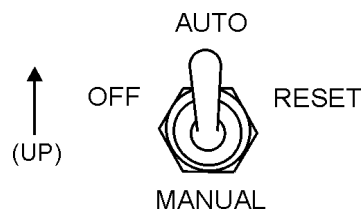


Figure 68. Off/Manual Auto Switch (AUTO)

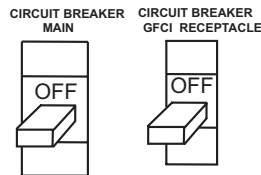
3. Continue to follow the steps outline in the manual start-up procedure (start at step 9, page 32).

DCA-70SSJU— GENERATOR SHUT DOWN PROCEDURE

Engine Shutdown with Key Ignition (up to S/N73002140)

To shutdown the generator use the following procedure:

1. Place both the **MAIN** and **GFCI** circuit breakers to the "OFF position" (Figure 69).



**Figure 69. 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 70).

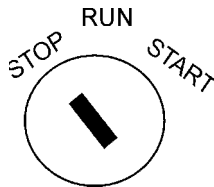


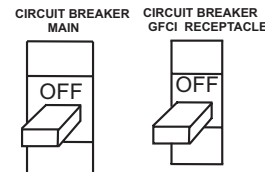
Figure 70. Ignition Switch (OFF)

6. Remove the load from the UVW terminal strip.

Engine Shutdown with Engine Controller (S/N 73002141~)

To shutdown the generator use the following procedure:

1. Place both the **MAIN** and **GFCI** circuit breakers to the "OFF position" (Figure 71).



**Figure 52. GFCI and Main Circuit Breaker
(OFF)**

2. Let the engine cool by running 3-5 minutes with no load applied.
4. Place the Off/Manual/Auto Switch (Figure 72) in the "OFF/RESET" position.



Figure 72. Off/Manual Auto Switch (OFF)

5. Verify that the "Engine Running" status LED on the engine controller display is "OFF" (not lit).
6. Remove the load from the UVW terminal strip.

DCA-70SSJU — MAINTENANCE

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

1. Unlatch and remove dust cup/cover of the air cleaner
2. Move end filter back and forth gently to break seal.
3. Pull filter off outlet and out of housing
4. Replace secondary element by pulling filter out gently. Immediately replace with new element to prevent dust from entering air intake system.
5. Install new primary filter element. Apply pressure by hand at outer rim of filter. **DO NOT use latches on cover to force filter into air cleaner.**
6. Close housing with dust unloader valve aimed down and latch latches.

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 Filter

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 32, page 43.

Replacing Oil Filter

1. Detach the oil filter cartridge with a filter wrench.
2. Apply a film of oil to the gasket for the cartridge.
3. 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.
4. 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

1. Replace the fuel filter cartridge with new one every 400 hours or so.
2. Apply fuel oil thinly over the gasket and hand-tighten the cartridge into position.
3. Vent any air.

Fuel Injection Nozzle

- Use an injection nozzle tester to check the static injection starting pressure and the fuel spray conditions.
- Abnormal fuel consumption will lead to a lowered output and blackish exhaust smoke. The required injection starting pressure should be 14.7MPa (150kg/cm², 2130psi).

DCA-70SSJU — MAINTENANCE**Feed Pump Strainer Cleaning**

The strainer is incorporated in the feed pump inlet side joint bolt. Clean the strainer with compressed air and rinse it in the fuel oil.

Flushing Out Radiator and Replacing Coolant

1. 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.
2. Check hoses for softening and kinks. Check clamps for signs of leakage.
3. 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.
4. Tighten both cocks and replace the overflow tank.
5. Replace with coolant (see page 44, Table 14 for mixture).
6. Close radiator cap tightly.

CAUTION :

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

DCA-70SSJU — MAINTENANCE**Bleeding the Fuel System**

1. Loosen the air bleed vent screw two full turns located above the fuel filter on the fuel filter base.
2. Operate supply pump primer lever that is located to the right of the fuel filter until fuel flow is free from air bubbles.
3. Tighten bleed screw securely, continue operating hand primer until pumping action is not felt. Push hand primer inward (toward engine) as far as it will go.
4. Start engine and check for leaks.

Testing Thermostats Opening Temperature

1. Visually inspect area around thermostat housing for leaks.
2. Remove radiator pressure cap and partially drain cooling system.
3. Remove thermostat cover-to water pump tube and seal.
4. Remove water manifold thermostat cover with gasket.
5. Remove thermostat.
6. Remove and discard all gasket material. Clean gasket surfaces.
7. Clean and check cover for cracks and damage.

Replacing Thermostat

1. Using guide studs to keep gasket in place, install a new gasket on cylinder head. BE SURE the manifold gasket smaller (round) holes are at the lower left and upper right corners of manifold.
2. Install thermostat with jiggle wire facing up in the 12 o'clock position.
3. Using a screwdriver to hold thermostat in place, install thermostat and water manifold-thermostat cover.
4. Tighten cover cap screws to 70 Nm (52 lb/ft.).
5. Lubricate new o-ring with grease and install seal in thermostat cover.
6. Install water manifold-thermostat cover-to-water pump tube. Tighten caps.
7. Refill cooling system and check for leaks.

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.

DCA-70SSJU — MAINTENANCE

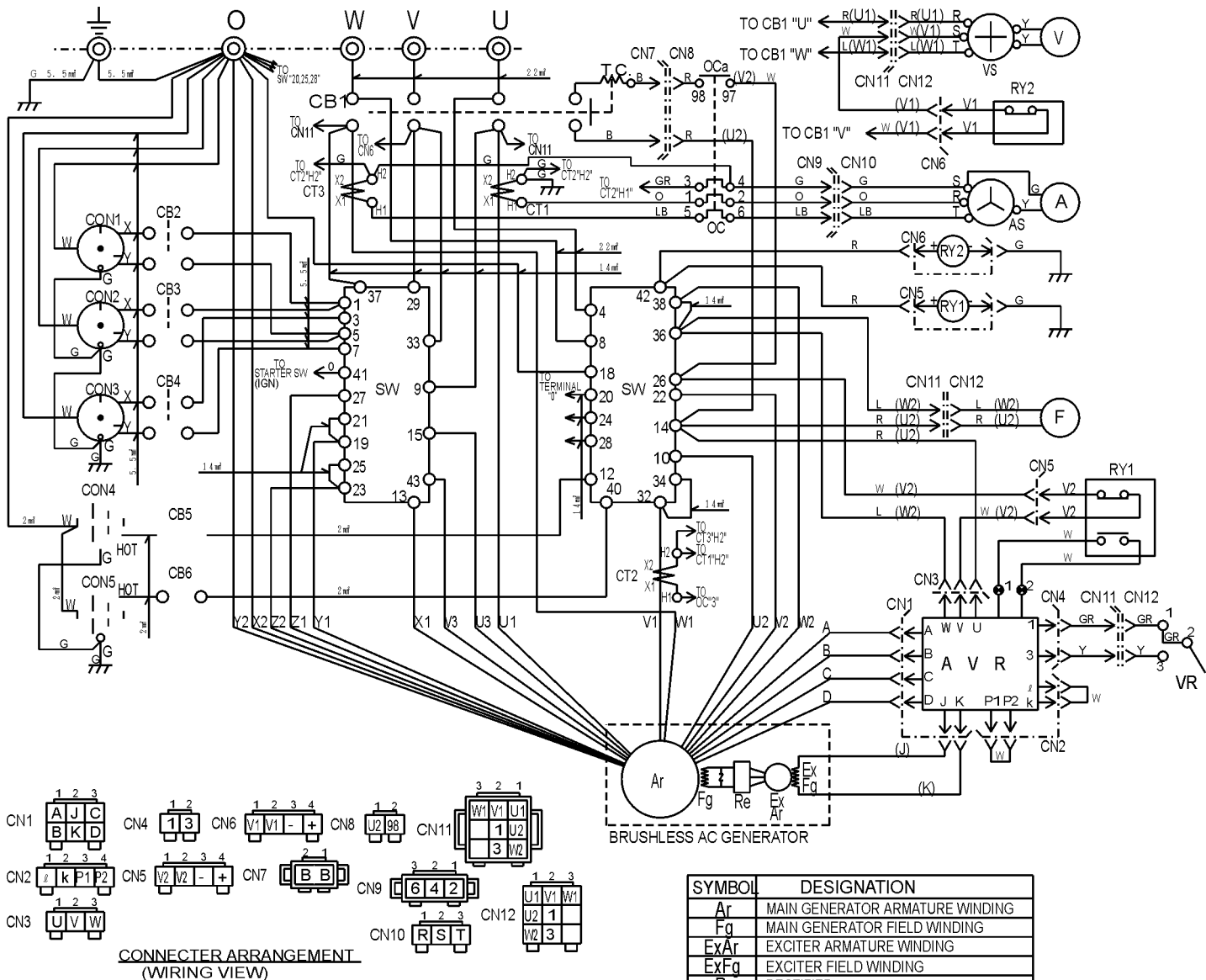
Table 15. Maintenance

INSPECTION / MAINTENANCE		10 Hrs DAILY	250 Hrs	500 Hrs	1000 Hrs
ENGINE	Check Engine Fluid Levels	X			
	Check Fuel Filter/Water Separator	X			
	Check Air Cleaner Dust Unloader	X			
	Check for Leaks/Visual Walk Around	X			
	Check for Loosening of Parts	X			
	Replace Engine Oil and Filter * ¹		X		
	Service Battery		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
	Test Thermostats				X
	Check all Hoses and Clamps/Flush Radiator				X
	Clean Inside of Fuel Tank				X
GENERATOR	Measure Insulation Resistance Over 3M ohms		X		

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

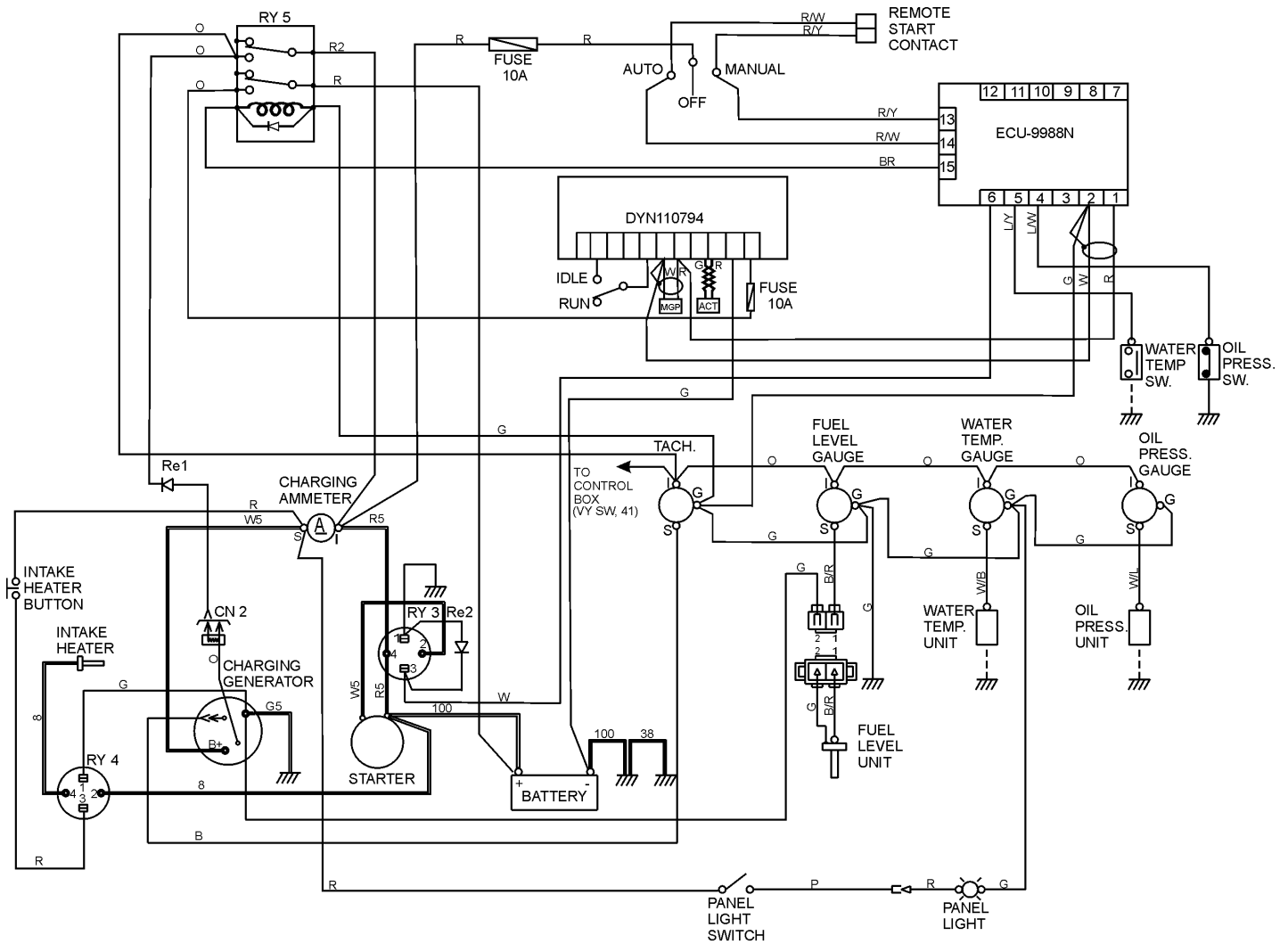
*² Replace fuel filter at 250 Hours, first time only.

DCA-70SSJU — GENERATOR WIRING DIAGRAM



[illegible]

DCA-70SSJU — ENGINE WIRING DIAGRAM (WITH CONTROLLER)

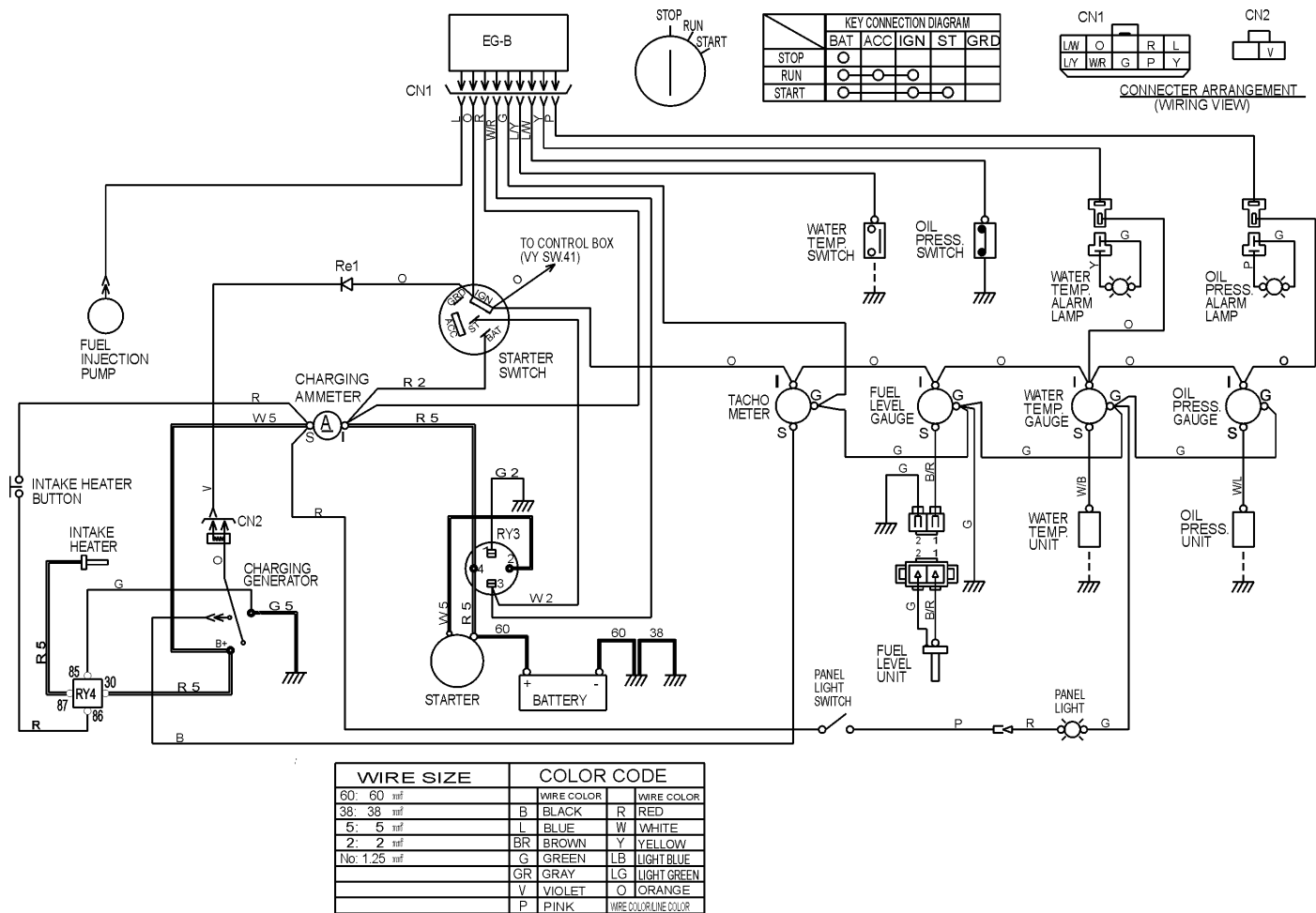


WIRE SIZE		COLOR CODE	
60	60 <i>mm</i>	WIRE COLOR	WIRE COLOR
38	38 <i>mm</i>	B BLACK	R RED
5	5 <i>mm</i>	L BLUE	W WHITE
2	2 <i>mm</i>	BR BROWN	Y YELLOW
No. 1.25	<i>mm</i>	G GREEN	LB LIGHT BLUE
		GR GREY	LG LIGHT GREEN
		V VIOLET	O ORANGE
		P PINK	

○ = SEALED CABLE

CONNECTOR ARRANGEMENT
 (WIRING VIEW)

DCA-70SSJU — ENGINE WIRING DIAGRAM (WITH IGNITION SWITCH)



DCA-70SSJU —TROUBLESHOOTING (ENGINE)

Practically all breakdowns can be prevented by proper handling and maintenance inspections, but in the event of a breakdown, use the tables shown for

diagnosis based on the Engine Troubleshooting (Table 16). If the problem cannot be remedied, consult our company's business office or service plant.

TABLE 16. 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-70SSJU — TROUBLESHOOTING (ENGINE)

TABLE 16. 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-70SSJU — TROUBLESHOOTING (GENERATOR/ENGINE)

Practically all breakdowns can be prevented by proper handling and maintenance inspections, but in the event of a breakdown, use the tables shown for

diagnosis based on the Engine and Radiator Troubleshooting (Table 17) or Engine Controller Troubleshooting (Table 18). If the problem cannot be remedied, consult our company's business office or service plant.

TABLE 17. GENERATOR TROUBLESHOOTING

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
No Voltage Output	AC Voltmeter defective?	Check output voltage using a voltmeter.
	Is wiring connection loose?	Check wiring and repair.
	Is AVR defective?	Replace if necessary.
	Defective Rotating Rectifier?	Check and replace.
Low Voltage Output	Is engine speed correct?	Turn engine throttle lever to "High".
	Is wiring connections loose?	Check wiring and repair.
	Defective AVR?	Replace if necessary.
High Voltage Output	Is wiring connections loose?	Check wiring and repair.
	Defective AVR?	Replace if necessary.
Circuit Breaker Tripped	Short Circuit in load?	Check load and repair.
	Over current?	Confirm load requirements and reduce.
	Defective circuit breaker?	Check and replace.
	Over current Relay actuated?	Confirm load requirement and replace.

DCA-70SSJU —TROUBLESHOOTING (MPEC)

TABLE 18. ENGINE CONTROLLER TROUBLESHOOTING

Sympton	Possible Cause	Solution
Low oil pressure light is on.	Low oil level?	Fill oil level.
	Oil pressure sending unit failure?	Replace oil pressure sending unit.
	Time delay malfuntion in Controller?	Refer to dealer.
	Wire shorted?	Inspect/repair wire.
Low coolant level light is on.	Low coolant level?	Fill coolant level.
	Sending unit failure?	Replace sending unit.
	Low battery voltage?	Replace/charge battery.
High coolant temperture light is on.	Fan belt tension incorrect?	Tighten/replace fan belt.
	Air flow is not circulation through radiator?	Clean/repair radiator grill.
	Doors open?	Close doors.
	Exhaust leaking?	Replace/repair gaskets or faulty part.
	Generator being overloaded?	Check/reduce load.
	Thermostat failure?	Replace thermostat.
	Air intake blocked?	Clear all air intakes.
	Temperature switch failure?	Replace temperature switch.
Overcrank light is on.	No or low Fuel?	Fill fuel level.
	Controller needs to be calibrated?	Refer to dealer.
Overspeed light is on.	RPM engine speed too high?	Adjust RPM.
	Governor actuator needs to be adjusted?	Adjust governor actuator.
	Governor controller needs to be adjusted?	Adjust governor controller.
	Engine Controller needs to be calibrated?	Refer to dealer.
Loss of MPU light(s) or on.	Magnetic pick up out of adjustment?	Adjust magnetic pick up.
	Magnetic pick up dirty?	Clean magnetic pick up.

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.

DCA-70SSJU — SUGGESTED SPARE PARTS

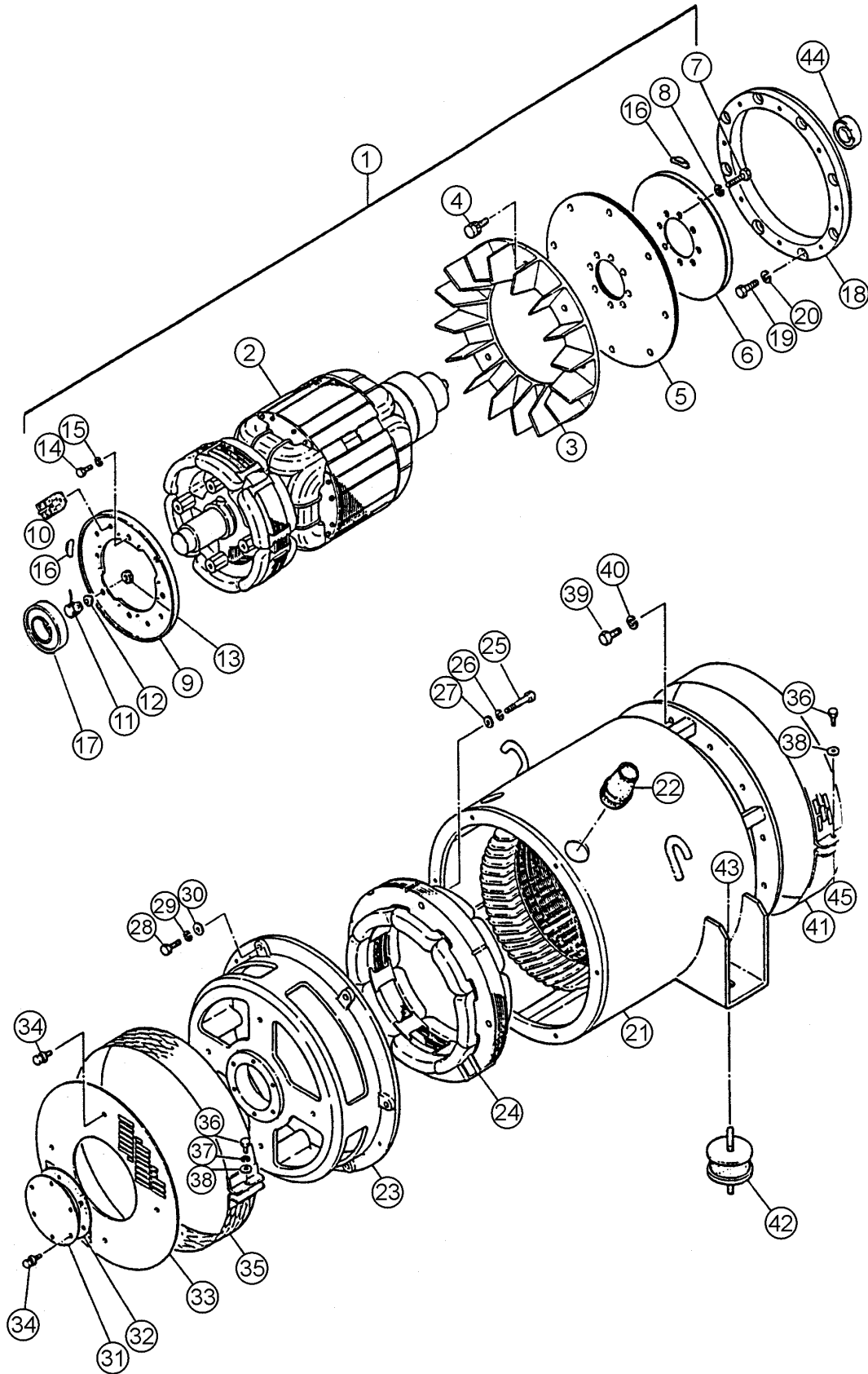
DCA-70SSJU W/JOHN DEERE 4045TF150 DIESEL ENGINE 1 TO 5 UNITS

Qty.	P/N	Description
1	0601808812	CIRCUIT BREAKER
1	0601820671	AUTOMATIC VOLTAGE REGULATOR
1	M2923100004	SELECTOR SWITCH
2	47130106	KNOB, SELECTOR SWITCH
1	0601840073	RHEOSTAT, VOLTAGE REGULATOR
1	0601840121	KNOB, RHEOSTAT
3	0602011490	FAN BELT
20	0602041290	OIL FILTER
20	0602042590	FUEL FILTER
10	0602046357	AIR ELEMENT
1	M2310500203	RADIATOR HOSE S/N7300001 TO S/N7300267
1	M2310500303	RADIATOR HOSE S/N7300001 TO S/N7300267
1	M2310500403	RADIATOR HOSE S/N7300001 TO S/N7300267
1	M2310500503	RADIATOR HOSE S/N7300268~
1	M2310500603	RADIATOR HOSE S/N7300268~
1	0602021070	RADIATOR CAP
1	0602100056	STARTER SWITCH S/N7300001 TO S/N73002140
1	KEYDENYO70	KEY, STARTER SWITCH S/N7300001 TO S/N73002140
1	0602103091	LAMP, PILOT ALARM
1	0601810245	BULB, PILOT LAMP
1	0602123263	WATER TEMPERATURE UNIT
1	0602122272	OIL PRESSURE UNIT
1	0605505070	FUEL TANK CAP
5	0602042420	FUEL TANK IN-LINE FILTER
1	1625165103	BONNET CAP
1	1625165204	BONNET CAP CHAIN ASSEMBLY
1	ECU9988N	ENGINE CONTROLLER S/N73002141~

NOTE
Part number on this Suggested Spare
Parts list may supercede/replace the
P/N shown in the text pages of this
book.

DCA-70SSJU -- GENERATOR ASSY.

GENERATOR ASSY.



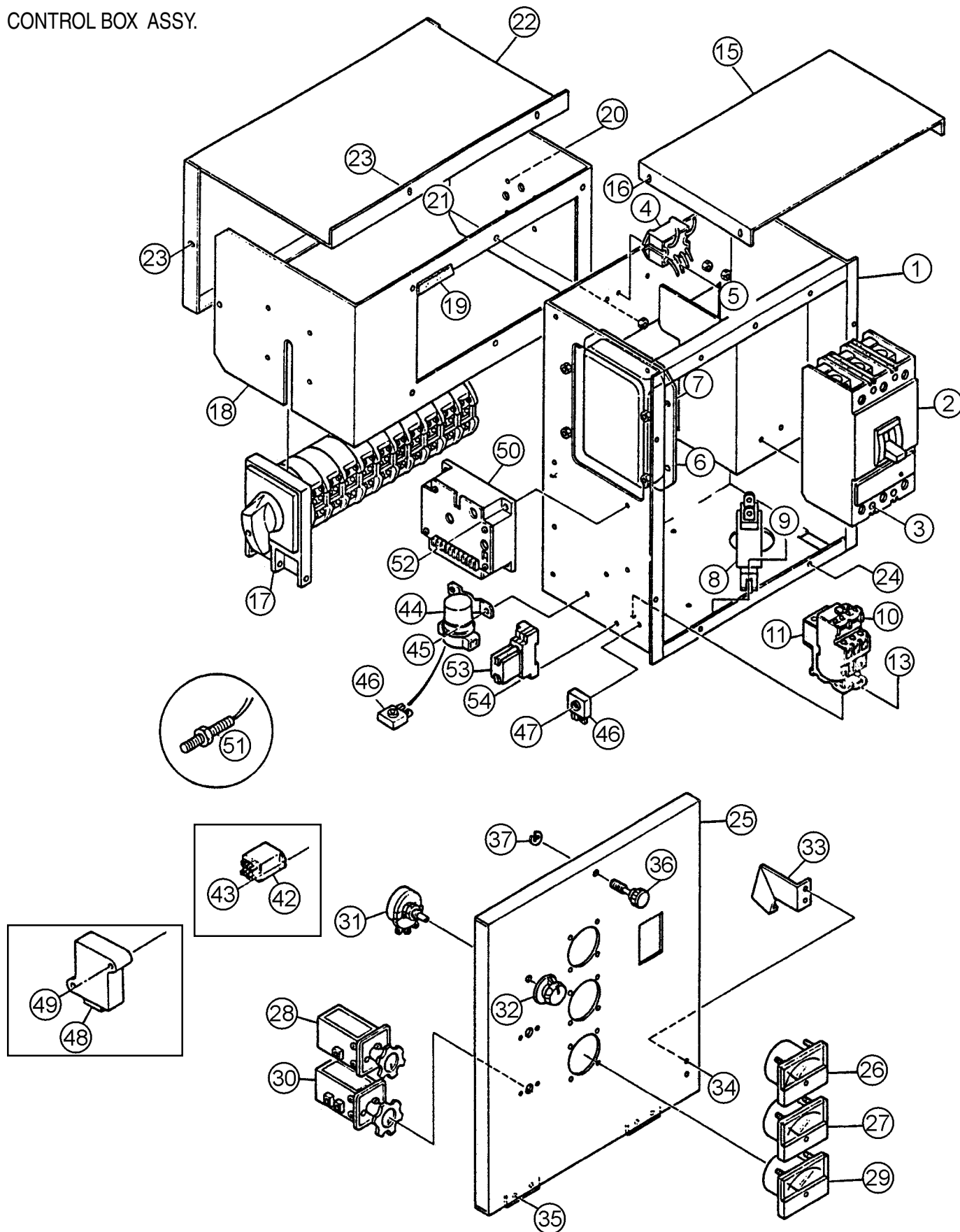
DCA-70SSJU -- GENERATOR ASSY.

GENERATOR ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	B5110100602	ROTOR ASSY.	1	INCLUDE ITEMS W/*
2		FIELD ASSY.	1	
3	8101070033	FAN	1	
4	0012810030	HEX HEAD BOLT	8	
5	8101611004	COUPLING DISK	5	
6	8101015003	BALANCING PLATE	1	
7	012010030	HEX HEAD BOLT	8	REPLACES 0012110030
8	0042610000	LOCK WASHER	8	
9	8101026013	SET PLATE RECTIFIER	1	
10	0601821349	RECTIFIER	2	PT3610
11	0601822601	SURGE ABSORBER	1	ERZ-M14JK621A
12	8001020004	INSULATOR WASHER	1	
13	8001020504	INSULATOR WASHER	1	
14	012210020	HEX HEAD BOLT	4	REPLACES 0010110020
15	0040010000	LOCK WASHER	4	
16	0601000209	BALANCING WEIGHT KIT	1	
17	0071906311	BEARING	1	6311DDUC3
18	8101614003A	COUPLING RING	1	REPLACES M2163400003
19	0343204170	HEX HEAD BOLT	8	
20	EM923344	LOCK WASHER	8	REPLACES 0043604000
21	B5130100303	STATOR ASSY.	1	
22	0845041904	GROMMET	2	
23	8101315202	END BRACKET	1	
24	8101350013	FIELD ASSY. EXCITER	1	
25	0012110070	HEX HEAD BOLT	4	
26	0042610000	LOCK WASHER	4	
27	031110160	PLAIN WASHER	4	REPLACES 0041210000
28	0010110045	HEX HEAD BOLT	6	
29	0040010000	LOCK WASHER	6	
30	03111060	PLAIN WASHER	6	REPLACES 0041210000
31	8101310014	COVER BEARING	1	
32	8131312014	GASKET BEARING	1	
33	8101331003	COVER END BRACKET	1	
34	0105050616	HEX HEAD BOLT	10	REPLACES 0017106012
35	8101333003	COVER END BRACKET	1	
36	0010106030	HEX HEAD BOLT	2	
37	0040006000	LOCK WASHER	1	
38	952404470	PLAIN WASHER	2	REPLACES 0041206000
39	012210035	HEX HEAD BOLT	12	S/N7300001 TO 7301260; REPLACES
0010310035				
	0012810030	HEX HEAD BOLT	12	S/N7301261 TO 7302210
	0012810035	HEX HEAD BOLT	12	S/N7302211~
40	030210250	LOCK WASHER	12	S/N7300001 TO 7301260; REPLACES
0042510000				
41	8111332014	COVER FAN	1	
42	0605000010	RUBBER SUSPENSION	2	
43	0030012000	HEX NUT	2	
	0040012000	LOCK WASHER	2	
	031112230	PLAIN WASHER	2	REPLACES 0041212000
44	0070506306	BEARING	1	
45	020106050	NUT	1	REPLACES 0600815000

DCA-70SSJU -- CONTROL BOX ASSY.

CONTROL BOX ASSY.



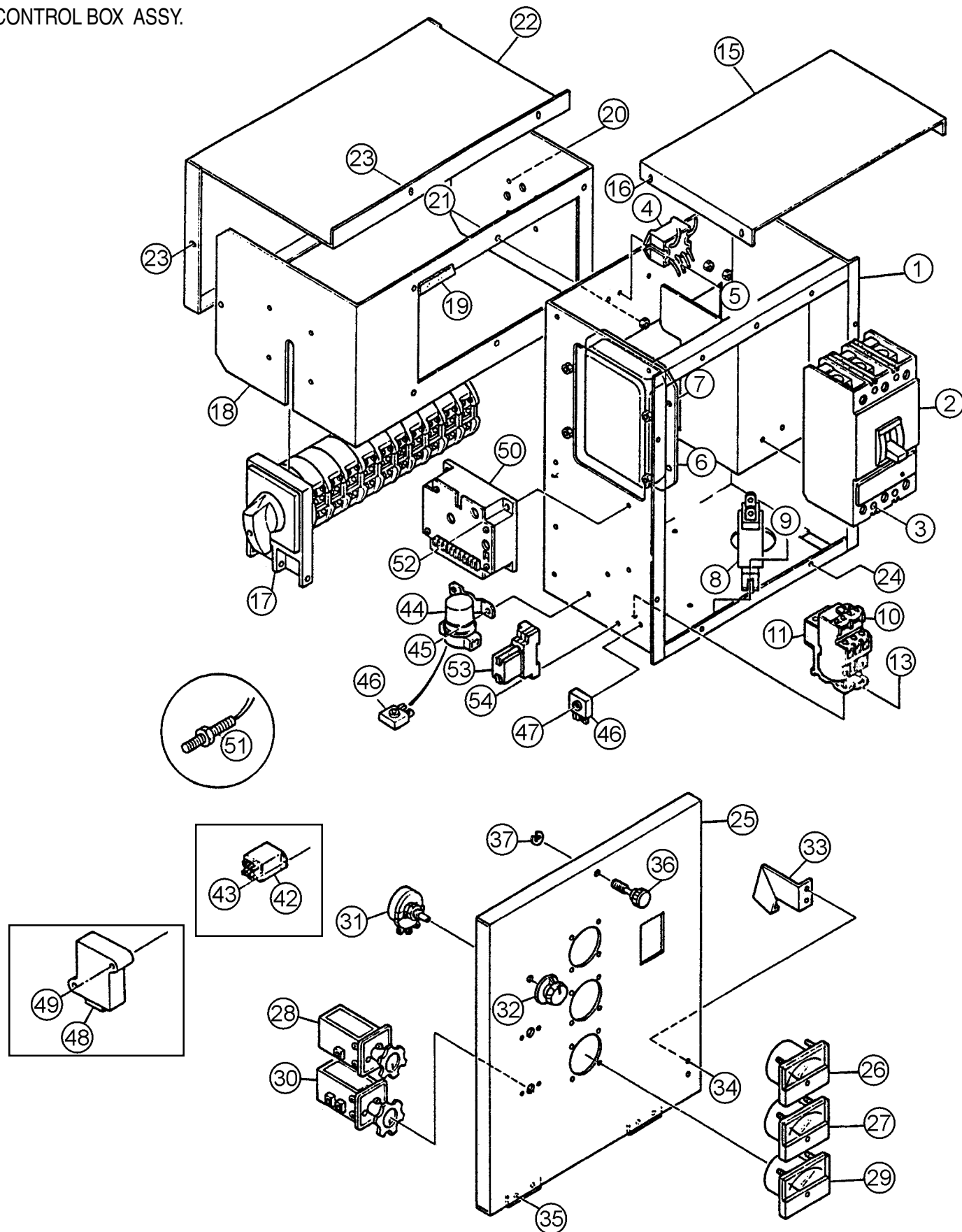
DCA-70SSJU -- CONTROL BOX ASSY.

CONTROL BOX ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
	M2246700004	WIRE HARNESS GENERATOR	1	S/N7300001 TO S/N7300365
	M2246700014	WIRE HARNESS GENERATOR	1	S/N7300365 TO S/N7301090
	M2246700024	WIRE HARNESS GENERATOR	1	S/N7301091~
1	M2213000102	CONTROL BOX	1	UP TO S/N7301040
	M2213000122	CONTROL BOX	1	S/N7301041 TO S/N7302140
	M2215000103	CONTROL BOX	1	S/N7302141~
2	0601808812	CIRCUIT BREAKER	1	KAF3617510213P175A
3	0021005080	MACHINE SCREW	4	
4	0601823863	RELAY UNIT	2	MSA9013A
5	0021304015	MACHINE SCREW	4	REPLACES 0027104015
6	0601820671	AUTOMATIC VOLTAGE REGULATOR	1	NTA-5A-2DB
7	0027105010	MACHINE SCREW	4	S/N7300001 TO S/N7301200
	0027105015	MACHINE SCREW	4	S/N7301201~
8	0601806139	CURRENT TRANSFORMER, 5A	3	REPLACES 814943150 AND
	0601806117			
9	011106015	MACHINE SCREW	6	REPLACES 0027106015
10	0601820845	OVER CURRENT RELAY	1	LR2D1308
11	KIT OCR	OVER CURRENT RELAY	1	LA7D1064; REPLACES
	0601820846			
12	M1260600004	FITTING BRACKET	1	S/N7300001 TO S/N7301040
13	0021304015	MACHINE SCREW	2	REPLACES 0027104015
	OEMAA8	HEX NUT	2	REPLACES 0207004000
14	0027104010	MACHINE SCREW	2	S/N7300001 TO S/N7301040
15	M2213500103	CONTROL BOX COVER	1	
16	011106015	HEX HEAD BOLT	4	REPLACES 0016906015
17	M2923100004	SELECTOR SWITCH	1	VY-80/S
18	M2213600203	SWITCH BRACKET	1	S/N7300001 TO S/N7300003
	M2213600213	SWITCH BRACKET	1	S/N7300004~
19	EDGEGES	EDGING	2	REPLACES 0330000295
20	0027104010	MACHINE SCREW	4	
21	011106015	HEX HEAD BOLT	6	REPLACES 0016906015
22	M2213600314	SWITCH COVER	1	
23	011106015	HEX HEAD BOLT	4	REPLACES 0016906015
24	011106015	HEX HEAD BOLT	8	REPLACES 0016906015
	0040506000	TOOTHED WASHER	1	
25	M2223000103	CONTROL PANEL	1	
26	0601807630	FREQUENCY METER;264250DJDJ9	1	UP TO S/N7302695; REPLACES
	0601807696			
	0601807641	FREQUENCY METER; FCF6 45~65Hz 240V ..	1	S/N7302696~
27	0601808955	AC AMMETER;260240LSX1JBP	1	UP TO S/N7302695; REPLACES
	0601808943			
	0601808987	AC AMMETER; ACF-6	1	S/N7302696~
28	0601801040	CHANGE-OVER SWITCH AMMETER	1	SL-2AS

DCA-70SSJU -- CONTROL BOX ASSY.

CONTROL BOX ASSY.



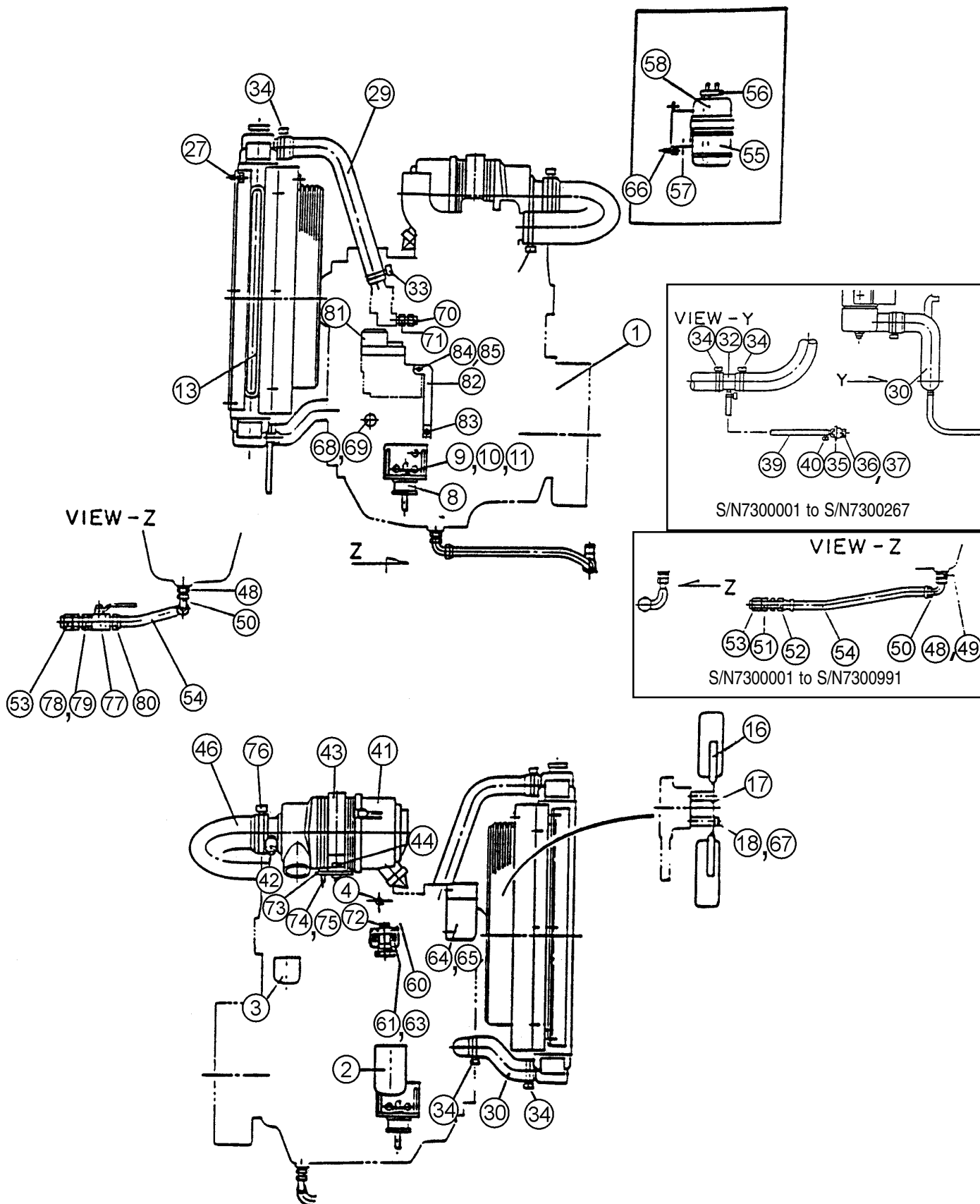
DCA-70SSJU -- CONTROL BOX ASSY.

CONTROL BOX ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
29	0601806813	AC VOLTMETER;260244SJSJ1	1	UP TO S/N7302695; REPLACES
	0601806896			
	0601806859	AC VOLTMETER; SCF-6	1	S/N7302696~
30	0601801041	CHANGE-OVER SWITCH VOLTMETER1	1	SL-2VS
31	0601840073	RHEOSTAT(VOLTAGE REGULATOR) ...	1	RA20A2SE102BJ2W1kW
32	0601840121	KNOB	1	
33	M1223100004	STOPPER	1	
34	0027105015	MACHINE SCREW	2	S/N7300001 TO S/N7300505
	0027105010	MACHINE SCREW	2	S/N7300506~
35	0027105015	MACHINE SCREW	4	S/N7300001 TO 7300505
	0027105010	MACHINE SCREW	4	S/N7300506~
36	M9220100004	SET SCREW	1	
37	0080200007	SNAP RING	1	
38	0602202525	CONTROLLER;0530000593	1	S/N7300001 TO S/N7300645
39	0027105015	MACHINE SCREW	2	S/N7300001 TO S/N7300645
40	0601823707	RELAY; CA1a12V-N-5ACA-12135	1	S/N7300001 TO S/N7300645
41	0027105015	MACHINE SCREW	1	S/N7300001 TO S/N7300645
42	0601826052	RELAY;HH62S-FDC12V	2	S/N7300001 TO S/N7300645
43	0027103010	MACHINE SCREW	4	S/N7300001 TO S/N7300645
44	0602202592	STARTER RELAY;AT141011	1	S/N7300001 TO S/N7300645
	0602202592	STARTER RELAY	1	S/N7300646~;AT141011
45	011106015	MACHINE SCREW	2	REPLACES 0027106015
46	0601821370	RECTIFIER;DE4503	1	REPLACES 0601823240
47	0027104020	MACHINE SCREW	1	S/N7300261~
48	0602200478	EMERGENCY RELAY;A1070160602,3 .	1	S/N7300646 TO S/N7302140
49	0027105040	MACHINE SCREW	2	S/N7300646 TO S/N7302140;
50	DYN110794000012	CONTROLLER	1	S/N7302141~; REPLACES 0602202599
51	0602120485	SPEED SENSOR;MPS6724	1	S/N7302141~
52	0027105015	MACHINE SCREW	4	S/N7302141~
53	LY2DUS12VDC	RELAY	1	S/N7302141~;REPLACES 0601827656
	PTF08A	BASE	1	S/N7302141~;REPLACES 0601823109
	PYCA1	CLIP	2	S/N7302141~;REPLACES 0601824400
54	0027104020	MACHINE SCREW	2	S/N7302141~

DCA-70SSJU -- ENGINE AND RADIATOR ASSY.

ENGINE & RADIATOR ASSY.



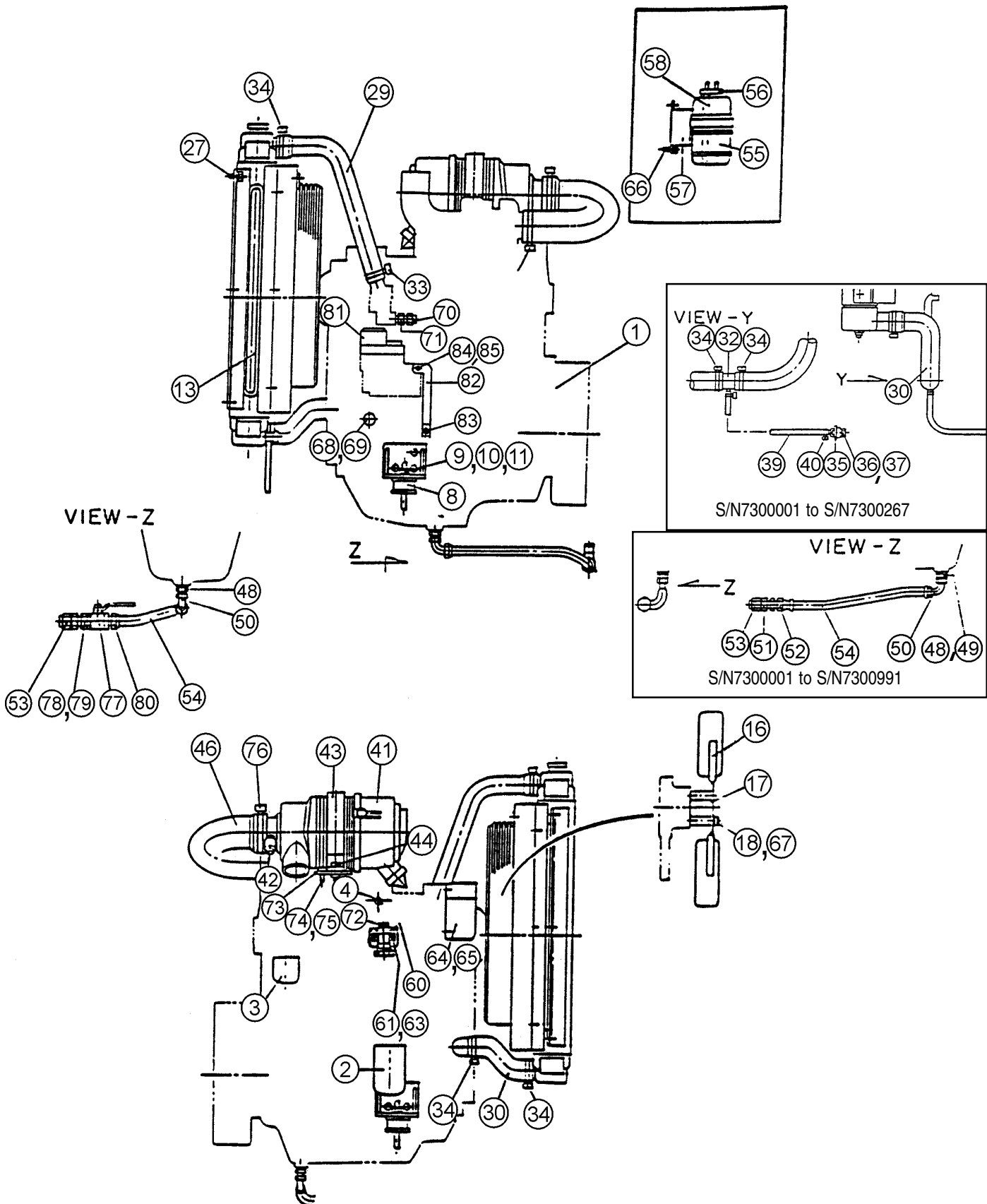
DCA-70SSJU -- ENGINE AND RADIATOR ASSY.

ENGINE & RADIATOR ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	M2923200004	ENGINE;JOHN DEERE 4045T	1	S/N7300001 TO S/N7302045
	M2923200004	ENGINE;JOHN DEERE 4045TF150	1	S/N7302046~
	0602011490	FAN BELT	1	
2	0602041290	ELEMENT OIL FILTER	1	RE59754A
3	0602042590	ELEMENT FUEL FILTER	1	RE62418
4	0602014297	ELECTRIC HEATER;RE29658	1	S/N7300001 TO S/N7300720
		ELECTRIC HEATER ASSY;RE502668	1	S/N7000721~
5	M2303200303	ENGINE FOOT	2	
6	0131151240	HEX HEAD BOLT	6	REPLACES 0010312030
7	0040012000	LOCK WASHER	6	
8	0605000009	RUBBER SUSPENSION	2	
9	0030012000	HEX NUT	2	
10	0040012000	LOCK WASHER	2	
11	031112230	PLAIN WASHER	2	REPLACES 0041212000
12	0602011998	RADIATOR	1	S/N7300001 TO S/N7300267
	0602011999	RADIATOR	1	S/N7300268~
13	C2810034100	SHROUD	1	S/N7300001 TO S/N7300267; REPLACES 0602010690
14	0605515148	HOSE BAND	1	S/N7300001 TO S/N7300267
15	0602010780	FAN COVER	1	S/N7300001 TO S/N7300267
16	0602060011	BLOWER FAN	1	320606
17	0602061000	FAN SPACER	1	R81911
18	0012110090	FAN BOLT;19M7811	4	S/N7300001 TO S/N7300220; REPLACES 0602060500
	0012110090	HEX HEAD BOLT	4	S/N7300221 TO S/N7300400
	0012110095	HEX HEAD BOLT	4	S/N7300401~
19	011008015	HEX HEAD BOLT	4	S/N7300001 TO S/N7300267; REPLACES 0013004308
20	0043004000	LOCK WASHER	4	S/N7300001 TO S/N7300267
21	0043104000	PLAIN WASHER	4	S/N7300001 TO S/N7300267
22	M2310200304	RADIATOR BRACKET	1	S/N7300001 TO S/N7300003
	M2310200314	RADIATOR BRACKET	1	S/N7300004 TO S/N7300267
23	M2310200204	RADIATOR BRACKET	1	S/N7300001 TO S/N7300003
	M2310200214	RADIATOR BRACKET	1	S/N7300004 TO S/N7300267
24	011008015	HEX HEAD BOLT	6	S/N7300001 TO S/N7300267; REPLACES 0013004308
25	0043004000	LOCK WASHER	6	S/N7300001 TO S/N7300267
26	0043104000	PLAIN WASHER	6	S/N7300001 TO S/N7300267
27	011008020	HEX HEAD BOLT	6	REPLACES 0016908020
28	0138102000	PLUG	1	S/N7300001 TO S/N7300267
29	M2310500203	RADIATOR HOSE	1	S/N7300001 TO S/N7300267
	M2310500503	RADIATOR HOSE	1	S/N7300268~
30	M2310500303	RADIATOR HOSE	1	S/N7300001 TO S/N7300267
	M2310500603	RADIATOR HOSE	1	S/N7300268~
31	M2310500403	RADIATOR HOSE	1	S/N7300001 TO S/N7300267

DCA-70SSJU -- ENGINE AND RADIATOR ASSY.

ENGINE & RADIATOR ASSY.



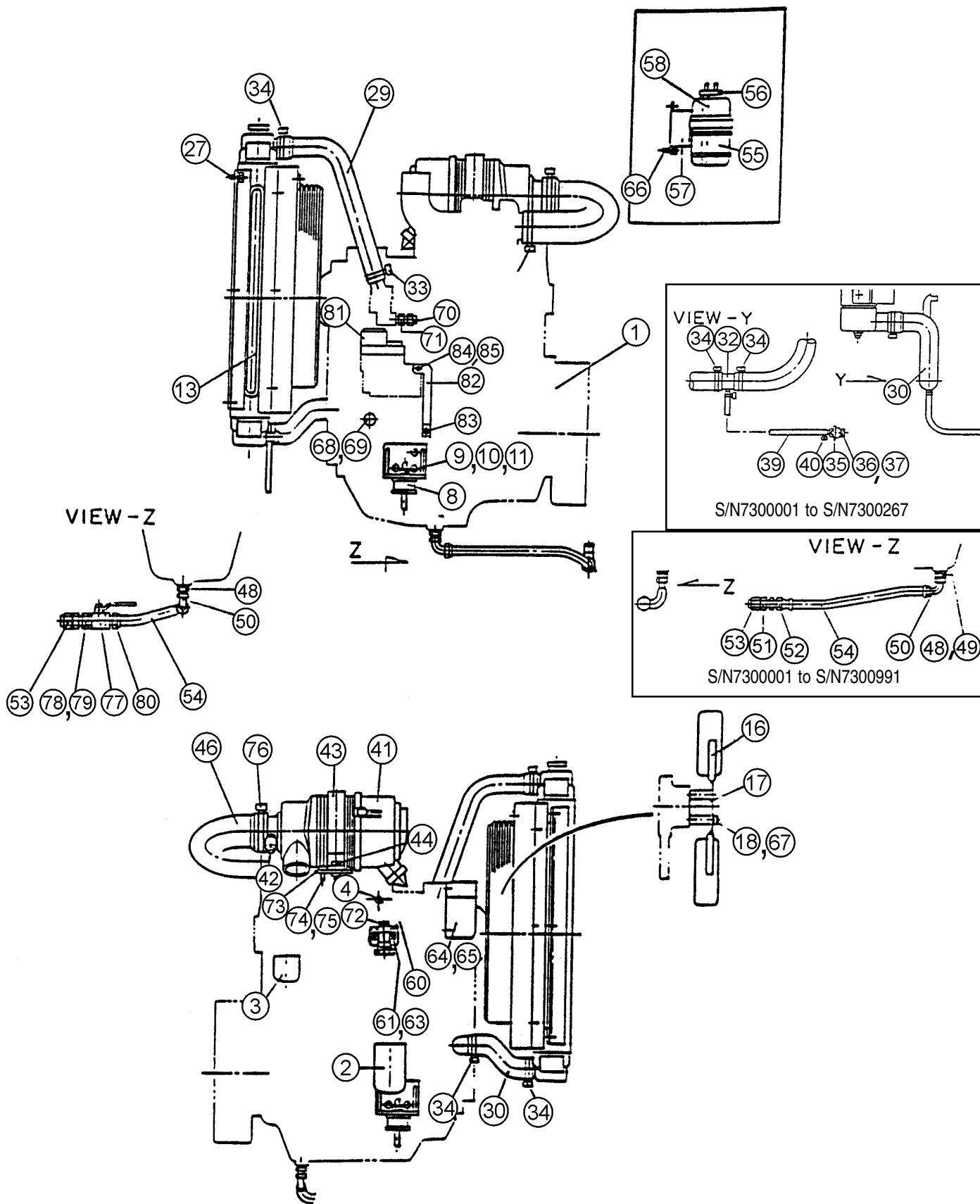
DCA-70SSJU -- ENGINE AND RADIATOR ASSY.

ENGINE & RADIATOR ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
32	M2310400004	DRAIN PIPE	1	S/N7300001 TO S/N7300267
33	0605515199	HOSE BAND	1	S/N7300001 TO S/N7300267
	0605515201	HOSE BAND	1	S/N7300268~
34	0605515147	HOSE BAND	6	S/N7300001 TO S/N7300267
	0605515147	HOSE BAND	3	S/N7300268~
35	781204003B	DRAIN JOINT	1	S/N7300001 TO S/N7300267; REPLACES M2320300103
36	M9200200004	DRAIN BOLT	1	S/N7300001 TO S/N7300267
37	0150000018	O RING	1	S/N7300001 TO S/N7300267
38	011206020	HEX HEAD BOLT	2	S/N7300001 TO S/N7300267; REPLACES 0016906020
39	0199900685	DRAIN HOSE	1	S/N7300001 TO S/N7300267
40	0605515106	HOSE BAND	2	S/N7300001 TO S/N7300267
41	0602046233	AIR CLEANER;FWG080061	1	S/N7300001 TO S/N7302330
	0602046582	AIR CLEANER;FPG082527	1	S/N7302331~
	0602046357	ELEMENT AIR CLEANER;P18-1054	1	S/N7300001 TO S/N7302330
	0602046365	ELEMENT AIR CLEANER;P828889	1	S/N7302331~
42	0602040650	INDICATOR AIR CLEANER	1	S/N7300001 TO S/N7302330
	0602040651	INDICATOR AIR CLEANER	1	S/N7302331~
43	0602040590	BAND AIR CLEANER	2	S/N7300001 TO S/N7302330
	0602040554	BAND AIR CLEANER	1	S/N7302331~
44	011008020	HEX HEAD BOLT	4	S/N7300001 TO S/N7302330; REPLACES 0016908020
	0016908030	HEX HEAD BOLT	2	S/N7302331~
45	020108060	HEX NUT	4	S/N7300001 TO S/N7302330; REPLACES 0207008000
46	M2373100103	HOSE AIR CLEANER	1	S/N7300001 TO S/N7302330
	M2375100003	HOSE AIR CLEANER	1	S/N7302331~
47	0605515146	HOSE BAND	2	S/N7300001 TO S/N7302330
	0605515146	HOSE BAND	1	S/N7302331~
48	0602022563	ADAPTER	1	
49	0602021165	O RING	1	S/N7300001 TO S/N7300991
50	0602022561	90 ELBOW	1	
51	0602022562	UNION	1	S/N7300001 TO S/N7302330
52	0602022792	SWIVEL	1	S/N7300001 TO S/N7302140
53	0602021070	CAP	1	
54	0602021572	DRAIN HOSE	1	S/N7300001 TO S/N7302140
	0269200600	DRAIN HOSE	1	S/N7302141~
55	M9300000103	RESERVE TANK	1	
56	0802081104	CAP RESERVE TANK	1	REPLACES M9300100003
57	M2316100104	BRACKET RESERVE TANK	1	S/N7300001 TO S/N7300003
	M2316100204	BRACKET RESERVE TANK	1	REPLACES M9300100003
58	0199100200	HOSE	1	
59	0193601500	HOSE	1	S/N7300001 TO S/N7300267
60	M2260600014	RELAY BRACKET	1	S/N7300001 TO S/N7301310

DCA-70SSJU -- ENGINE AND RADIATOR ASSY.

ENGINE & RADIATOR ASSY.



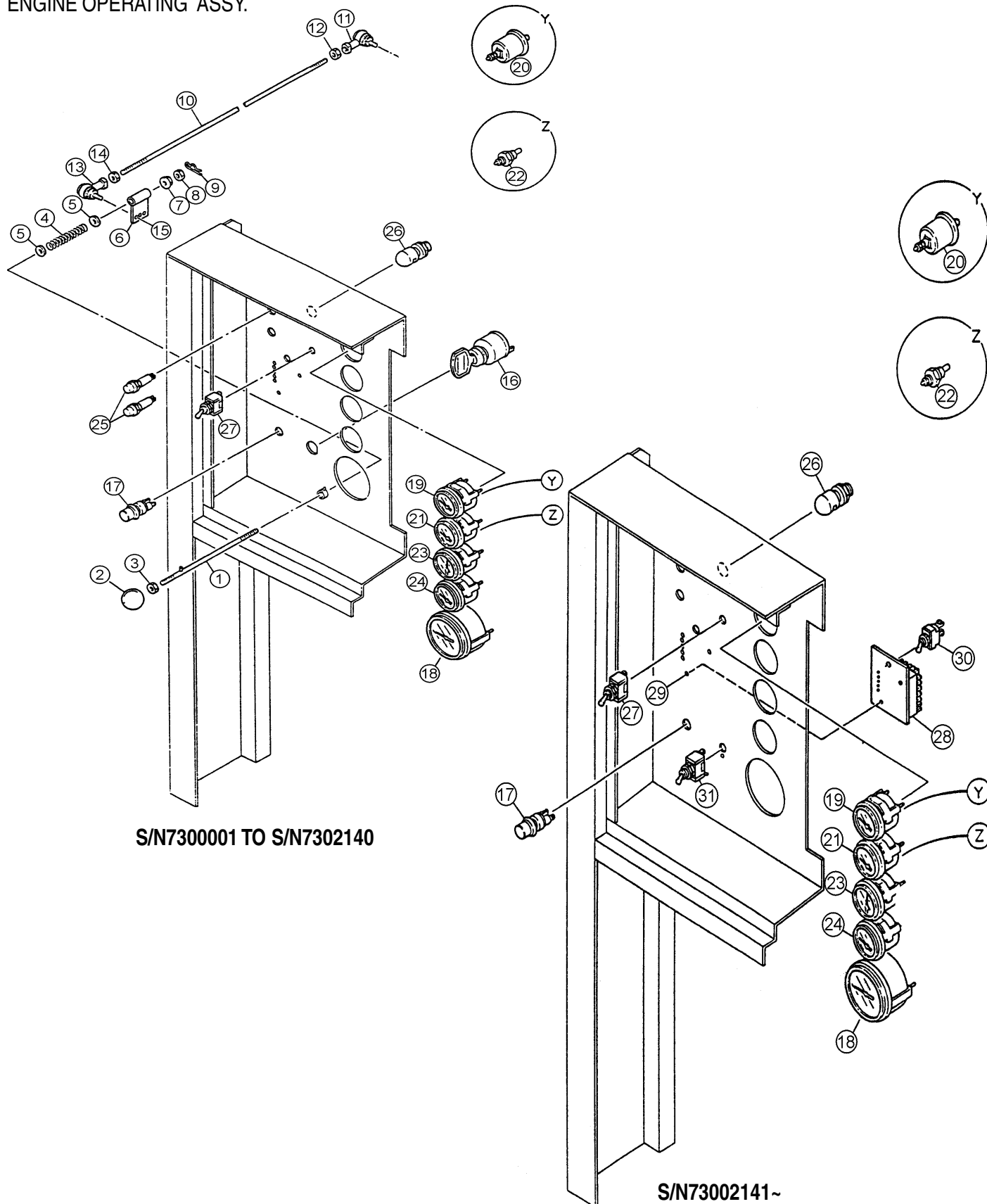
DCA-70SSJU -- ENGINE AND RADIATOR ASSY.

ENGINE & RADIATOR ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
	M2260600024	RELAY BRACKET	1	S/N7301311~
61	0602202597	RELAY;AL81719	1	S/N7300001 TO 7301310
	0602202592	RELAY;AT141011	1	S/N7301311~
62	0602220621	TERMINAL COVER	1	S/N7300001 TO S/N7300003
63	0017105015	HEX HEAD BOLT	1	S/N7300001 TO S/N7301310
	011106015	MACHINE SCREW	2	S/N7301311~; REPLACES 0027106015
64	M2483400014	ALTERNATOR COVER	1	
65	011206020	HEX HEAD BOLT	2	REPLACES 0016906020
66	011008020	HEX HEAD BOLT	2	S/N7300004~; REPLACES 0016908020
67	030210250	LOCK WASHER	4	S/N7300221~; REPLACES 0042510000
68	1718939010	OIL SWITCH	1	S/N 7300646~; REPLACES 0602122281
69	M9200100704	ADAPTER	1	S/N 7300646~
70	1518183040	WATER SWITCH	1	S/N 7300646~; REPLACES 0602123282
71	M9200100404	ADAPTER	1	S/N 7300646~
72	012210020	HEX HEAD BOLT	1	S/N7301311~; REPLACES 0017110020
73	M2375200004	BRACKET AIR CLEANER	1	S/N7302331~
74	011008020	HEX HEAD BOLT	4	S/N7302331~; REPLACES 0016908020
75	020108060	HEX NUT	4	S/N7302331~; REPLACES 0207008000
76	0605515200	HOSE BAND	1	S/N7302331~
77	0605511395	VALVE;XV500P-8	1	S/N7302141~
78	0603306590	CONNECTOR	1	S/N7302141~
79	0603300285	ROCK NUT	1	S/N7302141~
80	0603306395	HOSE JOINT	1	S/N7302141~
81	DYNC70025000012	ACTUATOR	1	S/N7302141~; REPLACES 0602150093
82	M3356200004	STOPPER BRACKET	1	S/N7302141~
83	012210020	HEX HEAD BOLT	1	S/N7302141~; REPLACES 0017110020
84	011206020	HEX HEAD BOLT	1	S/N7302141~; REPLACES 0016906020
85	0207006000	HEX NUT	1	S/N7302141~

DCA-70SSJU -- ENGINE OPERATING ASSY.

ENGINE OPERATING ASSY.



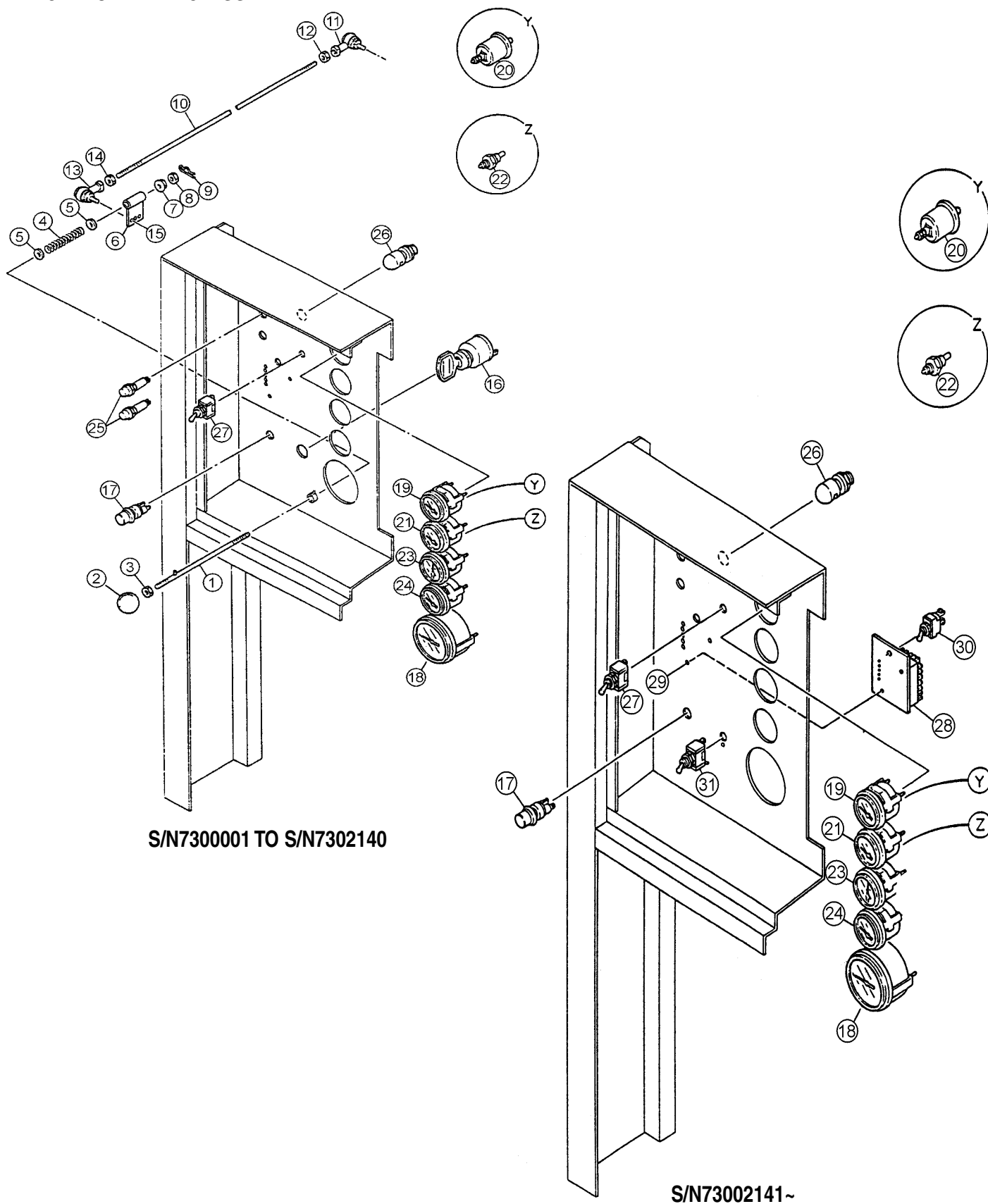
DCA-70SSJU -- ENGINE OPERATING ASSY.

ENGINE OPERATING ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
	M2357200042	WIRE HARNESS, ENGINE	1	UP TO S/N7301310
	M2357200052	WIRE HARNESS, ENGINE	1	S/N7301311 TO S/N7302140
	M2357200062	WIRE HARNESS, ENGINE	1	S/N730141~
1	M1354300304	SLIDE LEVER	1	S/N7300001 TO S/N7302140
2	0601840190	KNOB	1	S/N7300001 TO S/N7302140; REPLACES M9320000004
3	020108060	HEX. NUT	1	S/N7300001 TO S/N7302140; REPLACES 0036003000
4	0605804150	SPRING	1	S/N7300001 TO S/N7302140
5	031108160	PLAIN WASHER	2	S/N7300001 TO S/N7302140; REPLACES 0041208000
6	M1354200004	BRACKET	1	S/N7300001 TO S/N7302140
7	020108060	HEX. NUT	1	S/N7300001 TO S/N7302140; REPLACES 0207008000
8	020108060	HEX. NUT	1	S/N7300001 TO S/N7302140; REPLACES 0030008000
9	0605010550	SNAP PIN	1	S/N7300001 TO S/N7302140
10	M2354300104	GOVERNOR ROD	1	S/N 730001 TO S/N7300003
	M2354300114	GOVERNOR ROD	1	S/N7300004 TO S/N7302140
11	0602180106	BALL JOINT	1	S/N7300001 TO S/N7302140
12	020108060	HEX. NUT	1	S/N7300001 TO S/N7302140; REPLACES 0030008000
13	0602180107	BALL JOINT	1	S/N7300001 TO S/N7302140
14	0039308000	HEX. NUT	1	S/N7300001 TO S/N7302140; REPLACES 0036508000
15	952404470	HEX. NUT	2	S/N7300001 TO S/N7302140; REPLACES 0207006000
	952404470	PLAIN WASHER	2	S/N7300001 TO S/N7302140; REPLACES 0041206000
16	0602100056	STARTER SWITCH;AR58126	1	S/N7300001 TO S/N7302140
	0602100028	SET NUT	1	S/N7300001 TO S/N7302140
	0602100029	SET WASHER	1	S/N7300001 TO S/N7302140
17	0601831594	COLD STARTING BUTTON;R39554	1	S/N7300001 TO S/N7301510
	0601831585	COLD STARTING BUTTON;44047	1	S/N7301511~
	0601831584	CAP	1	S/N7300001 TO S/N7301510

DCA-70SSJU -- ENGINE OPERATING ASSY.

ENGINE OPERATING ASSY.



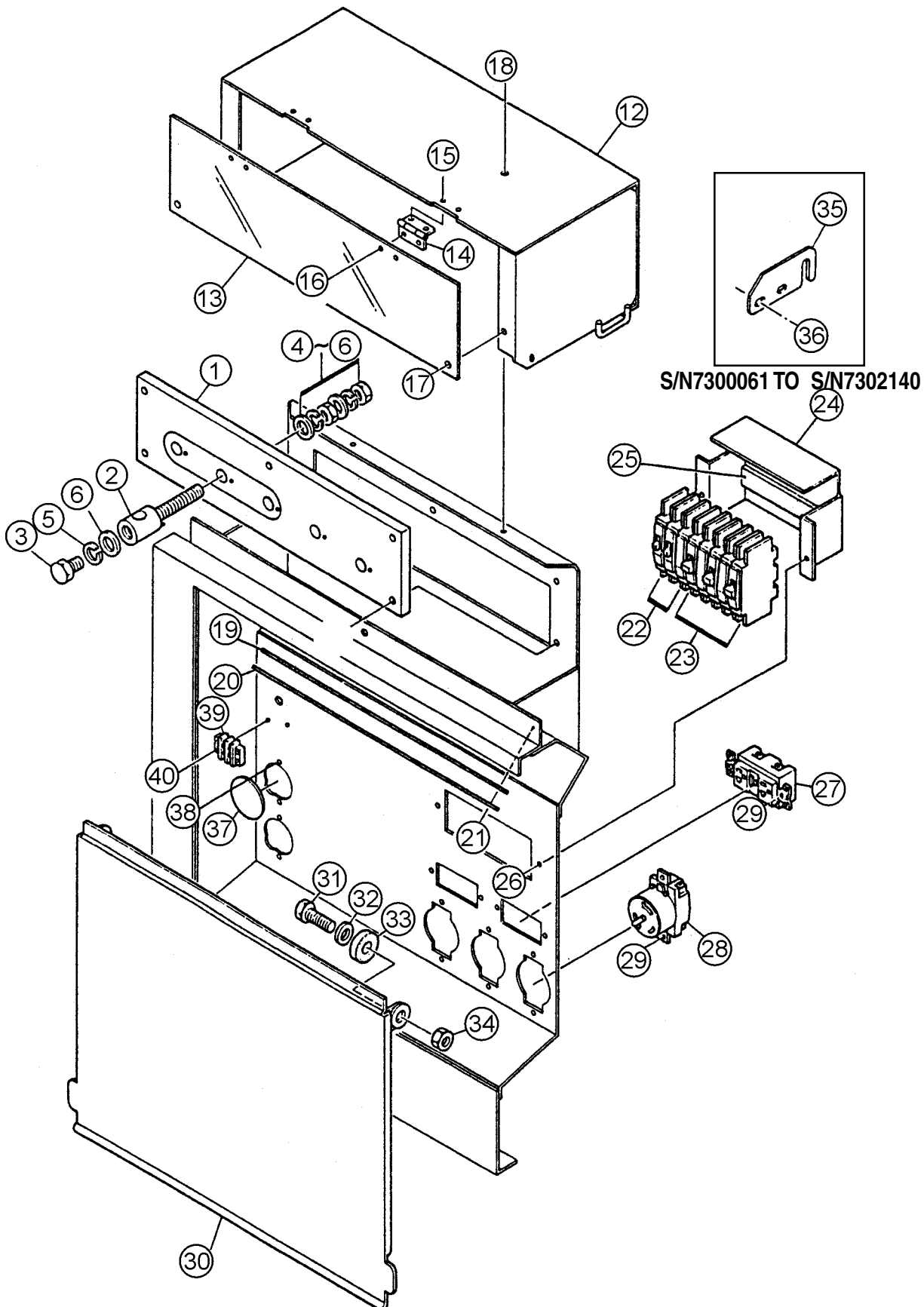
DCA-70SSJU -- ENGINE OPERATING ASSY.

ENGINE OPERATING ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
	0601831586	CAP	1	S/N7301511~
	0602202450	WIRING READ	1	S/N7300001 TO S/N7300220
	0602202451	WIRING READ	1	S/N7300001 TO S/N7300220
18	0602120096	TACHOMETER	1	103678
19	0602122094	OIL PRESSURE GAUGE;106068	1	S/N7300001 TO S/N7300645
	0602122093	OIL PRESSURE GAUGE;100174	1	S/N7300646~
20	0602122272	UNIT, OIL PRESSURE;102225	1	S/N7300001 TO S/N7300364; REPLACES 0602122207
	0602122272	UNIT, OIL PRESSURE;108497	1	
21	0602123091	WATER TEMPERATURE GAUGE;106078	1	S/N7300001 TO S/N7300645
	0602123092	WATER TEMPERATURE GAUGE;100182	1	S/N7300646~
22	0602123263	UNIT, WATER TEMPERATURE;0208900	1	S/N7300001 TO S/N7300645
	0602123261	UNIT, WATER TEMPERATURE;0202500	1	S/N7300646~
23	0602121080	CHARGING AMMETER	1	100158
24	0602125090	FUEL GAUGE	1	100176
25	0602103092	ALARM LAMP	2	S/N7300001 TO S/N7302140
	0601810245	BULB;18V	2	S/N7300001 TO S/N7302140
26	0601810141	PANEL LIGHT	1	
27	0601831330	SWITCH, PANEL LIGHT	1	90-0001
28	ECU9988N	ENGINE CONTROLLER	1	S/N7302141~;REPLACES 0602202545
29	0027104035	MACHINE SCREW	2	S/N7302141~
	OEMAA8	HEX NUT	2	S/N7302141~; REPLACES 0207004000
30	82608	SWITCH;7562K4	1	S/N7302141~; REPLACES 0601831340
31	0601831395	SWITCH;7302K36	1	S/N7302141~

DCA-70SSJU -- OUTPUT TERMINAL ASSY.

OUTPUT TERMINAL ASSY.



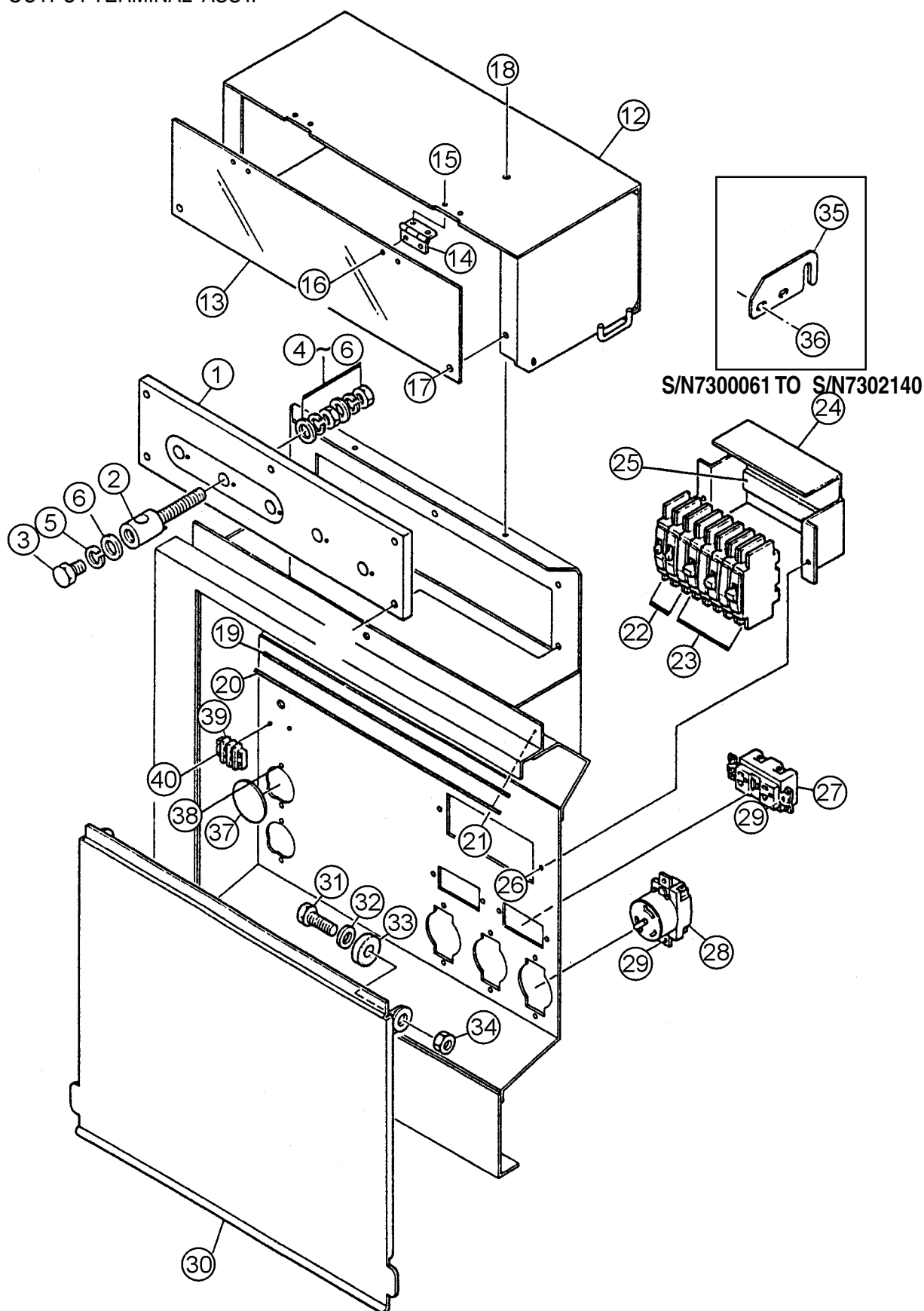
DCA-70SSJU -- OUTPUT TERMINAL ASSY.

OUTPUT TERMINAL ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	8081860103	TERMINAL PANEL	1	S/N7300001 TO S/N7300365; REPLACES M2230700003
	M2230700113	TERMINAL PANEL	1	S/N7300366~
2	M2233000004	OUTUT TERMINAL BOLT	4	S/N7300001 TO S/N7300365
	M2233000004	OUTPUT TERMINAL BOLT	5	S/N7300366~
3	M2233100004	TIE BOLT	4	S/N7300001 TO S/N7300365
	M2233100004	TIE BOLT	5	S/N7300366~
4	0039312000	HEX NUT	8	S/N7300001 TO S/N7300365
	0039312000	HEX NUT	10	S/N7300366~
5	0040012000	LOCK WASHER	12	S/N7300001 TO S/N7300365
	0040012000	LOCK WASHER	15	S/N7300366~
6	0041412000	PLAIN WASHER	16	S/N7300001 TO S/N7300365
	0041412000	PLAIN WASHER	20	S/N7300366~
7	M2233700004	STUD BOLT	1	S/N7300001 TO S/N7300365
8	0039306000	HEX NUT	5	S/N7300001 TO S/N7300365
9	0040006000	PLAIN WASHER	2	S/N7300001 TO S/N7300365
10	0041406000	PLAIN WASHER	5	S/N7300001 TO S/N7300365
11	0012108035	HEX HEAD BOLT	5	S/N7300001 TO S/N7300365; REPLACES 0016908035
12	M2236100403	TERMINAL COVER	1	S/N7300001 TO S/N7300060
	M2236100413	TERMINAL COVER	1	S/N7300061 TO S/N7301140
	M2236100423	TERMINAL COVER	1	S/N7301141 TO S/N7301260
	M2236100433	TERMINAL COVER	1	S/N7301261 TO S/N7302175
	M2236100003	TERMINAL COVER	1	S/N7302176~
13	M2236100504	OUTPUT WINDOW	1	S/N73012611 TO S/N7302175
	M3236100104	OUTPUT WINDOW	1	S/N7302176~
14	0605010040	HINGE	2	
15	0027103010	MACHINE SCREW	4	
	0207003000	HEX NUT	4	REPLACES 0030003000
	58413	PLAIN WASHER	4	REPLACES 0041203000
16	0027103010	MACHINE SCREW	4	
	0207003000	HEX NUT	4	REPLACES 0030003000
17	011206020	HEX HEAD BOLT	2	REPLACES 0016906020
18	011106015	HEX HEAD BOLT	4	REPLACES 0016906015
19	M1236400004	CABLE OUTPUT COVER	1	S/N7300001 TO S/N7300140
	M3236400004	CABLE OUTPUT COVER	1	S/N73000141~
20	M1236300004	SUPPORTER, CABLE OUTLET CVR. ..	1	S/N7300001 TO S/N7300140
	M3236300004	SUPPORTER, CABLE OUTLET CVR. ..	1	S/N7300141~
21	011206020	HEX HEAD BOLT	6	REPLACES 0016906020
22	0601808803	CIRCUIT BREAKER	2	QOU120B1P20A
23	0601808804	CIRCUIT BREAKER	3	QOU250B2P50A

DCA-70SSJU -- OUTPUT TERMINAL ASSY.

OUTPUT TERMINAL ASSY.



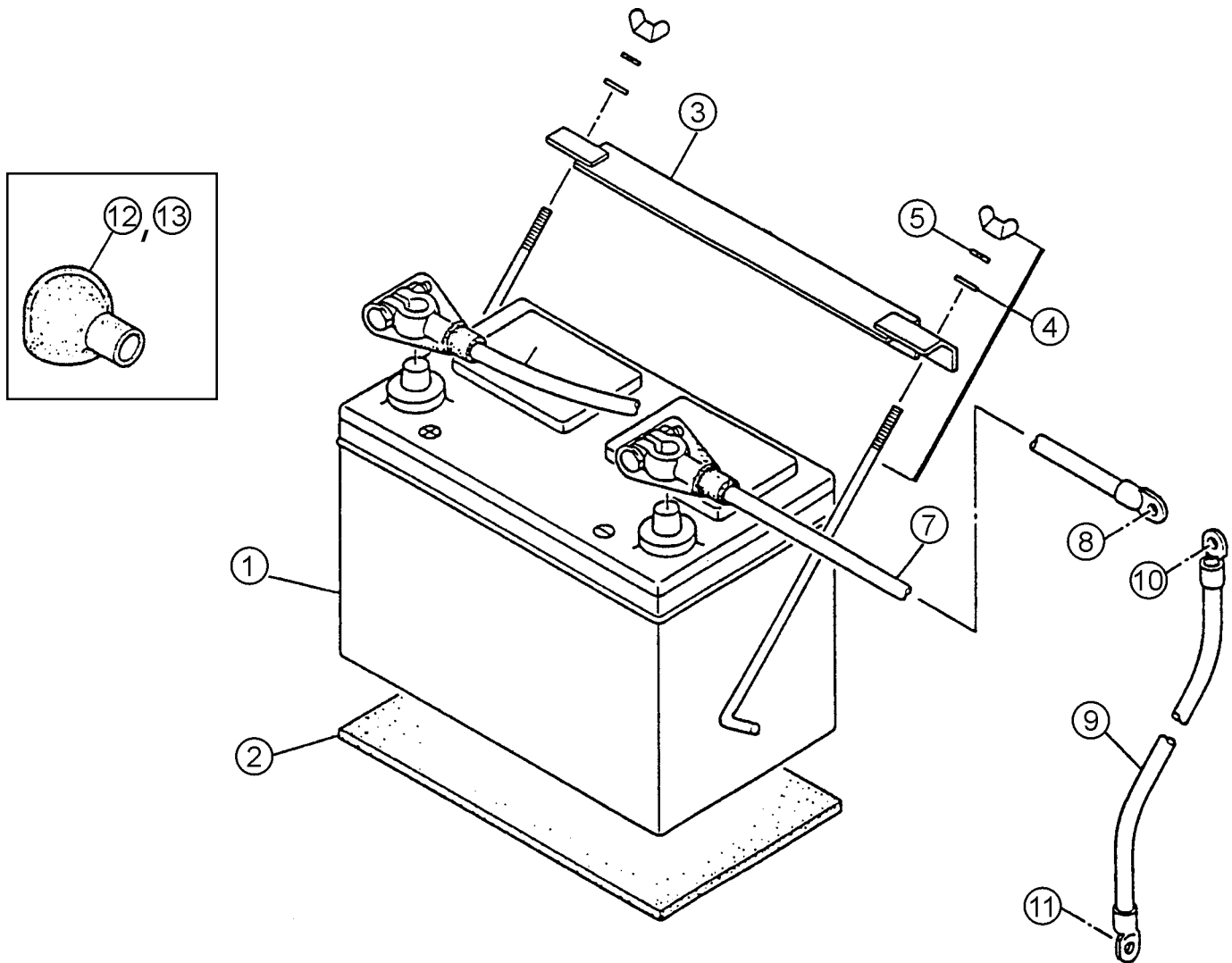
DCA-70SSJU -- OUTPUT TERMINAL ASSY.

OUTPUT TERMINAL ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
24	M1260700304	BREAKER FITTING COVER	1	
25	0222100150	CUSHION RUBBER	1	
25	0016906020	HEX HEAD BOLT	2	
27	011206020	RECEPTACLE;GF5342125V 20A X 2 ... 2	2	S/N7300001 TO S/N7300365; REPLACES 0601812540
	0601812597	RECEPTACLE;GF530EM 125V 20A X2 . 2	2	S/N7300366~; REPLACES 0601812598
28	0601811034	RECEPTACLECS;6369 250V 50A..... 3	3	S/N7300001 TO S/N7300365; REPLACES 0601812548
	0601812538	RECEPTACLE;CS6369 250V 50A..... 3	3	S/N7300366~
29	0021304015	MACHINE SCREW..... 10	10	REPLACES 0027104015
	0030004000	HEX NUT..... 10	10	REPLACES 0207004000
30	M2236100303	TERMINAL COVER..... 1	1	S/N7300001 TO S/N7302175
	M2455400003	TERMINAL COVER..... 1	1	S/N7302176~
31	012212045	HEX HEAD BOLT..... 2	2	REPLACES 0010112045
32	031112230	PLAIN WASHER..... 2	2	REPLACES 0041212000
33	M9310200004	STAY RUBBER	2	
34	0030012000	NUT	2	
35	M2354200004	SUPPORTER, GOVERNOR ROD..... 1	1	S/N7300061 TO S/N7302140
36	011106015	HEX HEAD BOLT..... 2	2	S/N7300061 TO S/N7302140; REPLACES 0016906015
37	0603306775	PLUG..... 2	2	S/N7302176~
38	0021304015	MACHINE SCREW..... 4	4	S/N7302176~; REPLACES 0027104015
39	0601815194	TERMINAL..... 1	1	S/N7302141~
40	0021304015	MACHINE SCREW..... 2	2	S/N7302141~; REPLACES 0027104015

DCA-70SSJU -- BATTERY ASSY.

BATTERY ASSY.

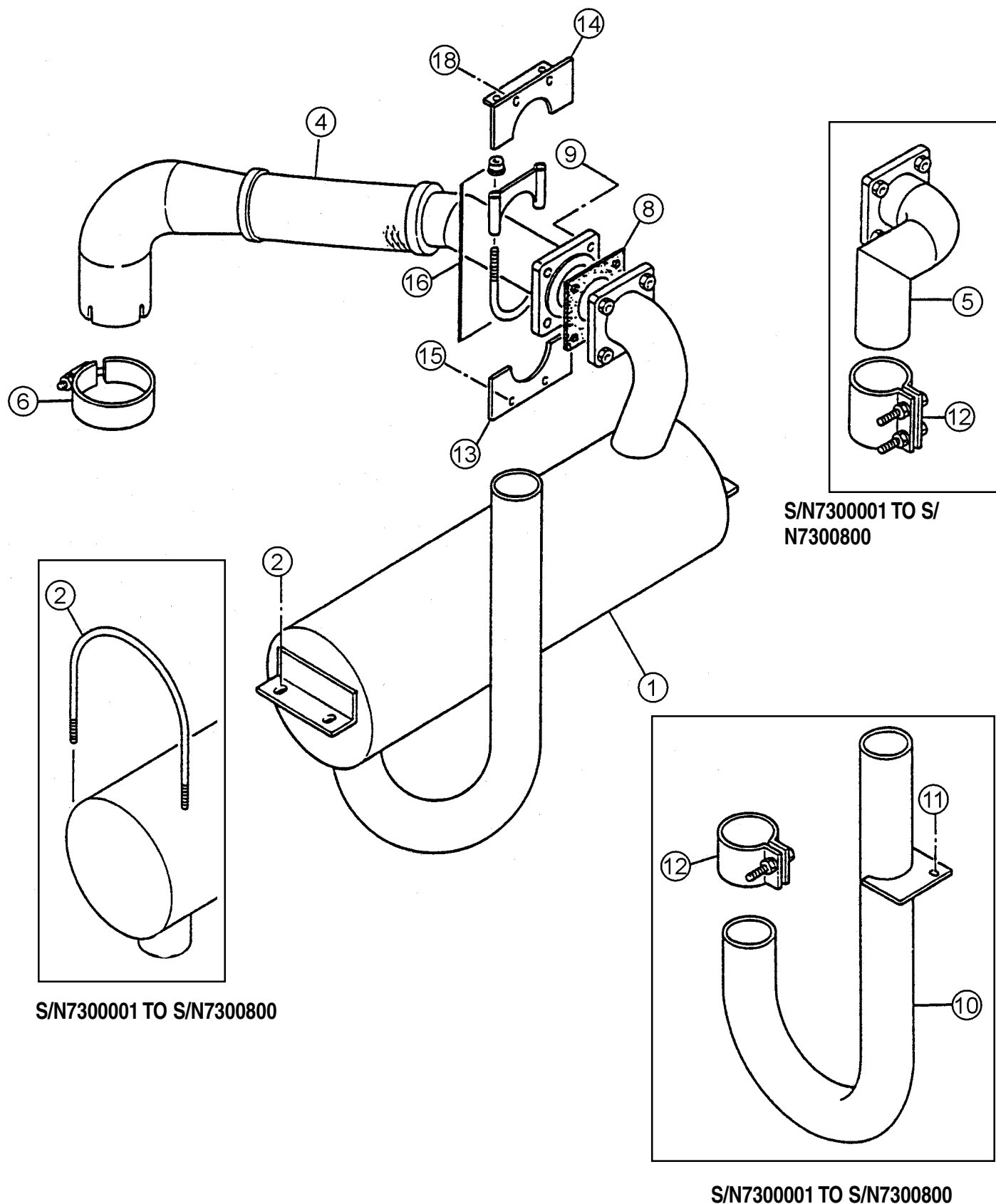


DCA-70SSJU -- BATTERY ASSY.**BATTERY ASSY.**

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	551010280	BATTERY	1	627MFD; REPLACES 0602220187
2	M9310500014	BATTERY SHEET	1	
3	M9103000304	BATTERY BAND	1	
4	0602220920	BATTERY BOLT SET	2	
5	0040006000	LOCK WASHER	2	
6	M1346400004	BATTERY CABLE	1	S/N7300001 TO S/N7302045
	M1346400204	BATTERY CABLE	1	S/N7302046~
7	M2346400104	BATTERY CABLE	1	
8	011008020	HEX HEAD BOLT	1	REPLACES 0016908020
	0040508000	TOOTHED WASHER	1	
9		CABLE, GROJND	1	MAKE LOCALLY
10	0017112025	HEX HEAD BOLT	1	
	0040512000	TOOTHED WASHER	1	
11	012210020	HEX HEAD BOLT	1	REPLACES 0017110020
	0040510000	TOOTHED WASHER	1	
12	M1346400004	TERMINAL COVER	1	S/N7300001 TO S/N7300003; REPLACES M9310000304
13	M1346400104	TERMINAL COVER	1	S/N7300001 TO S/N7300003; REPLACES M9310000204

DCA-70SSJU -- MUFFLER ASSY.

MUFFLER ASSY.

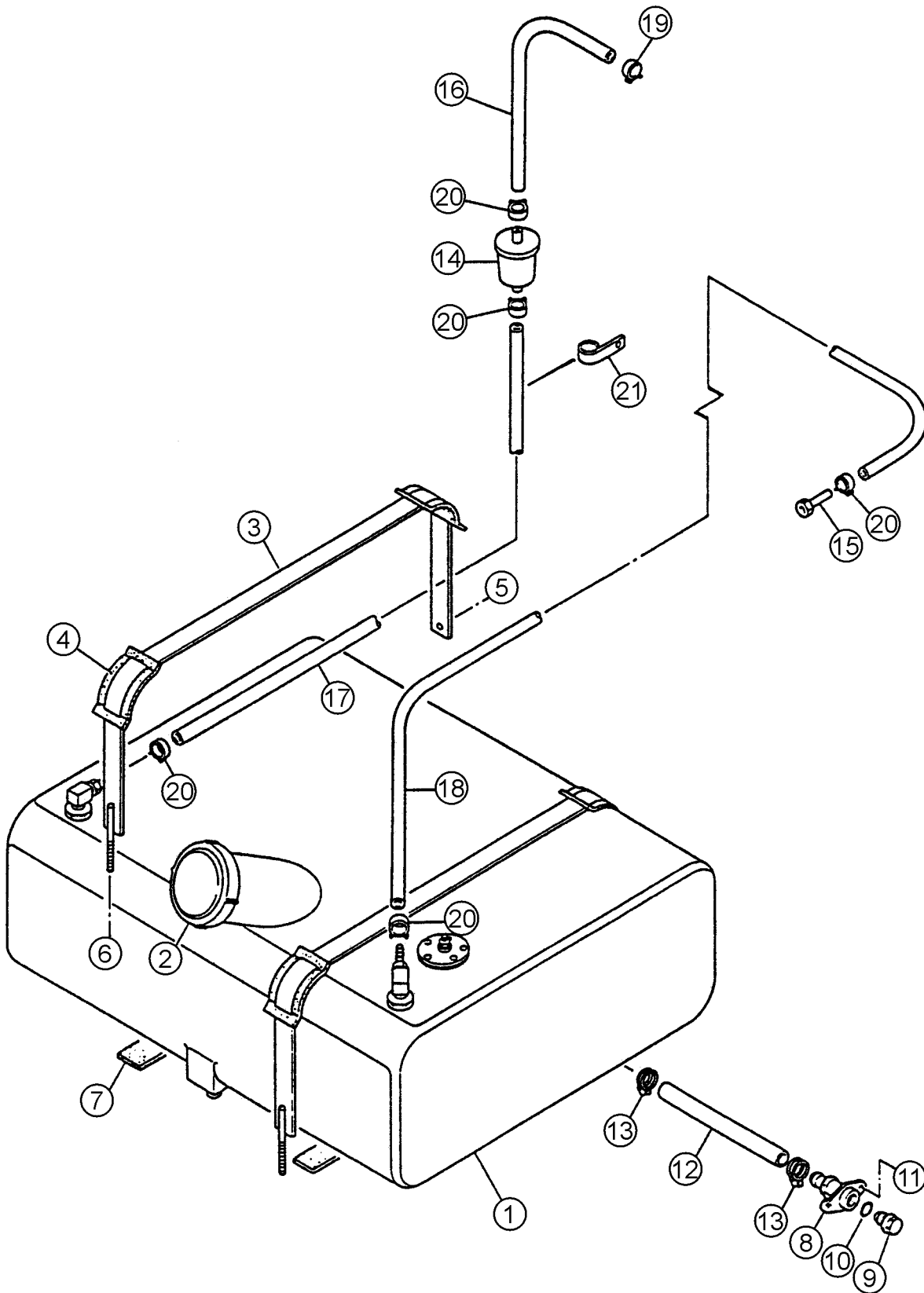


DCA-70SSJU -- MUFFLER ASSY.**MUFFLER ASSY.**

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	0602300162	MUFFLER	1	S/N7300001 TO S/N7300800
	0602300166	MUFFLER	1	S/N7300801~
2	M2330400204	U BOLT	2	S/N7300001 TO S/N7300800
	012210025	HEX HEAD BOLT	4	S/N7300801~; REPLACES 0016910025
3	020108060	HEX NUT	4	S/N7300001 TO S/N7300800; REPLACES 0037908000
	031108160	PLAIN WASHER	4	S/N7300001 TO S/N7300800; REPLACES 0041208000
4	M2333000303	EXHAUST PIPE	1	S/N7300001 TO S/N7300020
	M2333000313	EXHAUST PIPE	1	S/N7300021 TO S/N7300180
	M2333000323	EXHAUST PIPE	1	S/N7300181 TO S/N7300363
	M2333000333	EXHAUST PIPE	1	S/N7300364~
5	M2333000203	EXHAUST PIPE	1	S/N7300001 TO S/N7300020
	M2333000213	EXHAUST PIPE	1	S/N7300021 TO S/N7300180
	M2333000223	EXHAUST PIPE	1	S/N7300181 TO S/N7300800
6	M2333300104	SEAL CLAMP	1	S/N7300001 TO S/N7300003
	0602325065	CLAMP	1	S/N7300004 TO S/N7300400
	0602325066	CLAMP	1	S/N7300401~
7	011008040	HEX HEAD BOLT	2	S/N7300001 TO S/N7300003; REPLACES 0010108040
8	M2333200004	GASKET	1	REPLACES M2333200014
9	0012108035	HEX HEAD BOLT	4	REPLACES 0016908035
10	M2333100204	TAIL PIPE	1	S/N7300001 TO S/N7300800
11	011008020	HEX HEAD BOLT	1	S/N7300001 TO S/N7300800; REPLACES 0016908020
12	0602325022	SEAL CLAMP	1	REPLACES 0602325089
13	M2330400304	COVER	1	S/N7300001 TO S/N7300180
	M2330400314	COVER	1	S/N7300181~
14	M2333300003	BRACKET	1	S/N7300001 TO S/N7300180
	M2333300013	BRACKET	1	S/N7300181~
15	011106015	HEX HEAD BOLT	4	S/N7300001 TO S/N7300140; REPLACES 0016906015
	011106015	HEX HEAD BOLT	2	S/N7300141~; REPLACES 0016906015
16	0602326060	U BOLT SET	1	
17	0602325022	CLAMP	1	S/N7300001 TO S/N7300800
18	011106015	HEX. HEAD BOLT	2	S/N7302141~; REPLACES 0016906015
	0207000600	HEX. NUT	2	S/N7302141~

DCA-70SSJU -- FUEL TANK ASSY.

FUEL TANK ASSY.



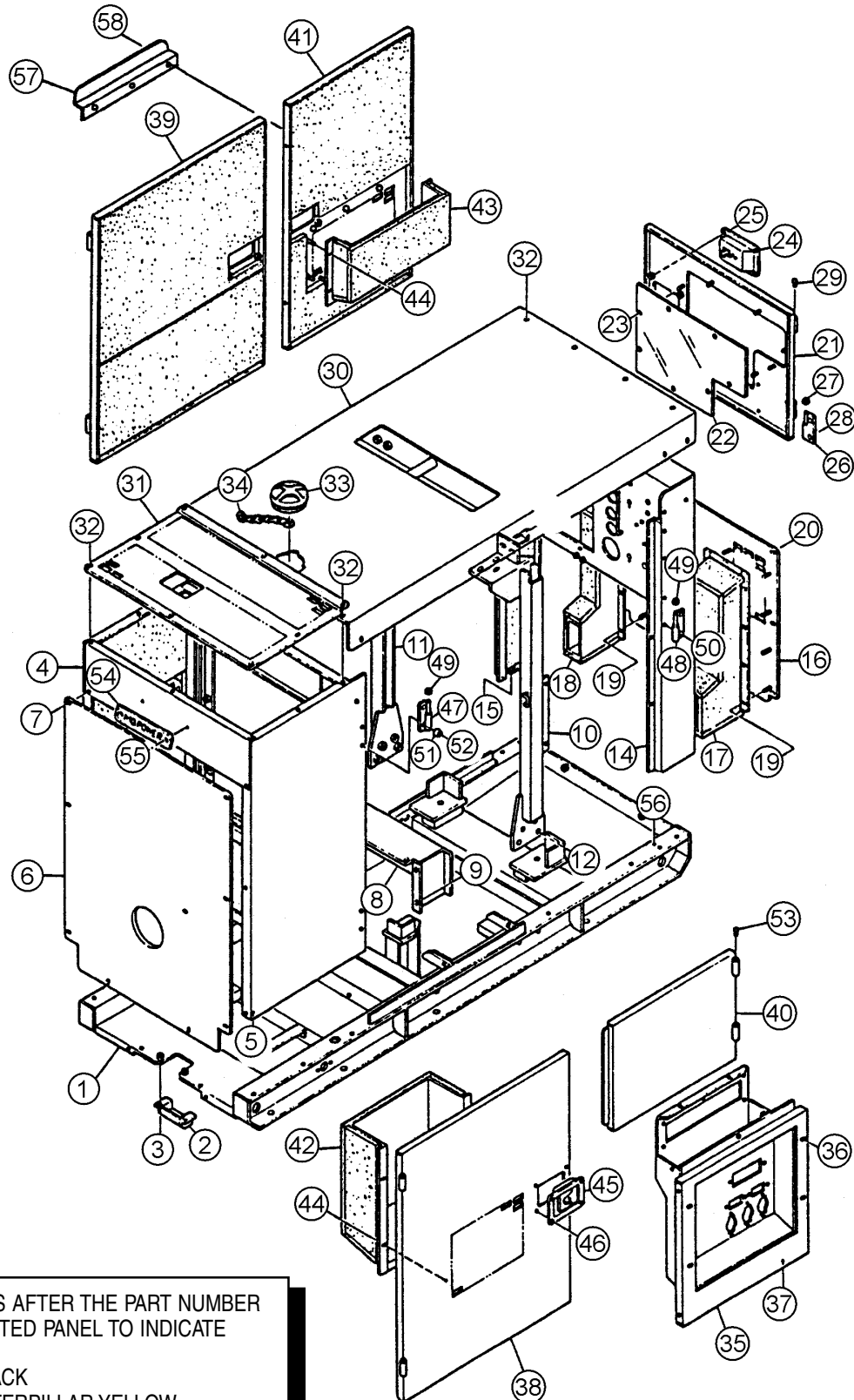
DCA-70SSJU -- FUEL TANK ASSY.

FUEL TANK ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	M2363000102	FUEL TANK	1	
2	0605505070	CAP, FUEL TANK	1	
3	M2363200104	TANK BAND	2	
4	M9310500104	SUPPORTER SHEET	4	
5	011008020	HEX HEAD BOLT	2	REPLACES 0016908020
6	020108060	HEX NUT	2	S/N7300001 TO S/N7300610; REPLACES 0037908000
	0207308000	HEX NUT	2	S/N7300611~
	031108160	PLAIN WASHER	2	S/N7300001 TO S/N7300610; REPLACES 0041208000
7	0222100176	RUBBER SHEET	4	
8	M9200000003	DRAIN JOINT	1	
9	M9200200004	DRAIN BOLT	1	
10	0150000018	O RING	1	
11	011206020	HEX HEAD BOLT	2	REPLACES 0016906020
12	M1363400104	DRAIN HOSE	1	
13	0605515198	HOSE BAND	2	REPLACES 0605515198
14	0602042420	FUEL FILTER	1	PTG15P
15	0602042601	LEAK-OFF LINE	1	RE67050
16	0191300450	SUCTION HOSE	1	
17	0191301600	SUCTION HOSE	1	
18	0191302000	RETURN HOSE	1	
19	0605515189	HOSE BAND	1	
20	0605515109	HOSE BAND	5	
21	0602220911	CLAMP	1	

DCA-70SSJU -- ENCLOSURE ASSY.

ENCLOSURE ASSY.



ADD THE FOLLOWING DIGITS AFTER THE PART NUMBER
WHEN ORDERING ANY PAINTED PANEL TO INDICATE
COLOR OF UNIT:

- | | |
|-----------------|----------------------|
| 1-ORANGE | 5-BLACK |
| 2-WHITE | 6-CATERPILLAR YELLOW |
| 3-SPECTRUM GRAY | 7-CATO GOLD |
| 4-SUNBELT GREEN | |

THE SERIAL NUMBER MAY BE REQUIRED.

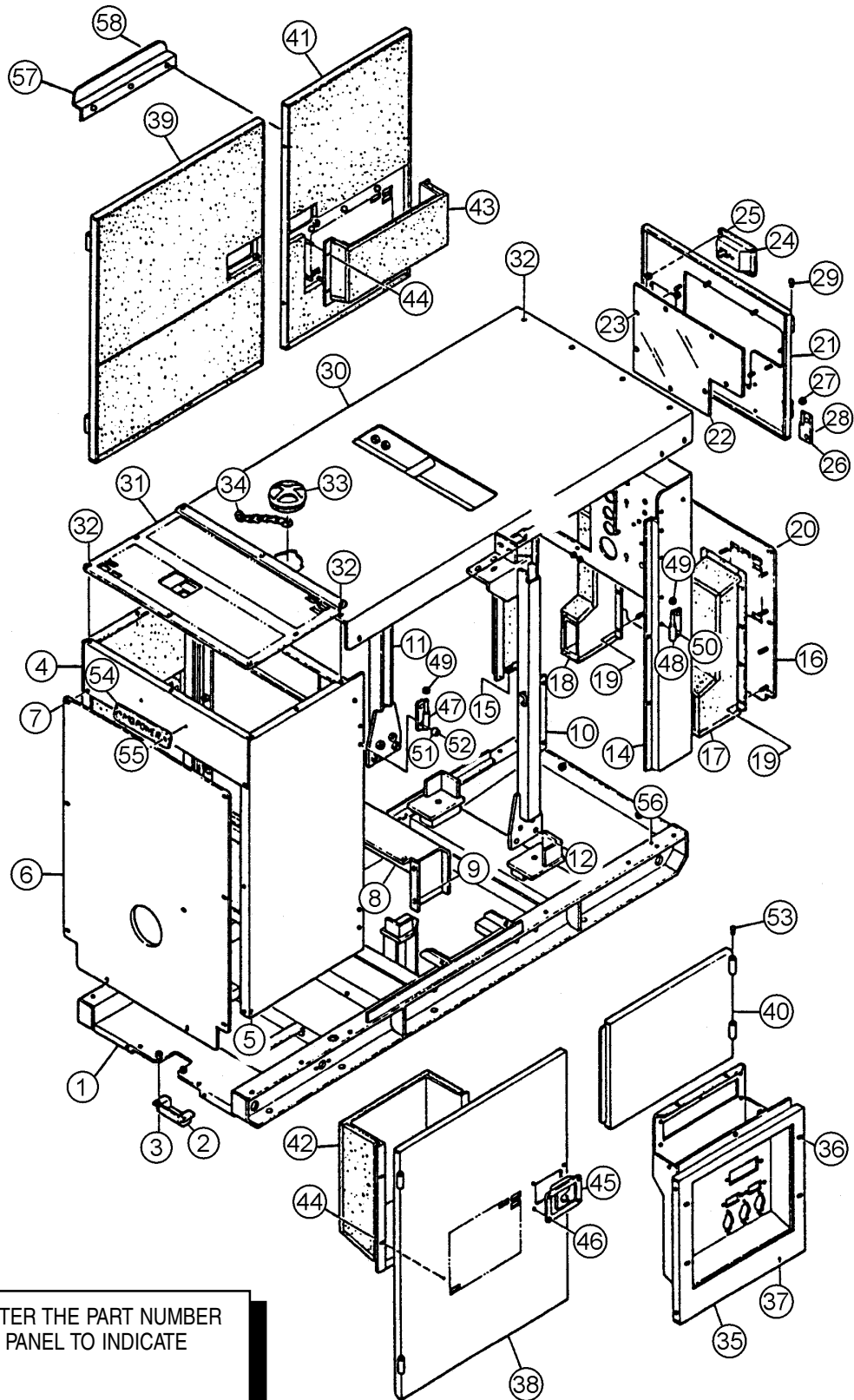
DCA-70SSJU -- ENCLOSURE ASSY.

ENCLOSURE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	M2413000102	BASE	1	S/N7300001 TO S/N7300003
	M2413000112	BASE	1	S/N7300004 TO S/N7301200
	M2413000212	BASE	1	S/N7301201 TO S/N7302140
	M2415000203	BASE	1	S/N7302141~
2	M1413400004	UNDER COVER	1	
3	011008020	HEX HEAD BOLT	2	REPLACES 0016908020
4	M2423000102	FRONT FRAME	1	S/N7300001 TO S/N7300003
	M2423000112	FRONT FRAME	1	S/N7300004 TO S/N7300180
	M2423000212	FRONT FRAME	1	S/N7300181 TO 7302140; REPLACES M2423000202 AND M242300122
	M2425000003	FRONT FRAME	1	S/N7302141~
	M2493101203	ACOUSTIC SHEET	1	REPLACES M2493101213
5	0016908020	HEX HEAD BOLT	6	
6	M2423200214	COVER, FRONT FRAME	1	
	M2493101104	ACOUSTIC SHEET	1	
7	011008020	HEX HEAD BOLT	11	REPLACES 0016908020
8	M2423200303	INNER COVER, FRONT FRAME	1	S/N7300001 TO S/N7300003
	M2423200313	INNER COVER, FRONT FRAME	1	S/N7300004~
9	011008020	HEX HEAD BOLT	6	S/N7300001 TO S/N7300003; REPLACES 0016908020
	011008020	HEX HEAD BOLT	7	S/N7300004~; REPLACES 0016908020
10	M2433000203	CENTER FRAME	1	S/N7300001 TO S/N7302175
	M2435000203	CENTER FRAME	1	S/N7302176
11	M2433000303	CENTER FRAME	1	
12	0010114030	HEX HEAD BOLT	8	
	030214350	LOCK WASHER	8	REPLACES 0040014000
	031114260	PLAIN WASHER	8	REPLACES 0041214000
13	012212030	HEX HEAD BOLT	10	REPLACES 0017112030
14	M2443000102	REAR FRAME	1	S/N7300001 TO S/N7300003
	M2443000112	REAR FRAME	1	S/N7300004 TO S/N7302175
	M2445000103	REAR FRAME	1	S/N7302176~
	M2493300904	ACOUSTIC SHEET	1	
15	011008020	HEX HEAD BOLT	4	REPLACES 0016908020
16	M2443300703	REAR COVER	1	S/N7300001 TO 7300003
	M2443300713	REAR COVER	1	S/N7300004~
17	M2443300613	DUCT, REAR COVER	1	
	M2493300704	ACOUSTIC SHEET	1	
18	M2443300513	DUCT, REAR COVER	1	
	M2493300604	ACOUSTIC SHEET	1	
19	0207006000	HEX NUT	16	
20	01100802	HEX HEAD BOLT	8	S/N7300001 TO S/N7300003; REPLACES 0016908020
	01100802	HEX HEAD BOLT	9	S/N7300004~; REPLACES 0016908020

DCA-70SSJU -- ENCLOSURE ASSY.

ENCLOSURE ASSY.



ADD THE FOLLOWING DIGITS AFTER THE PART NUMBER
WHEN ORDERING ANY PAINTED PANEL TO INDICATE
COLOR OF UNIT:

1-ORANGE	5-BLACK
2-WHITE	6-CATERPILLAR YELLOW
3-SPECTRUM GRAY	7-CATO GOLD
4-SUNBELT GREEN	

THE SERIAL NUMBER MAY BE REQUIRED.

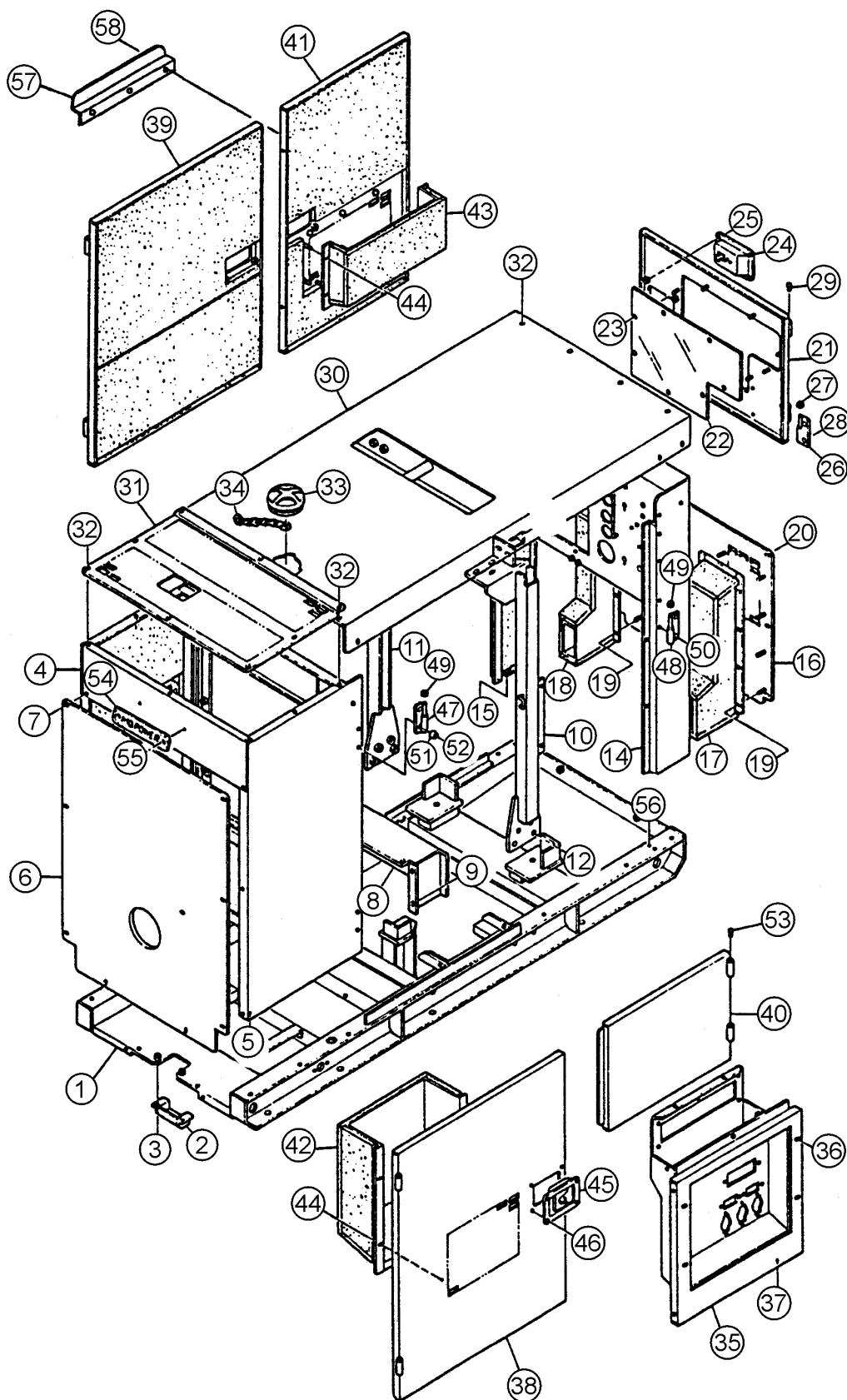
DCA-70SSJU -- ENCLOSURE ASSY.

ENCLOSURE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
21	M2443200103	REAR DOOR.....	1	S/N7300001 TO S/N7300003
	M2443200123K	REAR DOOR.....	1	S/N7300004 TO S/N7300680; REPLACES M2443200113
	M2443200123	REAR DOOR.....	1	S/N7300681~
22	M1443600004	WINDOW PLATE	1	S/N7300001 TO S/N7300260
	M1443600104	WINDOW PLATE	1	S/N7300261 TO 7300680
	M1443600204	WINDOW PLATE	1	S/N7300681~
23	020106050	HEX NUT	6	UP TO 7300680; REPLACES 0207306000
	020106050	HEX NUT	8	S/N7300681~; REPLACES 0207306000
	952404470	PLAIN WASHER	12	S/N7300001 TO S/N7300610; REPLACES 0041206000
	952404470	PLAIN WASHER	6	S/N7300611 TO 7300680; REPLACES 0041206000
	952404470	PLAIN WASHER	8	S/N7300681~; REPLACES 0041206000
24	B9114000002	DOOR HANDLE ASSY	1	REPLACES M9113000002
25	0027106016	MACHINE SCREW	4	REPLACES 0021806015
	020106050	HEX NUT	4	REPLACES 0030006000
26	M9110100204	HINGE	2	
27	M9116100004	WASHER	2	
28	011008020	HEX HEAD BOLT	3	REPLACES 0016908020
29	0845031504	BLIND PLUG	2	REPLACES M9310000004
30	M2463000102	ROOF PANEL	1	S/N7300001 TO S/N7300267
	M2463000202	ROOF PANEL	1	S/N7300268~
	M2493500123	ACOUSTIC SHEET	1	REPLACES M2493500103 AND M2493500113
31	M2463500114	OVER COVER, FRONT FRAME	1	S/N7300001 TO S/N7300800; REPLACES M2463500104
	M2463500114	OVER COVER, FRONT FRAME	1	S/N7300801~
32	011008020	HEX HEAD BOLT	18	REPLACES 0016908020
33	1625165103	BONNET CAP	1	REPLACES M9310000103
34	1625165204	CHAIN ASSY	1	REPLACES M1483600204
35	M2453200102	SPLASHER PANEL	1	S/N7300001 TO S/N7300140
	M2236100504	ACOUSTIC SHEET	1	S/N7300001 TO S/N7300140
	M2453200112	SPLASHER PANEL	1	S/N7300141 TO S/N7301140
	M2236100504	ACOUSTIC SHEET	1	S/N7300141 TO S/N7301140
	M2453200122	SPLASHER PANEL	1	S/N7301141 TO S/N7301260
	M2236100504	ACOUSTIC SHEET	1	S/N7301141 TO S/N7301260
	M2453200132	SPLASHER PANEL	1	S/N7301261 TO S/N7302175
	M2236100504	ACOUSTIC SHEET	1	S/N7301261 TO S/N7302175
	M2455200203	SPLASHER PANEL	1	S/N7302176~
	M3236100104	ACOUSTIC SHEET	1	S/N7302176~
36	011208060	HEX HEAD BOLT	4	REPLACES 0016908055

DCA-70SSJU -- ENCLOSURE ASSY.

ENCLOSURE ASSY.



DCA-70SSJU -- ENCLOSURE ASSY.

ENCLOSURE ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
37	011008020	HEX HEAD BOLT	2	REPLACES 0016908020
38	M2453000503	SIDE DOOR	1	
	M2493400904	ACOUSTIC SHEET	1	
39	M2453000603	SIDE DOOR	1	
	M2493401104	ACOUSTIC SHEET	1	
40	M2453000703	SIDE DOOR	1	S/N7300001 TO S/N7302175
	M2455000103	SIDE DOOR	1	S/N7302176~
	M2493401904	ACOUSTIC SHEET	1	S/N7300001 TO S/N7302175
	M2495400304	ACOUSTIC SHEET	1	S/N7302176~
41	M2453000803	SIDE DOOR	1	S/N7300001 TO S/N7302175
	M2453000813	SIDE DOOR	1	S/N7302176~
	M2493401204	ACOUSTIC SHEET	1	
42	M2453300503	DUCT	1	
	M2493401004	ACOUSTIC SHEET	1	
43	M2453300603	DUCT	1	
	M2493401304	ACOUSTIC SHEET	1	
44	0207006000	HEX NUT	13	
45	B9114000002	DOOR HANDLE ASSY	3	REPLACES M9113000002
46	0027106016	MACHINE SCREW	12	REPLACES 0021806015
	020106050	HEX NUT	12	REPLACES 0030006000
47	M9110100204	HINGE	4	
48	M9110100304	HINGE	4	
49	M9116100004	WASHER	8	
50	011008020	HEX HEAD BOLT	9	REPLACES 0016908020
51	0601850097	DOOR STOPPER	8	
52	0027208025	MACHINE SCREW	8	
53	0845031504	BLIND PLUG	8	REPLACES M9310000004
54	0600500090	EMBLEM	1	
55	0021106015	MACHINE SCREW	2	
56	011008020	HEX HEAD BOLT	1	REPLACES 0016908020
	0040508000	TOOTHED WASHER	1	
57	M2455600004	DOOR BRACKET	1	
58	0111006015	HEX HEAD BOLT	3	REPLACES 0016906015

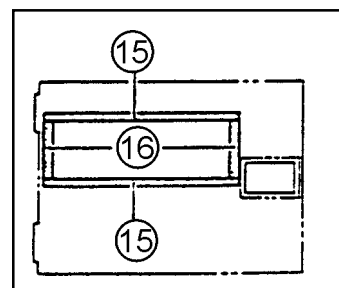
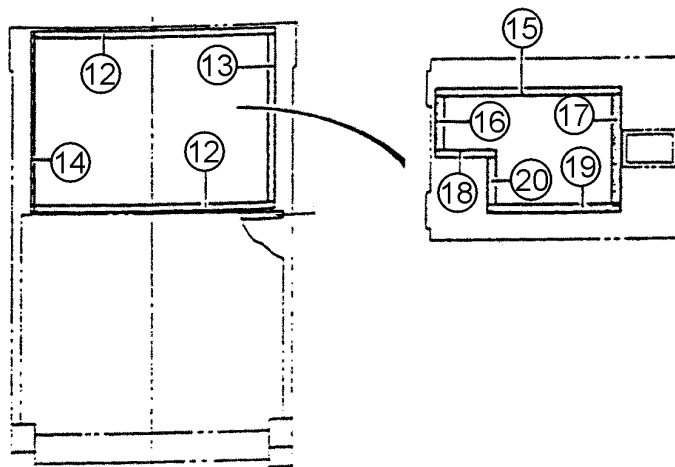
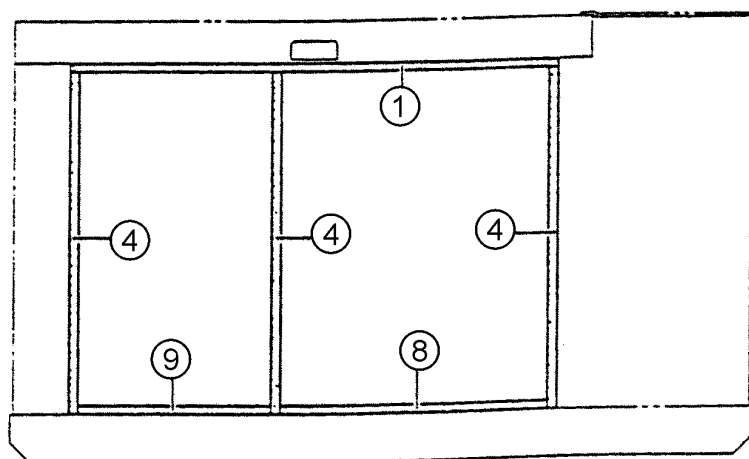
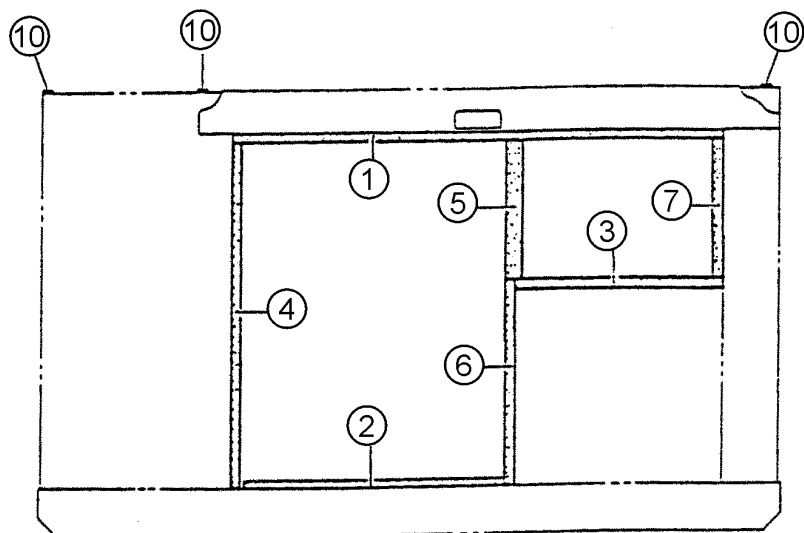
ADD THE FOLLOWING DIGITS AFTER THE PART NUMBER
WHEN ORDERING ANY PAINTED PANEL TO INDICATE
COLOR OF UNIT:

1-ORANGE	5 -BLACK
2-WHITE	6 -CATERPILLAR YELLOW
3 -SPECTRUM GRAY	7 -CATO GOLD
4 -SUNBELT GREEN	

THE SERIAL NUMBER MAY BE REQUIRED.

DCA-70SSJU -- RUBBER SEALS ASSY.

RUBBER SEALS ASSY.



S/N7300001 TO S/N7300260

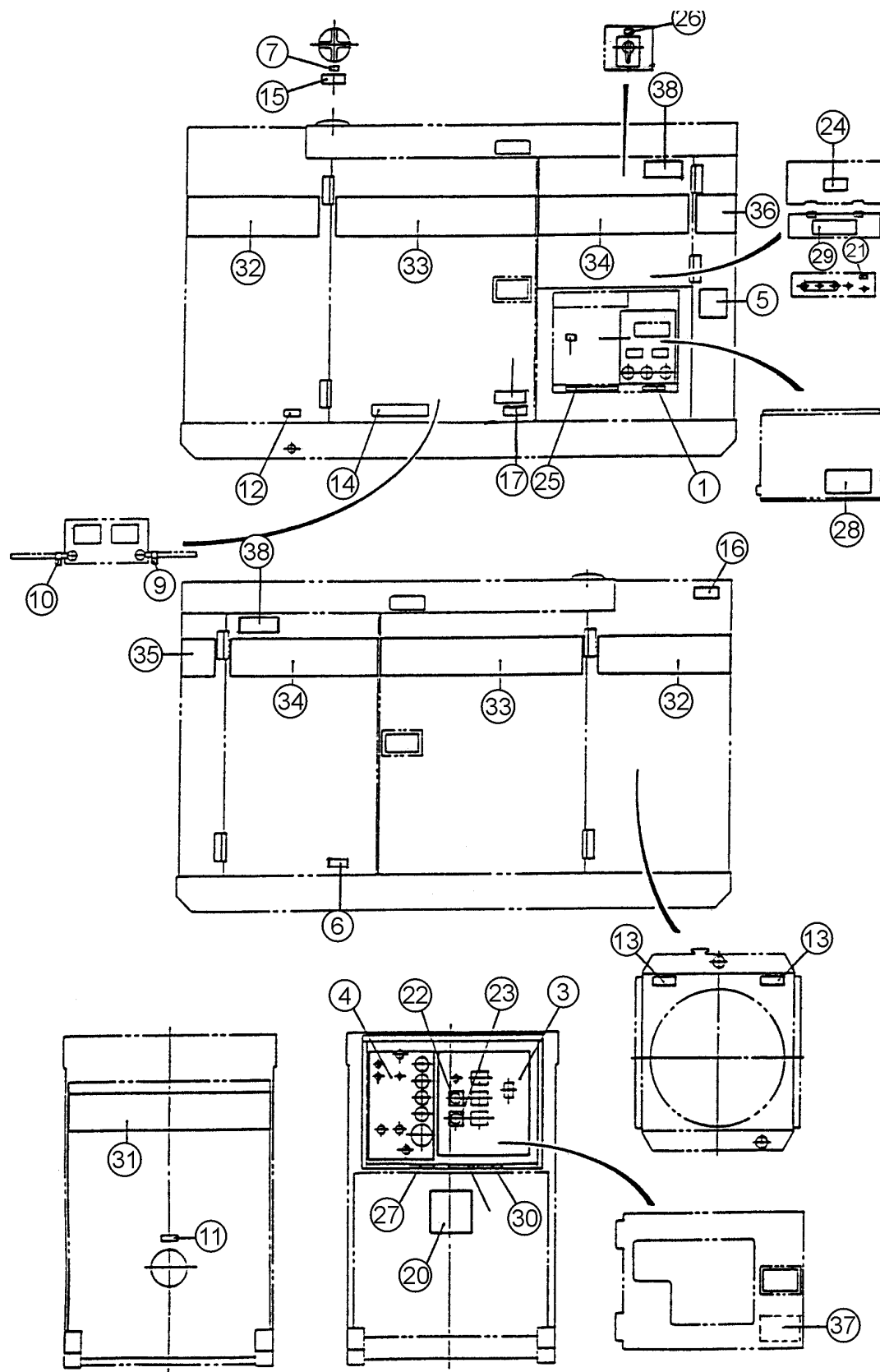
DCA-70SSJU -- RUBBER SEALS ASSY.

RUBBER SEALS ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	0228901580	RUBBER SEAL	2	
2	0229200825	RUBBER SEAL	1	
3	0228900670	RUBBER SEAL	1	
4	0228901090	RUBBER SEAL	4	
5	M2490300004	RUBBER SEAL	1	S/N7300001 TO S/N7302175
	M2492300004	RUBBER SEAL	1	S/N7302176~
6	0228800590	RUBBER SEAL	1	S/N7300001 TO 7302175
	0228800665	RUBBER SEAL	1	S/N7302176~
7	0228900500	RUBBER SEAL	1	S/N7300001 TO S/N7302175
	0228900425	RUBBER SEAL	1	S/N7302176~
8	0228900860	RUBBER SEAL	1	
9	0228900630	RUBBER SEAL	1	
10	0229200900	RUBBER SEAL	2	
11	0229200840	RUBBER SEAL	1	
12	0228800770	RUBBER SEAL	2	
13	0228800540	RUBBER SEAL	1	
14	0228800580	RUBBER SEAL	1	
15	0228100565	RUBBER SEAL	2	S/N7300001 TO S/N7300680
	0228100550	RUBBER SEAL	1	S/N7300681~
16	0228100170	RUBBER SEAL	2	S/N7300001 TO S/N7300680
	0228100170	RUBBER SEAL	1	S/N7300681~
17	NS2016	RUBBER SEAL	1	S/N7300681~; REPLACES 0228100350
18	0228100170	RUBBER SEAL	1	S/N7300681~
19	0228100360	RUBBER SEAL	1	S/N7300681~
20	0228100180	RUBBER SEAL	1	S/N7300681~

DCA-70SSJU -- DECALS ASSY.

DECAL ASSY.



DCA-70SSJU -- DECALS ASSY.

DECAL ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	M1550000204	DECAL; NOTE	1	M15000020
2	M1550000703	DECAL; AUXILLARY OUTPUT	1	M15000070
3	M2550000002	DECAL; GENERATOR CONTROL	1	M25000000
4	M2550000102	DECAL; ENGINE OPERATING	1	M25000010
	M2552000203	DECAL; ENGINE OPERATING	1	M25200020
5	M2550000304	DECAL; NOTE	1	M25000030
6	M9500000004	DECAL; OIL DRAIN PLUG	1	M90000000
7	M9500100004	DECAL; WATER	1	M90010000
8	M9500100104	DECAL; WATER DRAIN PLUG	1	M90010010
9	M9500300004	DECAL; -	1	M90030000
10	M9500300104	DECAL; +	1	M90030010
11	M9500500004	DECAL; DIESEL FUEL	1	M90050000
12	M9500500104	DECAL; FUEL DRAIN PLUG	1	M90050010
13	M9503000004	DECAL; WARNING	2	M90300000
14	M9503000103	DECAL; WATER OIL CHECK	1	M90300010
15	M9503100004	DECAL; WARNING	1	M90310000
16	M9503200004	DECAL; WARNING	1	M90320000
17	M9510100004	DECAL; CAUTION	1	M91010000
18	M9520100503	DECAL; WARNING	1	M91010010;
				REPLACES M9510100104
19	M9520100503	DECAL; WARNING	1	M91010020;
				REPLACES M9510100204
20	M9510200002	DECAL; MQ	1	M91020000
21	M9520000004	DECAL; GROUND	1	M92000000
22	M9520000104	DECAL; AMMETER CHNG.-OVR SW. ..	1	M92000010
23	M9520000204	DECAL; VOLTMETER CHNG.-OVR SW.	1	M92000020
24	M9520100004	DECAL; WARNING	2	M92010000
25	M9520100503	DECAL; WARNING	1	M92010010;
				REPLACES M9520100104
	M9520100503	DECAL; WARNING	1	M92010050
26	M9520100204	DECAL; CAUTION	1	M92010020A
27	M9520100304	DECAL; SAFETY INSTRUCTIONS	1	M92010030
28	M9520100404	DECAL; DANGER	1	M92010040
29	M9520200003	DECAL; CONNECT. OUTPUT CABLE ..	1	M92020000
30	M9520200104	DECAL; OVER CURRENT RELAY	1	M92020010
31	M2560100003	STRIPE; WHISPERWATT	1	
32	M2560100103	STRIPE; MQ POWER	2	
33	M2560100203	STRIPE	2	
34	M2560100403	STRIPE	2	
35	M2560100304	STRIPE; 70	1	
36	M2560100504	STRIPE; 70	1	
37	M3552000103	DECAL; OPERATING PROCEDURES ...	1	M35200010
38	C9522100003	DECAL; CAUTION	2	C92210000
39	C9505300004	DECAL; CAUTION	1	C90530000
40	9039209064	DECAL; START CONTACT	1	S-4468

Effective: July 1, 2000

TERMS AND CONDITIONS OF SALE — PARTS**PAYMENT TERMS**

Terms of payment for parts are net 10 days.

FREIGHT POLICY

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

MINIMUM ORDER

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

RETURNED GOODS POLICY

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

1. A Returned Material Authorization must be approved by Multiquip prior to shipment.
2. To obtain a Return Material Authorization, a list must be provided to Multiquip Parts Sales that defines item numbers, quantities, and descriptions of the items to be returned.
 - a. The parts numbers and descriptions must match the current parts price list.
 - b. The list must be typed or computer generated.
 - c. The list must state the reason(s) for the return.
 - d. The list must reference the sales order(s) or invoice(s) under which the items were originally purchased.
 - e. The list must include the name and phone number of the person requesting the RMA.

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

PRICING AND REBATES

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

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

SPECIAL EXPEDITING SERVICE

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

LIMITATIONS OF SELLER'S LIABILITY

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

LIMITATION OF WARRANTIES

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

[illegible]

PARTS AND OPERATION MANUAL

HERE'S HOW TO GET HELP

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

PARTS DEPARTMENT

*800/427-1244 or 310/537-3700
FAX: 800/672-7877 or 310/637-3284*

SERVICE DEPARTMENT

*800/835-2551 or 310/537-3700
FAX: 310/638-8046*

WARRANTY DEPARTMENT

*800/835-2551 or 310/537-3700
FAX: 310/638-8046*

MAIN

*800/421-1244 or 310/537-3700
FAX: 310/537-3927*

Manufactured for Multiquip Inc.
by
DENYO MANUFACTURING CO., USA



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FAX: 310-537-3927
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WWW: multiquip.com

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