

OPERATION AND PARTS MANUAL



Reversible Plate Compactor *Mikasa* Model MVH-702DRSC

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Revision #1 (12/17/03)



MULTIQUIP INC.

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PARTS DEPARTMENT:

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SERVICE DEPARTMENT/TECHNICAL ASSISTANCE:
800-478-1244
FAX: 310-631-5032



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

MULTIQUIP'S MAIN PHONE NUMBERS

800-421-1244 FAX: 310-537-3927
310-537-3700

PARTS DEPARTMENT

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

MAYCOPARTS

800-306-2926 FAX: 800-672-7877
310-537-3700 FAX: 310-637-3284

SERVICE DEPARTMENT

800-478-1244 FAX: 310-537-4259
310-537-3700

MQ POWER SERVICE DEPARTMENT

800-835-2551 FAX: 310-638-8046
310-537-3700

TECHNICAL ASSISTANCE

800-478-1244 FAX: 310-631-5032

WARRANTY DEPARTMENT

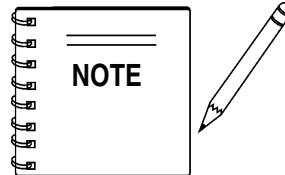
800-421-1244, EXT. 279 FAX: 310-537-1173
310-537-3700, EXT. 279

MQ MIKASA MVH-702DRSC- REVERSIBLE PLATE COMPACTOR

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Specification and part number are subject to change without notice.

PARTS ORDERING PROCEDURES

When ordering parts, please supply the following information:

- 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:
 - ✓ FedEx or UPS Ground
 - ✓ FedEx or UPS Second Day or Third Day
 - ✓ FedEx or UPS Next Day
 - ✓ Federal Express Priority One
 - ✓ DHL
 - ✓ Truck

Note: Unless otherwise indicated by customer, all orders are treated as "Standard Orders", and will ship within 24 hours. We will make every effort to ship "Air Shipments" the same day that the order is received, if prior to 2PM west coast time. "Stock Orders" must be so noted on fax or web forms.



Here's how to get help...

Please have the model and serial number on hand when calling.

Parts Department

800-427-1244 Fax: 800-672-7877
310-537-3700 Fax: 310-637-3284

Mayco Parts

800-306-2926 Fax: 800-672-7877
310-537-3700 Fax: 310-637-3284

Service Department

800-478-1244 Fax: 310-537-4259
310-537-3700

MQ Power Service Department

800-835-2551 Fax: 310-638-8046
310-537-3700

Technical Assistance

800-478-1244 Fax: 310-631-5032

Warranty Department

800-421-1244, Ext. 279 Fax: 310-537-1173
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Multiquip's Main Phone Numbers

800-421-1244 Fax: 310-537-3927
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FAX: 310-537-3927
E-MAIL: mq@multiquip.com
WWW: multiquip.com

Place Your Parts Order Via Web or Fax For Even More Savings!

Extra Discounts!

All parts orders which include complete part numbers and are received by our automated web parts order system, or by fax qualify for the following extra discounts:

Ordered via	Standard orders	Stock orders (\$750 list and above)
Fax	3%	10%
Web	5%	10%

Special freight allowances when you order 10 or more line items via Web or Fax! **

FedEx Ground Service **at no charge for freight**
No other allowances on freight shipped by any other carrier.

NOTE: DISCOUNTS ARE SUBJECT TO CHANGE

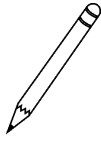
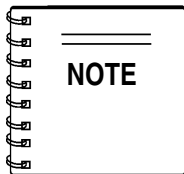
Direct TOLL-FREE access to our Parts Department:

Toll-free nationwide — 800-427-1244

MVH-702DRSC — SAFETY MESSAGE ALERT SYMBOLS

FOR YOUR SAFETY AND THE SAFETY OF OTHERS!

Safety precautions should be followed at all times when operating this equipment. Failure to read and understand the Safety Messages and Operating Instructions could result in injury to yourself and others.



This Owner's Manual has been developed to provide complete instructions for the safe and efficient operation of the Multiquip Model MVH-702DRSC Reversible Plate Compactor. Refer to the engine manufacturer's instructions

for data relative to its safe operation.

Before using this compactor, ensure that the operating individual has read and understands all instructions in this manual.

SAFETY MESSAGE ALERT SYMBOLS

The three (3) Safety Messages shown below will inform you about potential hazards that could injure you or others. The Safety Messages specifically address the level of exposure to the operator, and are preceded by one of three words: **DANGER**, **WARNING**, or **CAUTION**.



DANGER: You **WILL** be **KILLED** or **SERIOUSLY** injured if you do not follow directions.



WARNING: You **CAN** be **KILLED** or **SERIOUSLY** injured if you do not follow directions.



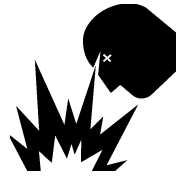
CAUTION: You **CAN** be injured if you do not follow directions.

Potential hazards associated with this compactor operation will be referenced with Hazard Symbols which appear throughout this manual, and will be referenced in conjunction with Safety Message Alert Symbols.

HAZARD SYMBOLS



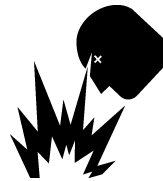
Lethal Exhaust Gases



Engine exhaust gases contain poisonous carbon monoxide. This gas is colorless and odorless, and can cause death if inhaled. **NEVER** operate this equipment in a confined area or enclosed structure that does not provide ample free flow air.



Explosive Fuel



GASOLINE is extremely flammable, and its vapors can cause an explosion if ignited. **DO NOT** start the engine near spilled fuel or combustible fluids. **DO NOT** fill the fuel tank while the engine is running or hot. **DO NOT** overfill tank, since spilled fuel could ignite if it comes into contact with hot engine parts or sparks from the ignition system. Store fuel in approved containers, in well-ventilated areas and away from sparks and flames. **NEVER** use fuel as a cleaning agent.



Burn Hazards



Engine components can generate extreme heat. To prevent burns, **DO NOT** touch these areas while the engine is running or immediately after operations. Never operate the engine with heat shields or heat guards removed.



Rotating Parts



NEVER operate equipment with covers, or guards removed. Keep fingers, hands, hair and clothing away from all moving parts to prevent injury.

MVH-702DRSC — SAFETY MESSAGE ALERT SYMBOLS



Accidental Starting



OFF

ALWAYS place the engine ON/OFF switch in the **OFF** position, when the compactor is not in use.



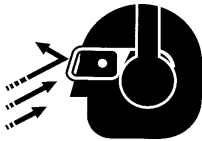
Respiratory Hazard



ALWAYS wear approved respiratory protection.



Sight and Hearing hazard

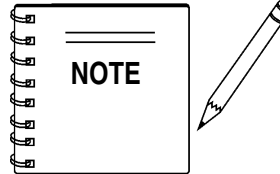


ALWAYS wear approved eye and hearing protection.



Equipment Damage Messages

Other important messages are provided throughout this manual to help prevent damage to your compactor, other property, or the surrounding environment.



This compactor, other property, or the surrounding environment could be damaged if you do not follow instructions.

MVH-702DRSC — 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 MIKASA MVH-702DRSC Reversible Plate Compactor:

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. **ALWAYS** wear slip resistant safety shoes or boots.



- **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.

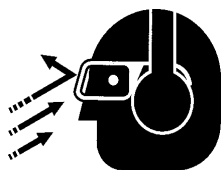


- **NEVER** use accessories or attachments, which are not recommended by Multiquip for this equipment. Damage to the equipment and/or injury to user may result.

- 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** wear proper respiratory (mask), hearing and eye protection equipment when operating the compactor.

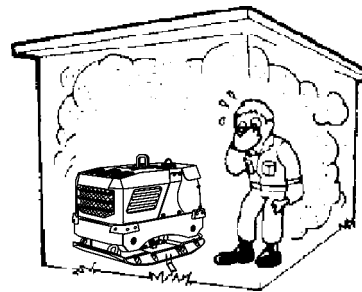


- **NEVER** touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing engine or



- **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 compactor requires an adequate free flow of cooling air. **NEVER** operate the compactor 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 compactor or engine and may cause injury to people and property. Remember the compactor's engine gives off **DEADLY** gases.

- **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 compactor 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.

- **ALWAYS** stored the compactor in a clean, dry location out of the reach of children.

- **NEVER** Run engine without air cleaner. Severe engine damage may occur.

- **NEVER** leave the compactor unattended, turn off engine.

- **CAUTION** must always be observed while servicing this compactor. Rotating parts can cause injury if contacted.

- **DO NOT** leave compactor with engine running. Use chock blocks if parking compactor on a grade.

MVH-702DRSC — RULES FOR SAFE OPERATION

- **ALWAYS** use extreme care when operating near obstructions, on slippery surfaces, grades and side slopes.
- When reversing, particularly on the edges and banks of ditches, as well as in front of obstacles, the operator must stay in a standing position at a safe distance from the machine.
- When operating near any house/building or pipelines, always check the effect of machine vibration. Stop the work if necessary.
- Unauthorized equipment modifications will void all warranties.
- Refer to the *Engine Owner's Manual* for engine technical questions or information.
- **DO NOT** operate the compactor with the front or rear cover open.
- Replace any worn or damaged compactor components immediately.
- **ALWAYS** turn the engine **OFF** before performing must be before performing maintenance.
- **ALWAYS** make sure compactor is correctly secured to the trailer. Check all supports attaching the compactor to the trailer and make sure they are tight.
- **ALWAYS** keep the machine away from workers and obstacles. Also keep the immediate area free of bystanders.
- **ALWAYS** check the machine for loosened threads or bolts before starting.
- **ALWAYS** read, understand, and follow procedures in Operator's Manual before attempting to operate equipment.
- **ALWAYS** be sure the operator is familiar with proper safety precautions and operations techniques before using compactor.
- A copy of this manual shall accompany the compactor at all times.
- **DO NOT** use worn out hoses or couplings; inspect daily.

■ **High Temperatures** – Always stop engine and allow the engine to cool before adding fuel, oil or performing service and maintenance functions. Contact with *hot* components can cause serious burns.

■ **NEVER** disconnect any "*emergency or safety devices*". These devices are intended for operator safety. Disconnection of these devices can cause severe injury, bodily harm or even death! Disconnection of any of these devices will void all warranties.

Emergencies

■ **ALWAYS** know the location of the nearest *fire extinguisher* and *first aid kit*. Know the location of the nearest telephone. Also know the phone numbers of the nearest *ambulance*, *doctor* and *fire department*. This information will be invaluable in case of an emergency.

Maintenance Safety

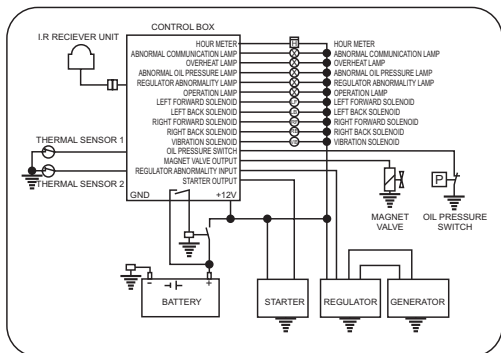
- **NEVER** lubricate components or attempt service on a running machine.
- **ALWAYS** allow the machine a proper amount of time to cool before servicing.
- Keep the machinery in proper running condition.
- Fix damage to the machine immediately and always replace broken parts.
- Dispose of hazardous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

Lifting

- The compactor has an operating weight of approximately 1600 lbs. (728 Kg). Use lifting equipment capable of lifting this weight.
- Make sure the engine is off before lifting the machine.
- Use reliable cable in lifting the machine.
- Lift upright with sufficient bearing capacity to prevent machine from tilting or slipping.
- When lifting, keep the machine away from workers and animals.

MVH-702DRSC — OPERATION AND SAFETY DECALS

Figure 1 displays the operation and safety decals as they appear on the compactor. Should any of these decals become damaged or unreadable, contact the Multiquip Parts Department for a replacement set.



P/N: 920109700

⚠ CAUTION

- 1) Transmitter must be fully charged before using.
- 2) Charge Transmitter for initial use and after prolonged storage.
- 3) Solar collectors only maintain battery charge.
- 4) See Operations Manual for charging details.

Set Main switch on Control box to "OFF" position to avoid battery drain

NPA-951

P/N:TBD

Shell Tellus Oil
45

NPA-748

P/N: 920108810

⚠ FOR EMERGENCY

Pull the knob until engine stops completely

NPA-921

P/N: 920109800

995.133.4

P/N: TBD

⚠ CAUTION
⚠ ATTENZIONE
⚠ ATENÇÃO
⚠ PRECAUCION

- * Read operator's manual carefully before use.
- * Lire le manuel attentivement avant utilisation.
- * Bitte lesen Sie vor Inbetriebnahme der Maschine die Bedienungsanleitung sorgfältig durch.
- * Prima dell'uso leggere attentamente il manuale.
- * Lee com atenção o manual de instruções antes de usar.
- * Leer detenidamente el manual de instrucciones antes de usar la maquina.

NPA-769

P/N: 920108350



P/N: 920100920

P/N: 920209020

⚠ DANGER FUEL <small>Operate only in well-ventilated area</small>	⚠ DANGER FUEL <small>Do not stand next to machine while lifting</small>	⚠ DANGER FUEL <small>Use caution while operating</small>
⚠ DANGER FUEL <small>Fire Risk</small>	⚠ WARNING DUST <small>Wear eye protection</small>	⚠ WARNING NOISE <small>Wear ear protection</small>
⚠ WARNING DUST <small>Operate only in well-ventilated area</small>	⚠ WARNING DUST <small>Do not stand next to machine while lifting</small>	⚠ WARNING NOISE <small>Use caution while operating</small>

NPA-922

P/N: 920109770



P/N: 920101580

MVH-702

P/N: 920109550

MVH-702

P/N: 920109840

MAIN SWITCH

NPA-930

P/N: 920109750

Figure 1a. Operation and Safety Decals

MVH-702DRSC — OPERATION AND SAFETY DECALS

Figure 1 displays the operation and safety decals as they appear on the compactor. Should any of these decals become damaged or unreadable, contact the Multiquip Parts Department for a replacement set.

CAUTION

1. Read owner's instruction manual before operating or servicing this machine.
2. The machine consists of the engine located in front, and the aluminum hydraulic oil tank in rear. The operator should stand 7 feet (2m) away from to operate the machine. When operating the plate while standing in front of the machine please note that the travel controls will function in the opposite direction.
3. The remote control operation is restricted to a narrower area the further you are from the machine. The transmitter should be pointed more directly toward the machine.
4. In case for emergency such as the failure of the transmitter, pull Emergency Stop Lever located on the machine immediately and wait until the engine stops completely.
5. The remote control operation is not available in the following cases and the vibration stops automatically in operation.
 - The case A: Operator stands within approx. 3 feet (1m) distance, to operate machine.
 - The case B: Operator stands approx. 60 feet (10m) or farther from the machine, to operate approx. 40 feet (12m) far in the direct rays of the sun). These distances may vary.
 - The Case C: Operator stops sending control signals for more than one second.
6. In the case that several machines are operating in the same area, each machine should be transmitting on a different infra-red channel.
7. A flashing light of the transmitter blinks during normal operation. A voltage drop of the transmitter battery will cause the flashing light to alternate between on and off.
8. Hang-up the transmitter away from the machine for safety sake.
9. In operation with remote cable, do not pull out the cable strongly or run over it with the machine.
10. Keep the transmitter away from the machine for safety sake.
11. To avoid excessive dust contamination of air cleaner, water may be used for dust control in high dust areas.
12. To finish operation, be sure to switch off the main switch on receiver and press the emergency stop button on transmitter.
13. When storing outside, keep the machine covered from the rain and always keep the transmitter indoors.

NPA-919

P/N: 920109780

OPERATIONAL CAUTION

1. Starting engine by electric starter
 - a. Ensure that the start switch is set at Cell-Start position and move main switch to "ON" position.
 - b. Do not run starter longer than 10 seconds to avoid overheating.
 - c. Warmup the engine without load for 3 to 5 minutes.
2. Manually starting engine
 - a. Ensure that the start switch is set at Crank-Start position, and move main switch to "ON" position.
 - b. Warm up the engine without load for 3 to 5 minutes.
3. To stop engine
 - a. Move stop switch to "OFF" position after running at idle for 3 to 5 minutes.
- B. If engine does not stop properly, push the throttle lever next to the oil filter until it comes to a completely stop, which takes approximately 15 seconds.
- c. After operation is completed, move both control switches of machine and controller to the "OFF" position

MONITOR LAMP LIST

No.	Contents	No.	Contents
1	LEFT FORWARD	7	STOP
2	LEFT BACK	8	RECEPTION
3	RIGHT FORWARD	9	CHARGE
4	RIGHT BACK	10	OIL PRESSURE
5	START	11	OVERHEAT
6	VIBRATION	12	SWITCH OFF

NPA-903

P/N: 920109710

CAUTION

NR. (RECEIVING FAILURE LIGHT)
The remote control operation is restricted to a narrower area the further you are from the machine. If the operative signals do not reach the plate properly, RECEIVING FAILURE LIGHT is immediately on and will stop the plate vibration automatically (the engine will continue running)

OP. (OIL PRESSURE (ENGINE) FAILURE LIGHT)
If the engine oil is low or the hydraulic oil pump is out of order, OIL PRESSURE FAILURE LIGHT is on and will stop the engine automatically

RE.(REGULATOR FAILURE LIGHT)
If the alternator and regulator in engine are out of order, REGULATOR FAILURE LIGHT is on, but the machine is operative. Be sure to check them after operation

OH.(E/G OVERHEAT LIGHT)
If the engine is continuously overloaded or if the air element is plugged due to excessive dust, the machine E/G OVERHEAT LIGHT will light to notify of an engine overheat. To correct, run the machine without vibration about 5 minutes or stop the engine for cleaning air element. If this is not done the machine will stop vibration automatically and continue to run without vibration for cooling the engine. The vibrator will not start again until the engine temperature reaches and acceptable level.

NPA-951

P/N:920109790

OPERATIONAL CAUTION

1. Operating multiple machines on a jobsite
Each machine has a remote control channel setting, both in the plate and in the transmitter. To assure proper operation the channel numbers must match between the machine and the transmitter. When using more than one machine at the same jobsite, each machine and accompanying transmitter must be set at a different channel number than the other machines but each machine should still match its transmitter.
2. Air filter service
a. If air cleaner element is clogged, the over-heat lamp will come on.
b. Clean up or replace the cleaner element immediately. Otherwise, machine vibration will stop automatically and will not start its vibration again until the engine has enough time to cool down.

SIGNAL CHANNEL → NPA-908

BATTERY CHARGE INLET ← NPA-907

P/N: 920109720

MVH-RC

NPA-908

P/N: 920209080

DIESEL FUEL ONLY

NPA-927

P/N: 920102710

HYDRAULIC OIL ONLY

NPA-628

P/N: 920109810

OPEN

← NPA-922

P/N: 920209310

MAIN SWITCH

NPA-904

P/N: 920109750

SIGNAL BATTERY CHARGE

VIBRATION SWITCH ON OFF

MAIN SWITCH EMERGENCY STOP

ENGINE SWITCH START STOP

Mikasa MVH-906

P/N: 920109730

SAFETY HELMET

NPA-333

P/N: 920203330

SAE 10W-40 Motor Oil

NPA-760

P/N: 920209230

OH RE OP NR

NPA-925

P/N: 920209250

Figure 1b. Operation and Safety Decals

MVH-702DRSC — DIMENSIONS AND SPECIFICATIONS

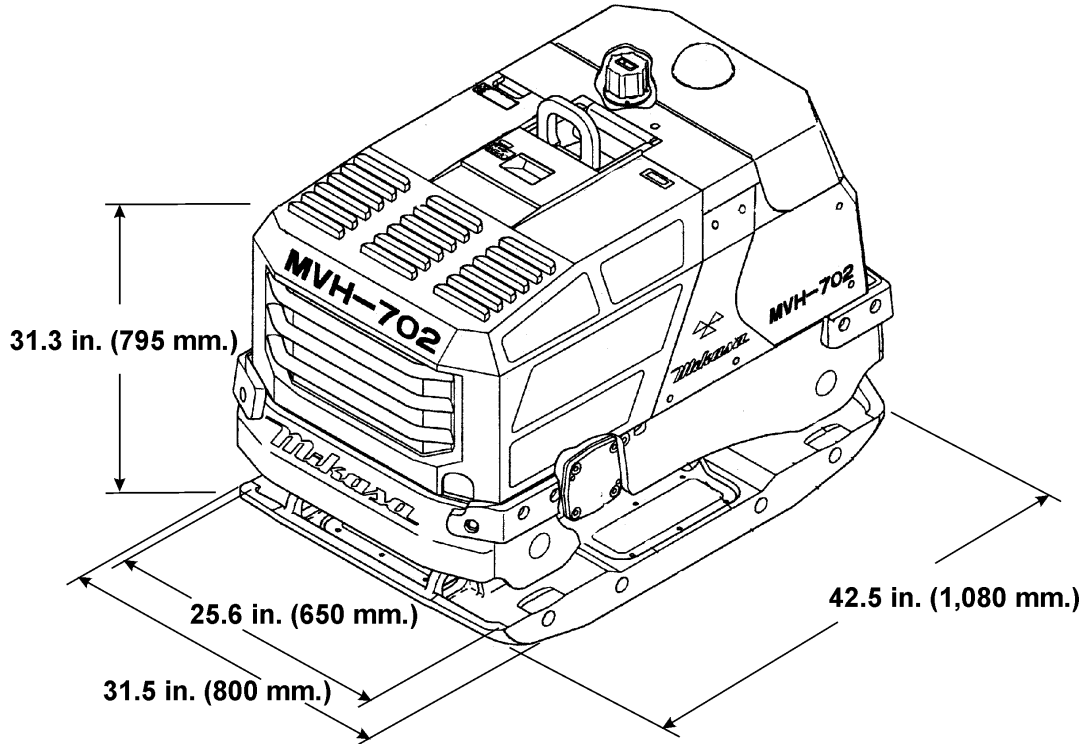


Figure 2. MVH-702DRSC Compactor Dimensions

Table 1. MVH-702DRSC Compactor Specifications			
		With Regular Plate	With 3-inch Extension Plate
Body Dimensions	Overall Length	42.5 in. (1,080 mm)	
	Overall Width	26.8 in. (680 mm)	31.5 in. (800 mm)
	Overall Height	31.3 in. (795 mm)	
Plate Size	Width	25.6 in. (650 mm)	31.5 in. (800 mm)
	Length	43.3 in. (1,100 mm)	
Operating Weight		1477 lbs. (670 kg.)	1543 lbs. (700 kg.)
Performance	VPM	3,120 rpm (52 Hz)	
	Centrifugal Force	18,000 lbs./blow(80 KN)	
	Travel Speed	0 - 92 ft/min (0 28 m/min)	
Engine	Model	FARYMANN 43F	
	Maximum Output	15.5 PS (11.4 KW)	
	Fuel	DIESEL 2 gallons (7.5 liters)	
	Start	Electric Start (crank handle for emergency)	

The Mikasa Model MVH-702DRSC is a Reversible Plate Compactor which operates by infra-red remote control with forward-reverse motion, steering, and stepless speed control by single-lever joystick.

Features include:

- Machine operation is automatically stopped (vibration remains on) by releasing the single-lever joystick.
- Monitoring lamps for self-diagnosis are installed at the side of the machine control unit.
- Monitoring lights located on top of the machine indicate any problem or failure.
- An hour meter is installed as standard.
- The machine control unit wire harness is coated to make it splash-proof.
- The machine has an aluminum oil tank which minimizes rising of working oil temperature, loss of vibration power and periodic inferiority of working oil.
- Multiple machines can operate in the same area with each machine transmitting at a different infra-red channel (channels 0 to 9).
- A safety crank is installed for use in case of battery failure or problem.
- Front cover provides easier access for pre-operational check and refueling.
- The self-cleaning structure of the vibrating plate removes mud and sand easily from the plate.

MVH-702DRSC — COMPACTOR COMPONENTS

Figure 3. MVH-702DRSC Compactor Components

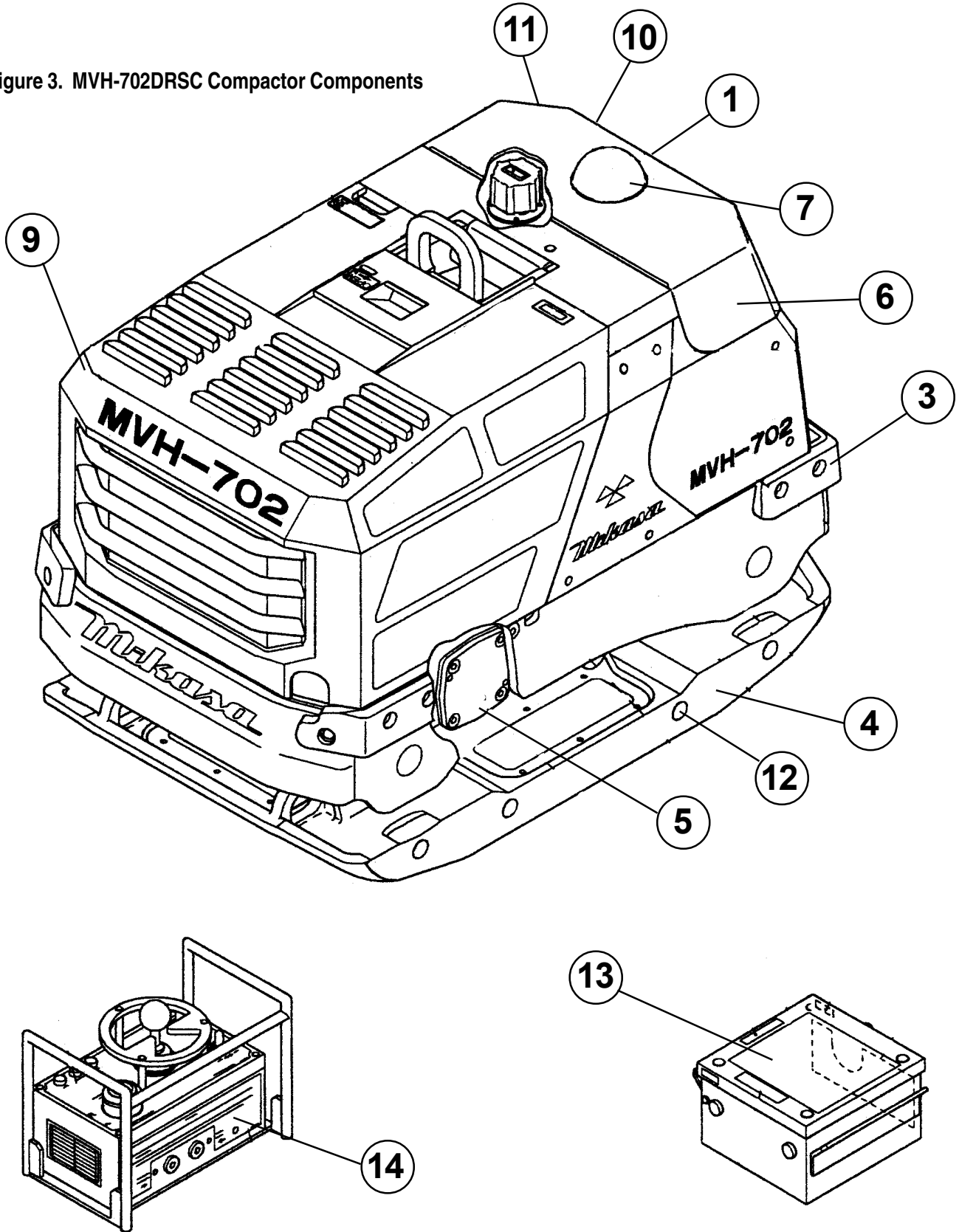


Figure 3 illustrates the location of the major components for the MVH-702DRSC Reversible Plate Compactor. The function of each component is described below:

1. **Monitoring Lights** – Indicates if there is any failure in the machine. There are four monitoring lights:
 - Receiving Failure Light
 - Oil Pressure (Engine) Failure Light
 - Regulator Failure Light
 - E/G Overheat Light
2. **Lifting Hook Lever** – Used to lift the machine.
3. **Rubber Bumper** – Protects the machine in case of bumps.
4. **Extension Plate** – Removable when not needed.
5. **Hydraulic Motor** – Drives all the operation of the machine such as speed control, forward-reverse switching motion, and steering as well as the vibrator unit on the base.
6. **Rear Cover** - When lifted, allows access to the monitoring lamps, valve unit, block diagram and owner's manual.
7. **Receiver and Receiving Lamp** –Receives infra-red signals from the transmitter indicated by the flashing light on the receiving lamp.
8. **Fuel Tank/Cap** – Fill with diesel fuel. Fuel tank holds approximately 2 gallons (7.5 liters). **DO NOT** top off fuel. Wipe up any spilled fuel immediately.
9. **Front Cover** - Allows easy pre-operational check and refueling.
10. **Valve Unit** – Electromagnetic and hydraulic valve: controls traveling speed and direction.
11. **Oil Tank** – Fill with proper grade of diesel engine oil.
12. **Vibrator Oil Drain** - Allows easy draining of vibrator oil.
13. **Receiver** - Located inside the compactor. Receives signals from portable transmitter during remote operations.
14. **Transmitter** - Transmits operational signals to compactor via the onboard receiver during remote operations.

MVH-702DRSC — REMOTE CONTROL COMPONENTS

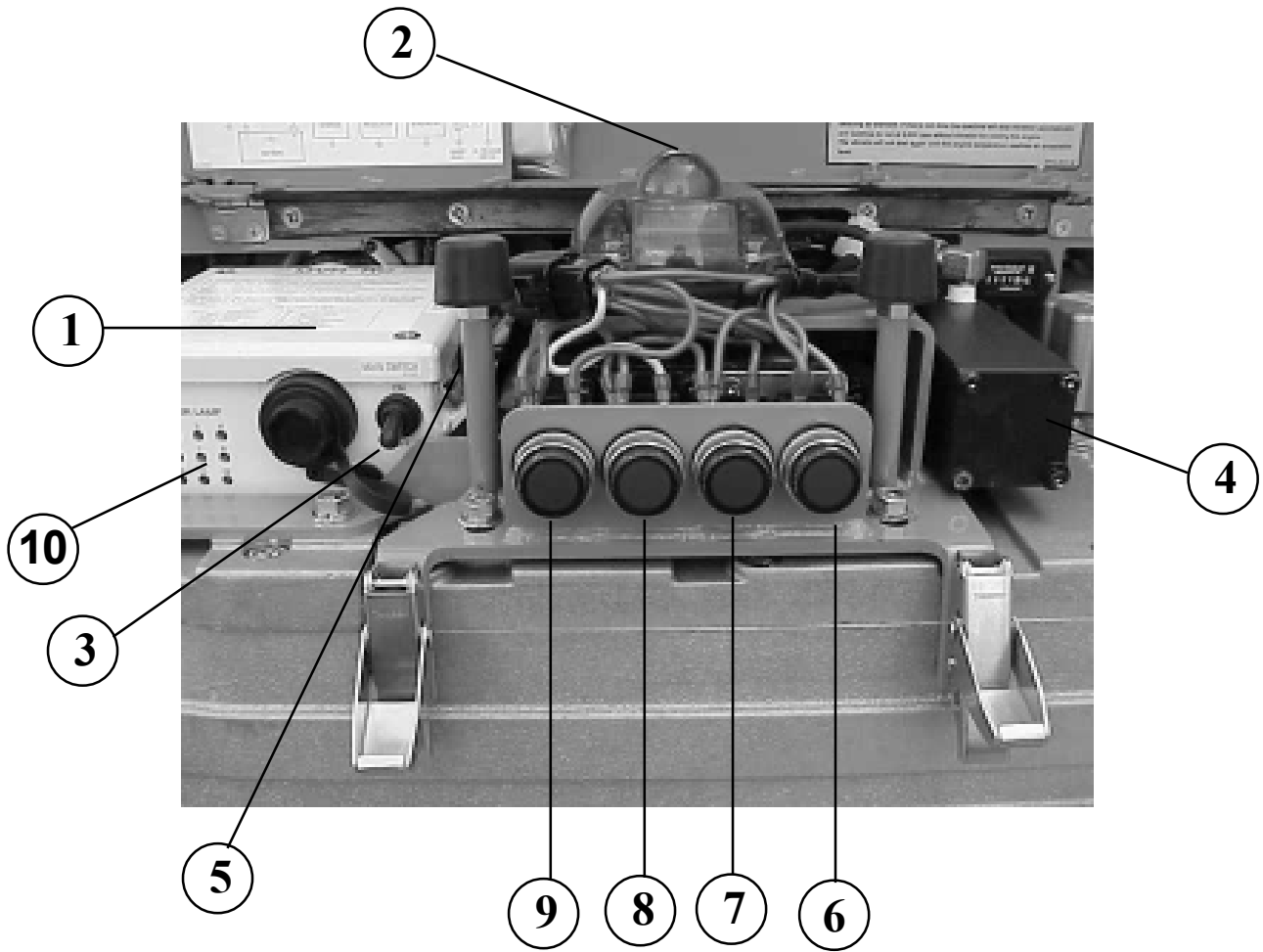


Figure 4. MVH-702DRSC Remote Control Components

MVH-702DRSC — REMOTE CONTROL COMPONENTS

CONTROL UNIT (BODY)

Figure 4 illustrates the location of the major components for the Remote Control on the body of the machine. The function of each component is described below:

1. **Control Unit** – Controls engine start/stop and hydraulic valve unit according to the operation signals from the transmitter. In addition, it also controls the following monitoring lights:
 - Receiving Failure Light
 - Oil Pressure (Engine) Failure Light
 - Regulator Failure Light
 - E/G Overheat Light
2. **Receiver and Receiving Lamp** – Receives infra-red signals from the transmitter indicated by the flashing light on the receiving lamp.
3. **Main Switch (Battery Master Switch)** – Battery power switch for control unit on body of machine.
4. **Valve Unit** – Electromagnetic and hydraulic valve; controls traveling speed and direction.
5. **Cell/Crank Start Switch** – Selects electric (cell) start for normal operation or manual (crank) start for emergencies.
6. **Receiving Failure Light** - Lights to indicate that the signal from the transmitter is not received. The remote control operation is restricted to a narrower area, the farther you are from the machine. When this light is on, plate vibration will automatically stop but the engine will continue running.
7. **Oil Pressure (Engine) Failure Light** – Lights to indicate that the engine oil is low or the hydraulic oil pump is not functioning properly. When this light is on, the engine will automatically stop.
8. **Regulator Failure Light** – Lights to indicate that the alternator and regulator are not functioning properly. When this light is on, the machine is still operating. Check alternator and regulator after operation.
9. **E/G Overheat Light** - Lights to indicate engine overheat. If the engine is continuously overloaded or if the air element is clogged due to excessive dust, the engine will overheat. To correct this, run the machine without vibration for about 5 minutes or stop the engine to clean air element. If this is not done, the machine will automatically stop vibration to cool the engine, and will not start again until the engine temperature reaches acceptable level.

10. **Monitoring Lamp** – Depending on which numbered lamps light up, indicates the status of the machine (Figure 5).

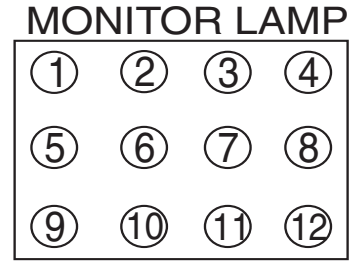


Figure 5. Monitor Lamp

- 1 is lighted: Main Switch is on.
- 9, 10, and 12 are lighted: Engine start by cell motor.
- 9 and 10 are lighted: Engine start by crank handle.
- 5 and 8 are lighted: Transmitter start switch is turned on. Shortly after the transmitter start switch is turned on, all lamps turn off.
- 6 and 8 are lighted: Transmitter vibration start switch is on.
- 7, 8, and 12 are lighted: Transmitter start switch is turned off.

See Figure 6 for correlation of monitor lamp and joystick lever.

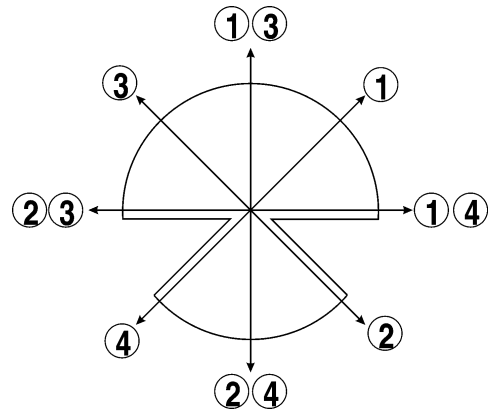


Figure 6. Correlation of Monitor Lamp and Joystick Lever

MVH-702DRSC — REMOTE CONTROL COMPONENTS

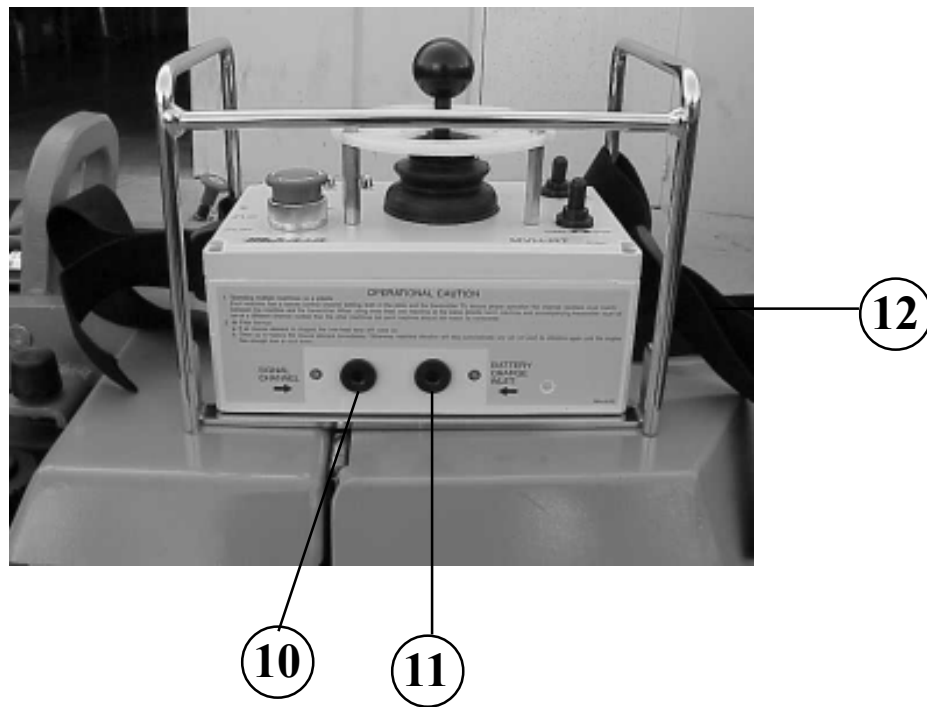
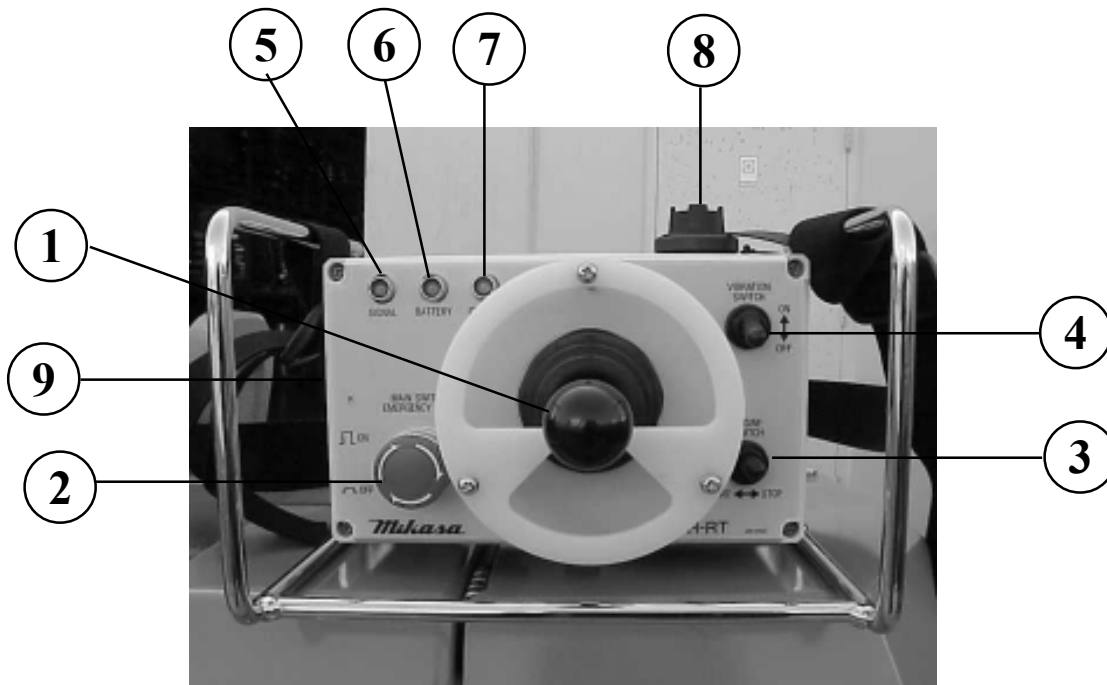


Figure 7. MVH-702DRSC Transmitter Components

TRANSMITTER

Figure 7 illustrates the location of the major components of the transmitter. The function of each component is described below:

1. **Joystick Lever** – Controls the traveling speed and direction of the machine.
2. **Main Switch/ Emergency Stop** – Immediately stops the machine in an emergency.
3. **Engine Switch** – Starts and stops the engine.
4. **Vibration Switch** – Turns vibration on and off.
5. **Signal Lamp** – Infra-red monitoring lamp.
6. **Battery Lamp** - Lights to indicate that battery power is low.
7. **Charge Lamp** – Lights to indicate that the battery is charging.
8. **Cable Connection** – Connector for remote control cable.
- 9.. **Solar Cells** - Used to charge unit by utilizing the sun's solar energy.
10. **Signal Channel Control** - Sets the operating channel of the machine.
11. **Battery Charging Connector** - Connects battery charger to transmitter.
12. **Carrying Belt** - Used by operator to carry remote control transmitter.

BEFORE START-UP

1. Read this manual carefully and understand all functions of the machine before start-up.
2. The engine is located on front side of the machine and the aluminum oil tank is on the rear.
3. The operator should always keep a distance of 2 meters away from the machine.
4. The operator should always make sure that the machine will move in the opposite direction (away from him) when the machine is started.
5. In infra-red remote control operation, the farther the machine moves, the narrower the control area.
6. If the transmitter fails and during emergencies, pull the emergency stop lever (Figure 8) continuously until the machine completely stops.



Emergency Stop Lever

Figure 8. Location of Emergency Stop Lever

Remote Control operation is not available in the following cases. Vibration stops automatically.

- Operator stands within approximately 3 feet (1 m) of the machine.
- Operator stands approximately 60 feet (18 m) or farther from the machine (approximately 40 feet (12 m) when far from the direct rays of the sun). Note that these distances may vary.
- Operator stops sending control signals for more than one second.
- The engine is overloaded. In the engine temperature increases, the vibration will automatically stop.

The engine stops automatically in the following cases.

- Engine oil level is low.
- Control unit fails to receive the operational signal for more than 30 seconds.

During engine or hydraulic oil warm-up, direct the transmitter to the body receiver to receive the operational signal. Operation starts only after the main switch of the transmitter is switched on.

SETTING THE OPERATIONAL CHANNEL

In cases where several machines operate in the same area, each machine should be transmitting in a different infra-red channel. Ten different channels can be set (0 to 9). See Table 2. To set the operational channel of a machine, do the following.

1. On the body of the machine, remove the receiver channel plug. See Figure 9. Using a screwdriver, set the channel number desired.
2. On the transmitter, remove the channel plug. See Figure 9. Using a screwdriver, set the channel number to the same one as the receiver (set in step 1).



Remove plug and adjust

MACHINE



Remove plug and adjust

TRANSMITTER

Figure 9. Setting Channels

TRANSMITTER	RECEIVER
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

CHARGING THE BATTERY

The battery can be charged in three different ways:

- Using the remote cable
- Using the AC plug-in battery charger
- Solar Energy

Battery Charging Using Remote Cable

1. Make sure that the engine is stopped before charging.
2. If the temperature of the hydraulic tank or its surroundings is high, wait for it to cool down before charging.
3. Open the rear cover of the machine.
4. Unpack the remote cable which can be found in a bag on the side of the machine (Figure 10).

Location of Remote Control Cable



Figure 10. Location of Remote Control Cable

5. Remove the cover of the remote control receptacle on the machine (Figure 11).

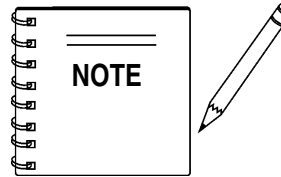
Remove cover and connect one end of remote cable (Machine)



Remove cover and connect other end of remote cable (Transmitter)

Figure 11. Remote Control Cable Connections

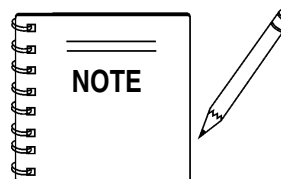
6. Connect one end of remote cable to the receptacle.
7. Make sure that the transmitter main switch is off.
8. Remove the cover of the remote control receptacle in the transmitter (Figure 11).
9. Connect the other end of the remote cable to the receptacle.
10. Turn the machine main switch on.
11. The charge lamp flashes while the battery is being charged.
12. The charge lamp will automatically go off after the battery is fully charged.



If the charge lamp does not light when the remote cable is connected, the battery does not require charging.

Battery Charging Using AC Plug-In Charger

1. Switch off the transmitter main switch to stop battery consumption. The battery can be charged though, even with the main switch on.
2. Remove the cover of the battery charger receptacle on the transmitter. See Figure 7, item 11 for location.
3. Connect the AC plug-in charger to the receptacle.
4. The charge lamp lights while the battery is being charged.
5. The charge lamp will automatically go off after the battery is fully charged.



If the charge lamp does not light when the charger is connected, the battery does not require charging.

Battery Charging Using Solar Energy

1. Solar Cell Charging can be done whether the transmitter main switch is on or off.
2. Expose the solar cells of the transmitter to sunlight frequently for non-operational daily charging.

Battery Charging Time

- Using remote cable - approximately 2 - 3 hours
- Using battery charger - approximately 2 hours
- Using Solar Energy - supplemental, available anytime

BEFORE OPERATION

1. Familiarize yourself with the operating and control elements of the machine and the working environment. This includes obstacles in the working area, bearing capacity of the ground and the necessary safety provisions.
2. Understand the geographical features and regulations of the job site.
3. Inspect caution decals and replace missing/worn-out ones.
4. Check nuts and bolts and tighten if necessary. Loose threads may cause damage to the machine when vibrating.
5. Make sure lifting hook, shock mounts and control parts are all working properly. Do not start the machine if any failure is noted.
6. Wipe off any dust from the receiving lamp of the machine.

Checking Engine Oil Level

CAUTION :



DO NOT overfill oil tank. This could cause oil leaks and sluggish operation. Clean cap and surrounding area before opening to prevent dirt from entering tank.

1. Make sure that the machine is situated in a flat surface so that level measurements will be accurate.
2. Open the front cover of the machine by moving the lever to the "OPEN" position then slowly lifting the hook on the cover (Figure 12).

Pull slowly to open

Move to the OPEN position

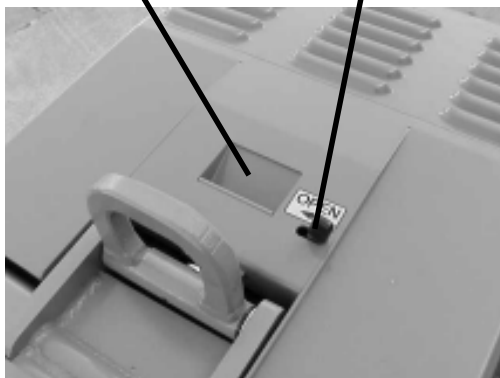


Figure 12. Opening the Front Cover

3. Pull out the dipstick from the oil tank (Figure 13). Check the oil level and refill if necessary. For selection of proper grade of diesel engine oil, refer to Table 3 in Troubleshooting section.

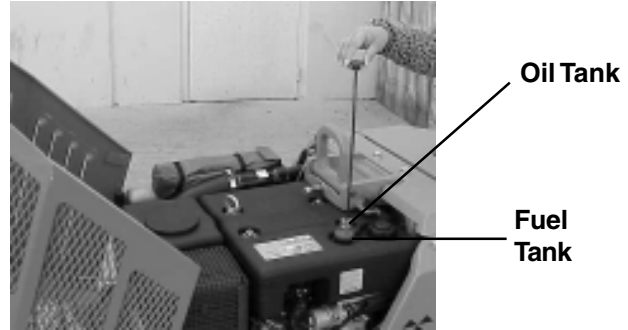
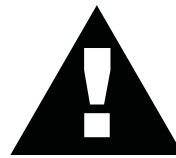


Figure 13. Oil and Fuel Tanks

CAUTION :

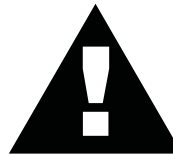


Lower grade or lower volume of engine oil can cause engine burns. The built in sensor continues to run for about 3 minutes after sensing lack of oil. Make sure that oil level is sufficient before starting operation

Checking Engine Oil Level

1. Unscrew the fuel tank cap. See Figure 13 for location.
2. Visually inspect the fuel level and refill if necessary.

DANGER :



Do not refill with fuel in poorly ventilated environment. When refueling, make sure the engine is shut down and that there is no possibility of starting a fire.

CAUTION :



Wipe off fuel spills immediately when overfilled.

Checking The Hydraulic System

1. Check the oil tank level gauge (Figure 14). Oil level should be at the upper indication of the gauge.
2. Check the surroundings of the oil tank, hydraulic pump and motor for oil leakage.
3. After inspection, close the front cover slowly.

DANGER :



Always keep hands and fingers away from pinch points. Do not allow anyone to reach in on dangerous sections of the machine to avoid any accidents.

**Oil
Level
Gauge**

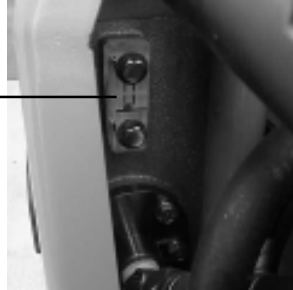


Figure 14. Checking Oil Level Gauge

Refer to Figures 4 and 7 for the location of controls and components.

STARTING THE ENGINE

1. Move the cell/crank start switch of the machine to the cell start position.
2. Move the main switch of the machine to the ON position.
2. Start the cell motor by moving the transmitter engine starter switch to the on position. Do not run starter longer than 10 seconds to avoid overheating.
3. Warm up engine without load for 3 to 5 minutes.

OPERATING THE MACHINE

1. Read all safety information in this manual and understand the operation of this machine thoroughly before starting operation.
2. The infra-red remote control system controls the stepless adjustable speed, forward-reverse, and steering of the machine by a single joystick lever in the transmitter.
3. Press the joystick lever slightly to the direction you want the machine to travel.
4. The speed is also controlled by the joystick lever and is determined by the pressed angle.
5. Switch on the vibration switch of the transmitter to activate transmission.

RESTARTING THE ENGINE

1. If starting fails or engine stops suddenly, allow an interval of a few seconds to make sure that the crankshaft of the engine is completely stopped.
2. Move the transmitter engine starter switch to the on position to restart.

RESTARTING WITH REMOTE CABLE

1. If machine still fails to restart, check for the following:
 - The operator approached the machine too closely.
 - The transmitter is too far from the control area.
 - Low Battery Power.

2. To check if restart failure is due to the reasons listed in step 3, move the transmitter engine starter switch to the on position. Check if the signal lamp. If it does not flash then reasons listed are confirmed.
5. The remote control cable may be used to restart the engine in this case. See Battery Charging Section on how to install the remote control cable.
6. Move the machine main switch to the ON position.
7. Move the transmitter engine starter switch to the on position.
8. Move the transmitter engine starter switch to the on position to restart.

CRANK STARTING THE ENGINE

When the voltage of the main battery drops and the cell motor is not running, the engine may be manually started with the crank handle.

1. Move the cell/crank start switch of the machine to the crankstart position. See Figure 4, item 5 for location.
2. Move the machine main switch to the ON position.
3. Take out the crank handle from the handle holder.
4. Engage the crank handle with crankshaft and turn the handle clockwise to start (Figure 15).
5. Once the engine starts, follow normal operating procedure.

STOPPING THE ENGINE

1. Run the machine at idle for 3 to 5 minutes before stopping engine.
2. Move the transmitter engine starter switch to the off position.
3. If the engine does not properly stop, push the throttle lever, located next to the oil filter, until it comes to a complete stop (approximately 15 seconds).
4. After operation is completed, move the main switch of the machine to the off position.



Figure 15. Crank Handle

MVH-702DRSC — LOADING AND UNLOADING GUIDELINES

LIFTING

1. Use a crane or lift to load and unload the machine. A skilled crane operator is required to perform the job.
2. When lifting the machine, check for any damaged or loose bolts, lifting hooks, and shock mounts.
3. Check any damaged or loose bolts in the guard frame to avoid machine sliding off.
4. Make sure that the machine is shut off before machine is lifted.
5. Use reliable cable for lifting.
6. Always lift the machine vertically and keep the machine away from workers and animals.
7. Do not lift the machine higher than the required height.

TRANSPORTING

1. Always make sure that the machine is shut off while being transported.
2. Check that the fuel cap is properly closed and tightened.
3. When traveling long distances or on rugged terrain, drain the fuel of the machine before transporting.
4. Tie down the machine securely on the transportation so that it will not move or topple over.

MACHINE MAINTENANCE

1. At the end of each day's operation, wipe off any dust from the transmitter and the receiver on the body of the machine.
2. At the end of each day's operation, charge the transmitter battery if necessary.

Refer to Table 4 in the Troubleshooting section for periodic inspection and maintenance necessary for the machine.

MACHINE BATTERY MAINTENANCE

1. If a battery has not been used for some time, reduce the charge level initially to protect each plate inside the battery.
2. Check the battery terminals periodically to ensure that they are in good condition.
3. Use wire brush or sand paper to clean the battery terminals.
4. If the machine will not be in operation for a long period of time, charge the battery sufficiently, tighten all caps, correctly, store in cool dry place and check the battery charge level every month to maintain the performance of the battery.

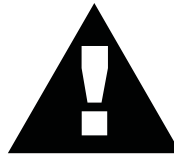
BATTERY CABLE CONNECTION

1. When removing cable, disconnect the ground side (normally negative) first (Figure 16).
2. When installing cable connect the ground side (normally negative) last .

MACHINE BATTERY MAINTENANCE

1. If a battery has not been used for some time, reduce the charge level initially to protect each plate inside the battery.
2. Check the battery terminals periodically to ensure that they are in good condition.
3. Use wire brush or sand paper to clean the battery terminals.
4. If the machine will not be in operation for a long period of time, charge the battery sufficiently, tighten all caps, correctly, store in cool dry place and check the battery charge level every month to maintain the performance of the battery.

DANGER :



Lead-acid battery contains sulfuric acid, which may damage eyes or skin on contact.

Always wear a face shield to avoid acid getting into the eyes. If acid gets in contact with eyes, flush immediately with clean water and get medical advice.

Wear rubber gloves and protective clothes to keep acid off skin. If acid gets in contact with skin, wash off immediately with clean water.

Use a flashlight to check battery electrolyte level. Always check the engine is stopped.

Do not charge battery or jump-start engine when the battery is frozen. Warm the battery to 15 degrees F or battery may explode.

Replace the battery with the same or similar capacity battery or battery may explode.

Do not close the exhaust outlet of battery. The gas pressure building up in the battery may cause explosion.

Before using a battery charger, read and understand the charger instruction manual thoroughly.

Charge the battery in a non-spark, well-ventilated area. Avoid fire from cigarette sparks or matches.

CAUTION :



Wear safety glasses or face mask , protective clothes, and rubber gloves when working with battery.

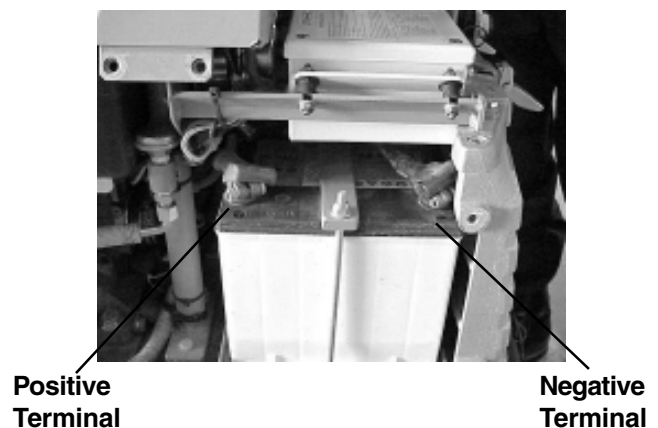


Figure 16. Battery Location

MVH-702DRSC — TROUBLESHOOTING

Table 3. MVH-702DRSC Oil Application Chart

ITEM	LOCATION	SERVICE CLASSIFICATION	AMBIENT TEMPERATURE (°F/°C)															
			-22	-13	-4	5	14	32	41	50	68	77	86					
			-30	-25	-20	-15	-10	0	5	10	20	25	30					
Engine Oil	Engine Oil Pan	API-CD Grade	SAE 5W-20/5W-30															
							SAE 10W-30											
											SAE 20W-40							
											SAE 15W-40							
											SAE 10W-40							
Motor Oil	Vibrator	API-CD Grade	SAE 5W-30															
							SAE 10W-30											
Hydraulic Oil	Hydraulic Tank	Hydraulic Oil	ISO VG32															
							ISO VG45											
											ISO VG68							

Table 4. MVH-702DRSC Main Body Inspection and Maintenance

LOCATION/WORK	EVERYDAY	HOUR METER READING				
		50	100	250	500	1000
Check Fuel Level	○					
Check Hydraulic Oil Level	○					
Air Cleaner Inspection	○					
Visual External Check Loose Bolt or Nut Oil, Fuel Leakage Hydraulic Pie and Hose Damage	○					
Battery Check			○	○	○	
Oil Filter Replacement		○			○	○
Hydraulic Oil Replacement and Internal Cleaning		○				
Vibrator Oil Replacement		○			○	○

MVH-702DRSC — TROUBLESHOOTING

Table 5. MVH-702DRSC Engine Inspection and Maintenance

LOCATION/WORK	HOUR METER READING								Yearly
	50	100	150	250	300	350	400	450	
Engine Oil Replacement	○				○				
Oil Cleaner Cartridge Replacement	○				○				
Fuel Filter Cartridge Replacement					○				
Sediment Removal in Fuel Tank			○		○				
Fuel Line Belt Check			○		○				
Fuel Line and Clamp Replacement	○	○	○	○	○	○	○	○	○
Wiring Check for Damaged and Loose Connections									○

Table 6. MVH-702DRSC Bolt Torque

The setting bolt M18 used for vibrator unit or shock mounts should be 3,200 kgf-cm.
 The setting bolt M24 for side extension plate should be 4,200 kgf-cm.
 the setting bolt M10 for hydraulic pum should be 600 kgf-cm.

	6 mm	8 mm	10 mm	12 mm	14 mm	16 mm
4T (SS41)	70	150	300	500	750	1100
6-8T (S45C)	100	250	500	800	1300	2000
11T (SCM435)	150	400	800	1200	2000	2900
FOR ALUMINUM MATERIAL	100	300-350	650-700			

MVH-702DRSC — TROUBLESHOOTING

TABLE 7. ENGINE TROUBLESHOOTING

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
The main switch of machine body is switched on, but no electricity is available (monitoring lamps 9, 10, and 12 are not lighted on the control unit)	Defective battery?	Charge or replace battery.
	Main switch not working?	Repair or replace main switch.
	Cell/crank start switch not working?	Repair or replace cell/crank switch.
	Control unit circuit board broken?	Repair or replace control unit circuit board.
The main switch of the transmitter is switched on, but the engine does not start (signal lamp of transmitter does not light.)	Low charge of transmitter battery?	Charge battery.
	Faulty main transmitter switch?	Repair or replace transmitter main switch.
	Transmitter circuit board broken?	Repair or replace transmitter circuit board.
	Transmitter infra-red lamp covered with dust?	Wipe lamp with clean cloth. If very dirty, use mild soap or cleaner to remove dirt.
The main switch of the transmitter is switched on, but the engine does not start (signal lamp of transmitter lights but monitoring lamp no. 8 on control unit does not light.)	Remote control cable not properly connected?	Make sure remote control cable is properly connected. Check and correct any possible short circuits.
The main switch of the transmitter is switched on, but the engine does not start (signal lamp of transmitter does not light and monitoring lamp no. 8 on control unit does not light.)	Cell motor/relay of engine burned?	Reposition throttle lever to RUN position.
	Control unit circuit board burned?	Replace fuel filter.
	Main battery power too low?	Charge or replace battery
The main switch of the transmitter is switched on, the engine starts but then stops (signal lamp of transmitter does not light and monitoring lamp no. 8 on control unit does not light.)	Failed engine fuel solenoid?	Repair or replace fuel solenoid.
	Disconnected or short-circuited wire harness?	Make sure wire harness is connected properly and correct any short circuits.
	Need restart?	Refer to Restarting Engine section of this manual.
Engine starts but no vibration starts (vibration switch is on, but monitoring lamp no. 6 of control unit does not light.)	Vibration switch on transmitter does not work?	Repair or replace switch.
	Failure of transmitter circuit board?	Repair or replace circuit board.
Engine starts but no vibration starts (vibration switch is on and monitoring lamp no. 6 of control unit lights.)	Failure of control unit circuit board?	Repair or replace circuit board.
	Disconnected or short-circuited wire harness?	Make sure wire harness is connected properly and correct any short circuits.
	Failure of vibration solenoid of valve unit?	Repair or replace solenoid.
Machine vibrates but does not travel (monitoring lamp and joystick lever of transmitter are not working.)	Broken joystick lever?	Repair or replace joystick lever.
	Failure of transmitter circuit board?	Repair or replace circuit board.
	Disconnected or short-circuited wire harness?	Make sure wire harness is connected properly and correct any short circuits.
	Failure of control unit circuit board?	Repair or replace circuit board.
Machine vibrates but does not travel (monitoring lamp and joystick lever of transmitter are working.)	Failure of vibration solenoid of valve unit?	Repair or replace solenoid.
	Disconnected or short-circuited wire harness?	Make sure wire harness is connected properly and correct any short circuits.
	Failure of vibrator unit?	Repair or replace vibrator unit.

TABLE 7. ENGINE TROUBLESHOOTING (continued)

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Receiving failure light does not work but machine operates properly,	Receiving failure light broken?	Repair or replace receiving failure light.
	Disconnected or short-circuited wire harness?	Make sure wire harness is connected properly and correct any short circuits.
Oil pressure light is on but the engine does not stop.	Broken oil pressure light?	Repair or replace oil pressure light.
	Disconnected or short-circuited wire harness?	Make sure wire harness is connected properly and correct any short circuits.
	Failed engine fuel solenoid?	Repair or replace fuel solenoid.
Regulator failure light is on	Broken regulator failure light?	Repair or replace regulator failure light.
	Failure of engine alternator?	Repair or replace engine alternator.
	Disconnected or short-circuited wire harness?	Make sure wire harness is connected properly and correct any short circuits.
Engine overheat light is on	Air cleaner element is dust contaminated?	Clean or replace air cleaner element.
	Overheated engine?	Let engine cool before restart.
No cylinder decompression	Intake or exhaust valve pushed up?	Adjust valve.
	Failure of decompression adjustment?	Properly adjust decompression
Insufficient cylinder decompression	Valve sheets do not have proper contact?	Adjust valve sheets.
	Worn piston ring/cylinder?	Replace piston ring/cylinder.
	Cylinder and cylinder head not properly connected?	Make sure of proper connection.
	Loose nozzle sheet?	Tighten nozzle sheet.
Fuel is not properly injected in cylinder (no flow or slow flow.)	Tank cap ventilated hole clogged?	Unclog tank cap ventilated hole.
	Fuel filter/strainer clogged?	Unclog fuel filter/strainer
	Air stuck in fuel pipe?	Make sure fuel tank is not empty to remove air.
Fuel is not injected in cylinder.	Barrel or plunger of fuel pump clogged?	Unclog barrel or plunger.
	Nozzle hole clogged?	Unclog nozzle hole.
	Nozzle needle stuck?	Unstuck nozzle needle.
Fuel and decompression is normal, but engine does not start.	Poor start operation	Restart engine.
	Dirty oil?	Change oil.
	Air stuck in fuel pipe?	Make sure fuel tank is not empty to remove air.
Engine overheat and smoky exhaust gas.	Poor cooling fan maintenance?	Maintain cooling fan properly.
	Water mixed with fuel in fuel filter?	Replace fuel and make sure water does not get into fuel filter.
	Carbon slag stuffed in cylinder or exhaust port?	Remove carbon slag.
	Improper smoke set?	Make sure of proper smoke setting.
	Engine overloaded?	Do not run overloaded engine.
	Injection timing off?	Set proper injection timing.
	Closed nozzle?	Open nozzle.
Unstable engine revolution	Incorrect contact between governor fork and sleeve?	Correct contact.
	Governor spring failed?	Correct or replace.
	Fly plate or revolving parts worn/failed.	Repair or replace worn parts.

MVH-702DRSC — BLOCK DIAGRAM

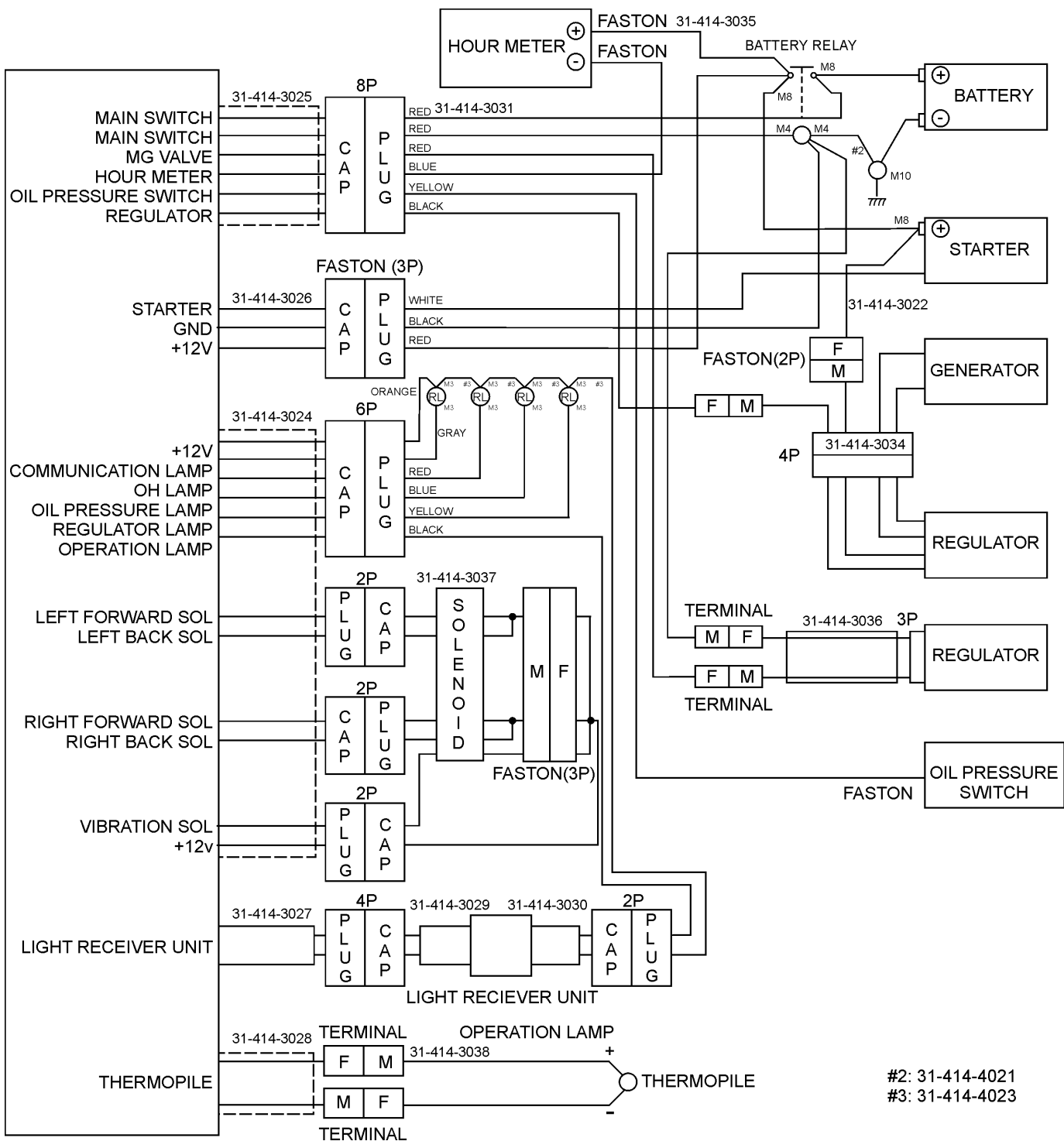


Figure 17. Block Diagram

MVH-702DRSC — RECIEVER WIRING DIAGRAM

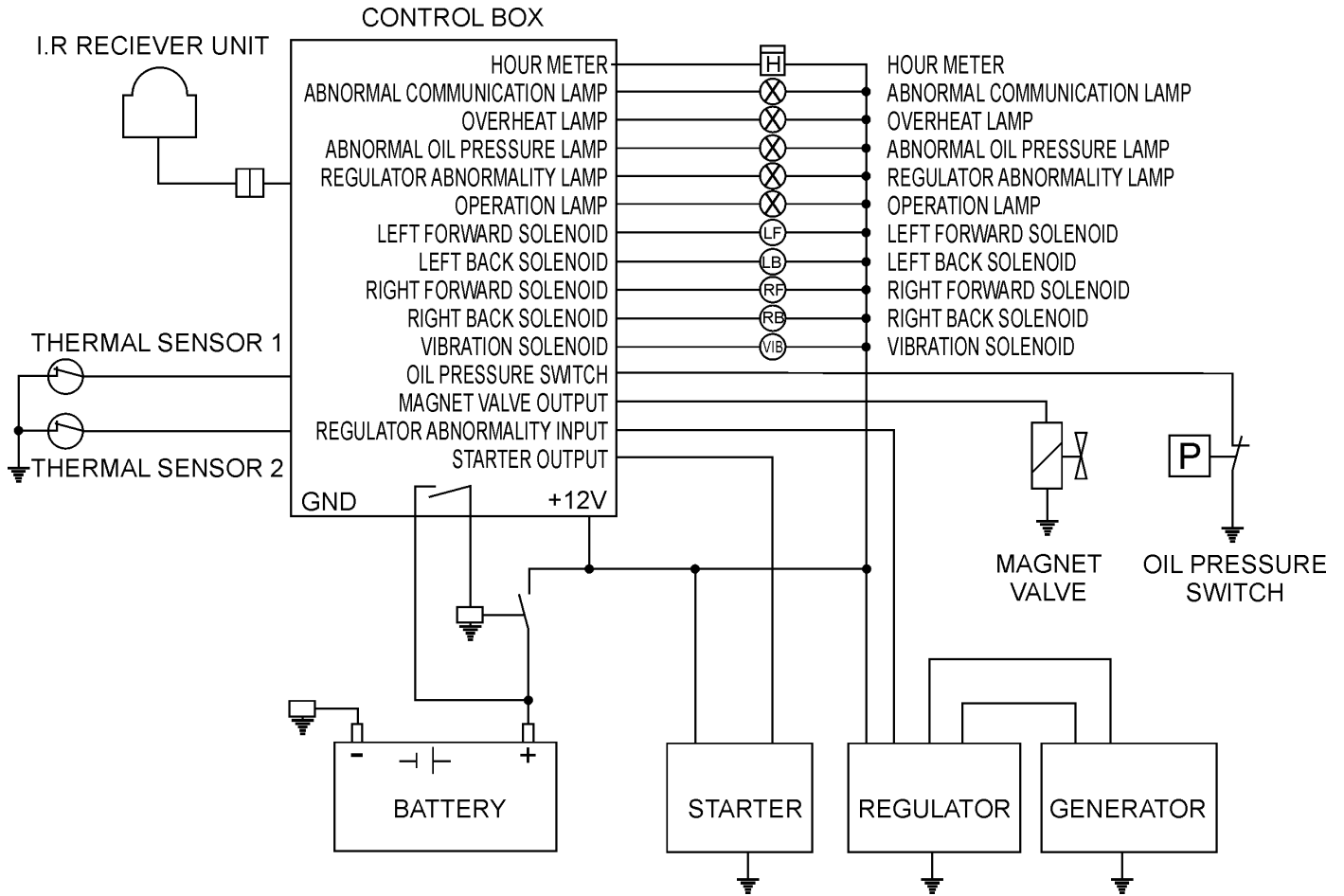


Figure 18. Receiver Wiring Diagram

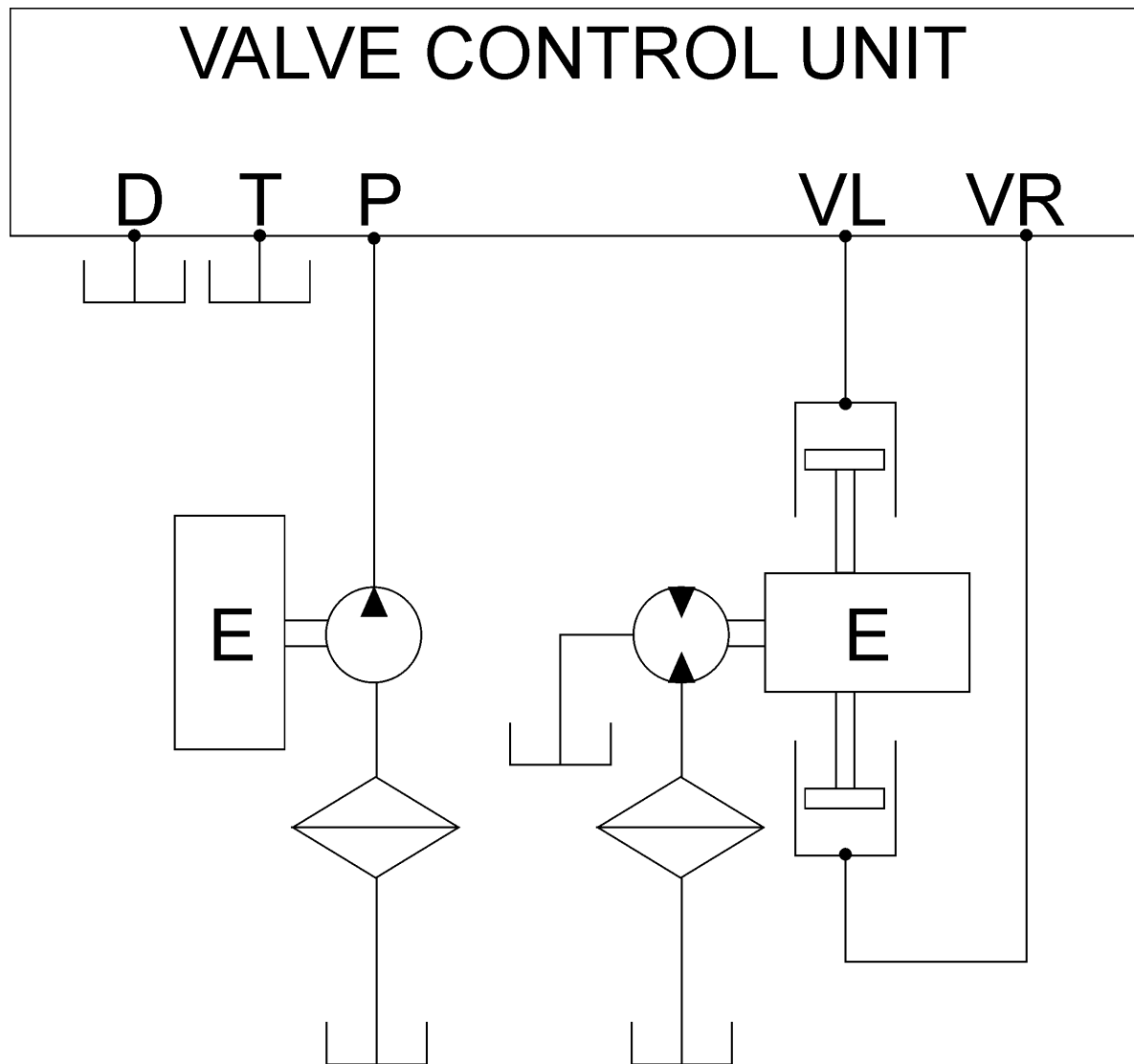


Figure 19. Valve Control Diagram

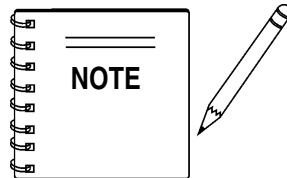
MVH-702DRSC — EXPLANATION OF CODE IN REMARKS COLUMN

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

Items Found In the “Remarks” Column

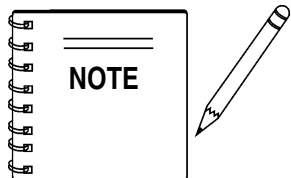
Serial Numbers-Where indicated, this indicates a serial number range (inclusive) where a particular part is used.

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



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

Items Found In the “Items Number” Column



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

MVH-702DRSC — SUGGESTED SPARE PARTS

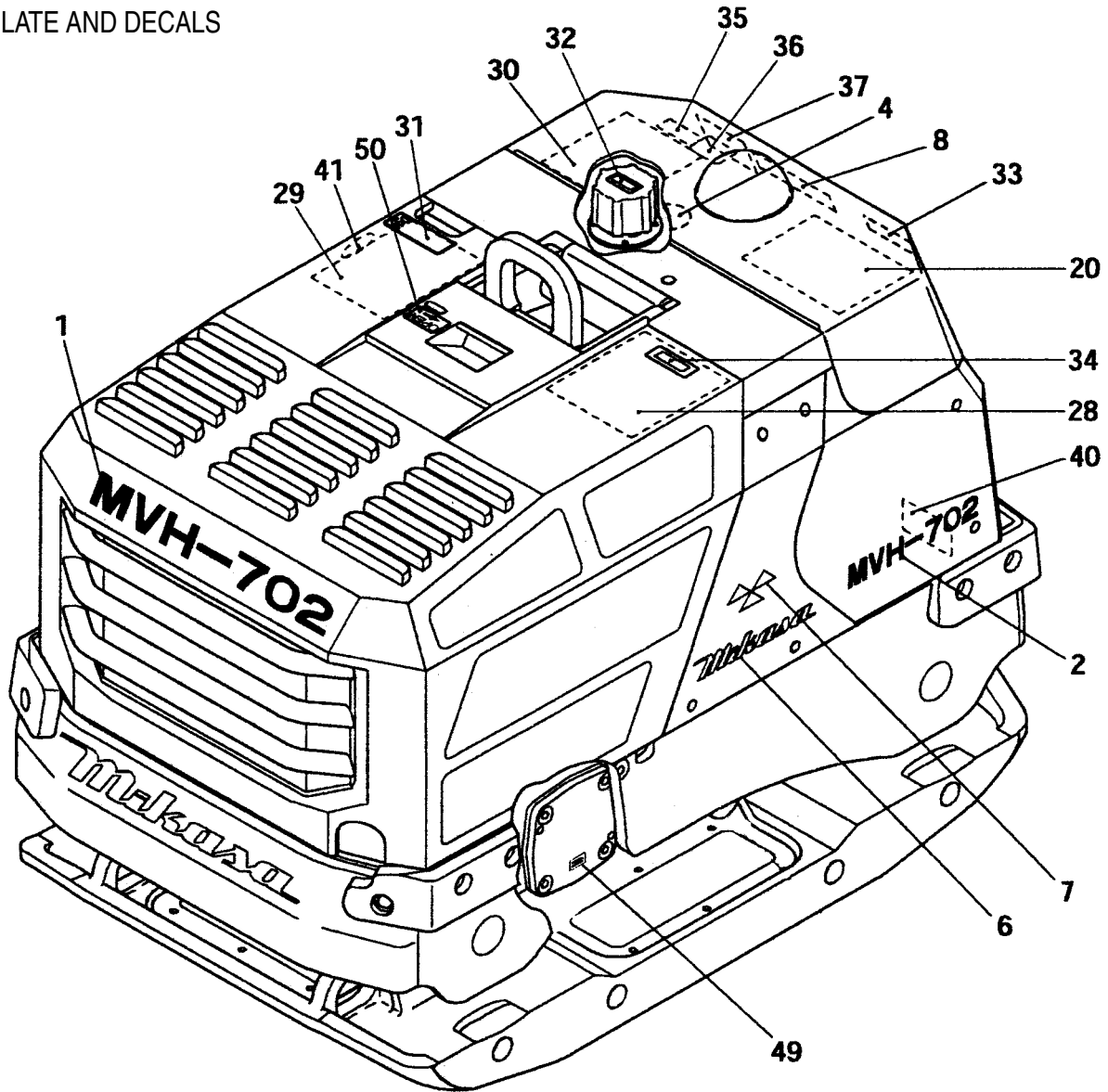
MQ MIKASA MVH-702DRSC REVERSIBLE PLATE COMPACTOR

1 to 3 Units

<u>Qty.</u>	<u>P/N</u>	<u>Description</u>
3	954001910	OIL FILTER, HYDRAULIC
3	954001920	SUCTION, OIL FILTER HYDRAULIC
1	954001900	CAP, WITH BREATHER

MVH-702DRSC COMPACTOR — NAMEPLATE AND DECALS

NAMEPLATE AND DECALS



TRANSMITTER	RECEIVER
<p>Diagram of the transmitter component. Callout 25 points to the top cover, and callout 26 points to the front panel.</p>	<p>Diagram of the receiver component. Callout 21 points to the top cover, callout 22 points to the front panel, and callout 23 points to the side panel.</p>

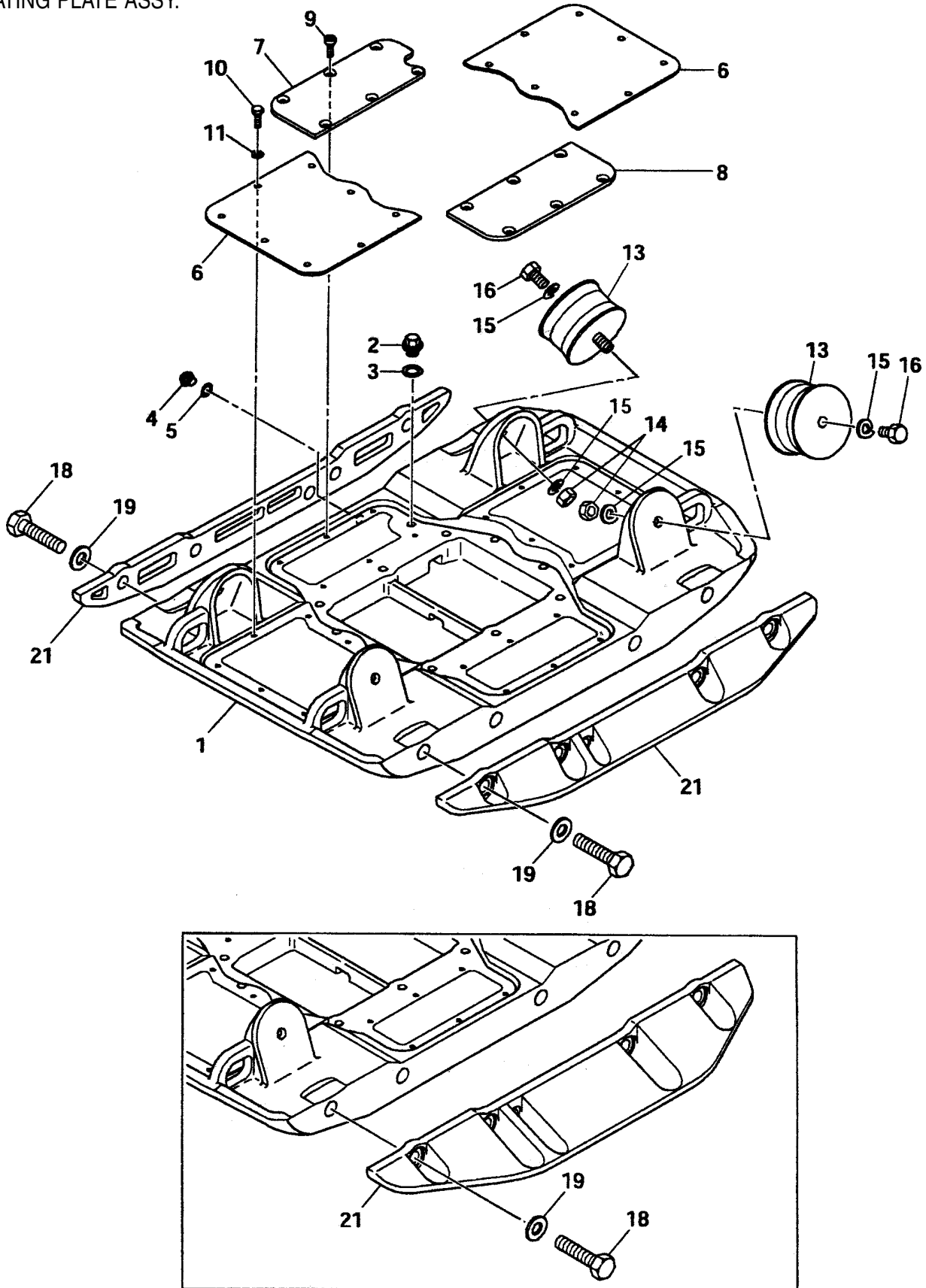
MVH-702DRSC COMPACTOR — NAMEPLATE AND DECALS

NAMEPLATE AND DECALS

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	920109840	MODEL- MVH- 702 (350) DECAL	1	
2	920109550	MODEL- MVH- 702 DECAL	2	
3	920209080	CONTROLLER MVH- RC DECAL	1	NPA-908
4	920203330	EAR PROTECTION LABEL	1	NPA-333
6	920101580	MIKASA MARK 200MM DECAL	1	
7	920100920	MIKASA MARK DECAL	2	
8	920209250	WARNING LAMP DECAL	1	NPA-925
20	920209010	DIAGRAM DECAL	1	NPA-901
21	920209020	RECEIVER MONITOR LAMP DECAL	1	NPA-901
22	920209030	MONITOR LAMP OPERATION DECAL	1	NPA-903
23	920209040	MAIN SWITCH DECAL	1	NPA-904
25	920209060	TRANSMITTER CONTROL DECAL	1	NPA-906
26	920209070	TRANSMITTER CAUTION DECAL	1	NPA-907
28	920209190	9-UP WARNING DECAL	1	NPA-923
29	920209230	CAUTION OPERATION RULES	1	NPA-919
30	920209310	CAUTION LAMP DECAL	1	NPA-951
31	920209210	EMERGENGY STOP DECAL	1	NPA-921
32	920209280	HYDRAULIC OIL DECAL	1	NPA-922
33	920209300	MAIN SWITCH DECAL	1	NPA-930
34	920209270	DIESEL FUEL DECAL	1	NPA-927
35	920108810	SHELL TELLUS OIL 45 DECAL	1	NPA-748
36	920108350	CAUTION READ MANUAL DECAL	1	NPA-769
37	920209510	CAUTION TRANSMITTER CHARGE	1	NPA-951
41	920209020	MULTIQUIP CARSON, CALIF. DECAL	1	
49	920209230	SAE10W-40 DECAL	1	
50	920209310	OPEN DECAL	1	NPA-922

MVH-702DRSC COMPACTOR — VIBRATING PLATE ASSY.

VIBRATING PLATE ASSY.



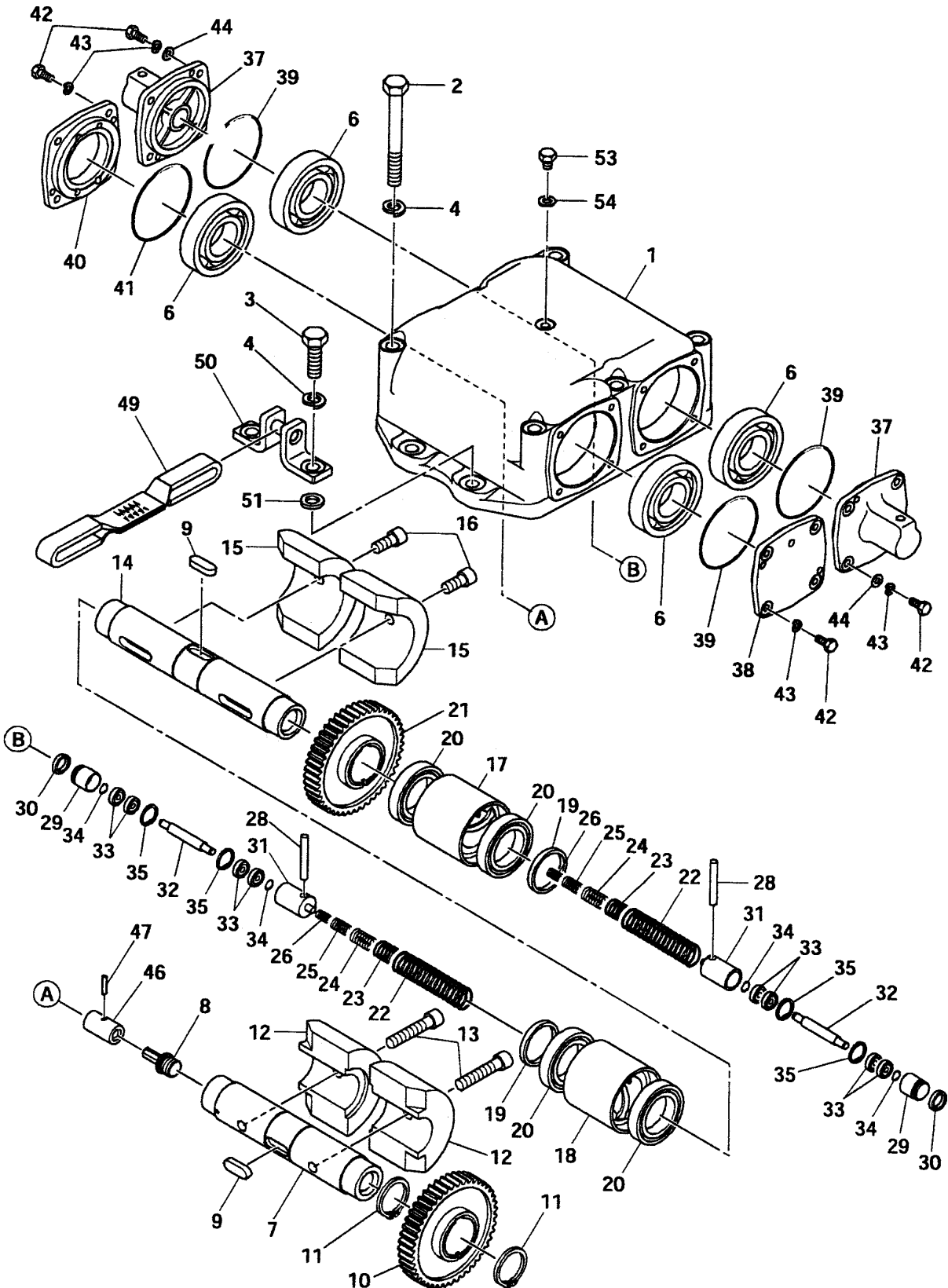
MVH-702DRSC COMPACTOR — VIBRATING PLATE ASSY.

VIBRATING PLATE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	462116380	VIBRATING PLATE	1	
2	953405840	DRAIN PLUG M18(H)	1	
3	953402930	COPPER PACKING 19 X30 X1	1	
4	953400270	PLUG 1/4X14 10L	1	
5	953405260	PACKING 1/4 (CU)	1	
6	462340050	PLATE (F&R)	2	
7	462340060	PLATE (RIGHT)	1	
8	462340070	PLATE (LEFT)	1	
9	009120407	SUNK HEAD BOLT 10X 20 T	12	
10	001221020	BOLT 10 X 20 T	16	
11	030210250	WASHER, LOCK M10	16	
13	930413001	SHOCK ABSORBER 130- 80H	4	
14	020318150	NUT M18	4	
15	030218460	WASHER, LOCK M18	8	
16	001221835	BOLT 18 X 35 T	4	
18	001222452	BOLT 24 X 60 T	8	
19	030224590	WASHER, LOCK M24	8	
21	462116480	EXTENSION PLATE (75)	2	
21	462116490	EXTENSION PLATE (150)	2	OPTION

MVH-702DRSC COMPACTOR — VIBRATOR ASSY.

VIBRATOR ASSY.



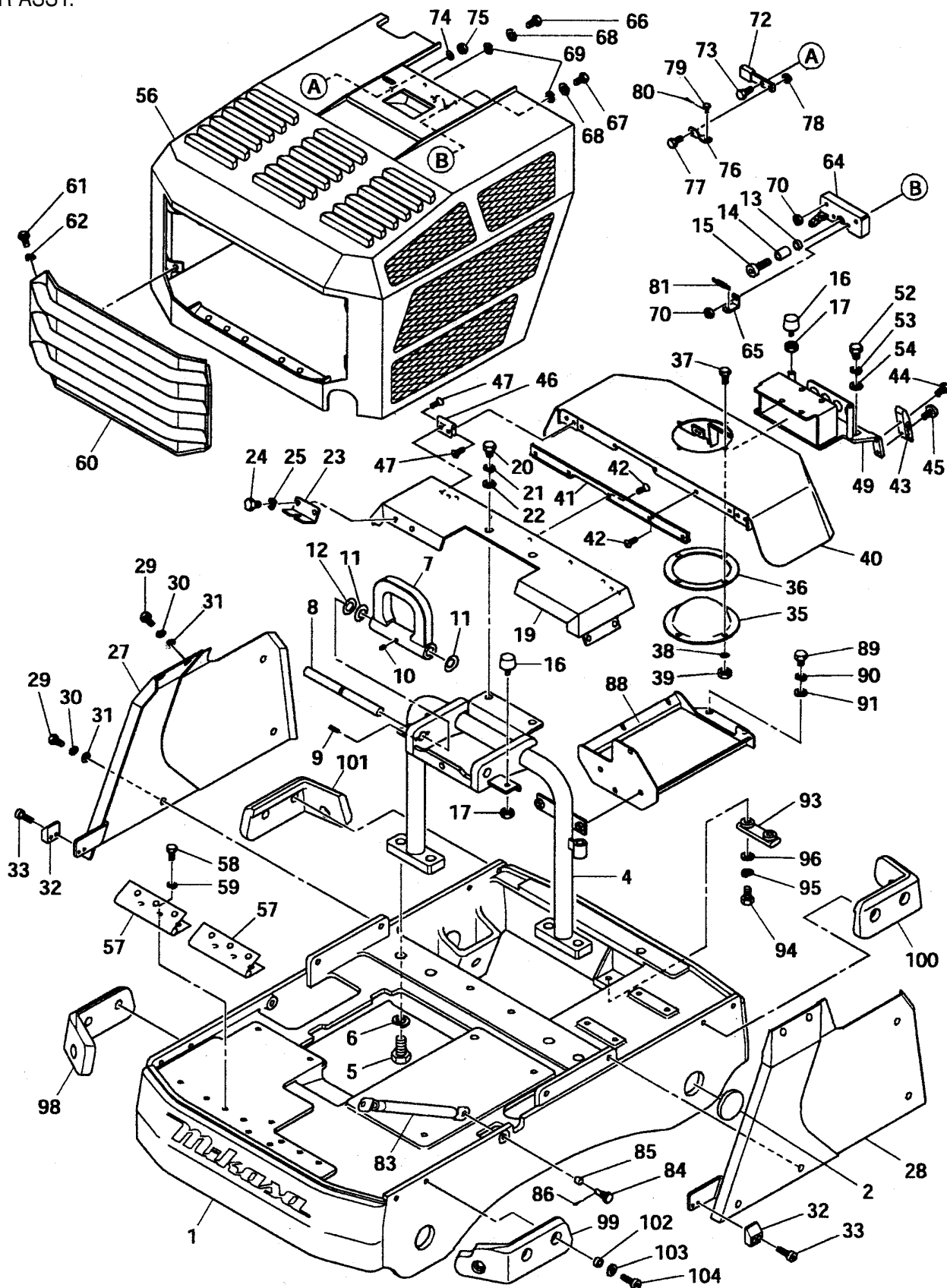
MVH-702DRSC COMPACTOR — VIBRATOR ASSY.

VIBRATOR ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	462116390	VIBRATOR CASE	1	
2	001221876	BOLT 18 X 180 T	6	
3	001221855	BOLT 18 X 75	4	
4	030218460	WASHER, LOCK M18	10	
6	047920100	ROLLER BEARING NJ311C4	4	
7	462215570	ROTARY DRIVE SHAFT	1	
8	462454560	SPLINE MOTOR DRIVE SHAFT	1	
9	951406600	KEY 16 X 10 X 46 RR	2	
10	462340080	DRIVE GEAR	1	
11	080200600	STOP RING S- 60	2	
12	462340100	ECCENTRIC DRIVE ROTOR	2	
13	462454900	SCT HEAD BOLT 16 X 80 P1.5	2	
14	462215580	ROTARY DRIVE SHAFT	1	
15	462340110	ECCENTRIC DRIVE ROTOR	2	
16	009120307	SCT HEAD BOLT 16 X 35 P1.5	2	
17	462340120	CAM RING 180(R)	1	
18	462340130	CAM RING 180(L)	1	
19	952406460	COLLAR 60 X 70 X 8	2	
20	040306012	BEARING 601203	4	
21	462340090	DRIVE GEAR /MVH-702	1	
22	462454590	SPRING (1) 30- 126L	2	
23	462454600	SPRING (2) 24- 126L	2	
24	462454610	SPRING (3) 19- 126L	2	
25	462454620	SPRING (4) 15- 126L	2	
26	462454630	SPRING (5) 11- 126L	2	
28	025510075	KNOCK PIN 10 X 75	2	
29	455435051	22.4D PISTON	2	
30	455010070	PACKING USH- 22.4 X 30 X 5	2	
31	462340140	CAM RING PISTON	2	
32	462340150	PISTON ROD	2	
33	042506000	BEARING 6000ZZSG	8	
34	080200100	STOP RING S- 10	4	
35	080100260	STOP RING R- 26	4	
37	462215590	CYLINDER	2	
38	462340160	BEARING COVER	1	
39	050101150	O- RING G- 115	3	
40	462340170	MOTOR FLANGE	1	
41	050101200	O- RING G- 120	1	
42	001211030	BOLT 10 X 30 H	16	
43	030210250	WASHER, LOCK M10	16	
44	031110160	WASHER, FLAT M10	8	
46	462454640	SPLINE JOINT /MVH- 702	1	
47	025406030	SPRING PIN 6 X 30	1	
49	462340290	SAFETY BELT /MVH- 702	2	
50	462340180	SPRING HOOK /MVH- 702	2	
51	952406470	COLLAR 19 X 33 X 5	4	
53	001201216	BOLT 12 X 16	1	
54	031112230	WASHER, FLAT M12	1	

MVH-702DRSC COMPACTOR — COVER ASSY.

COVER ASSY.



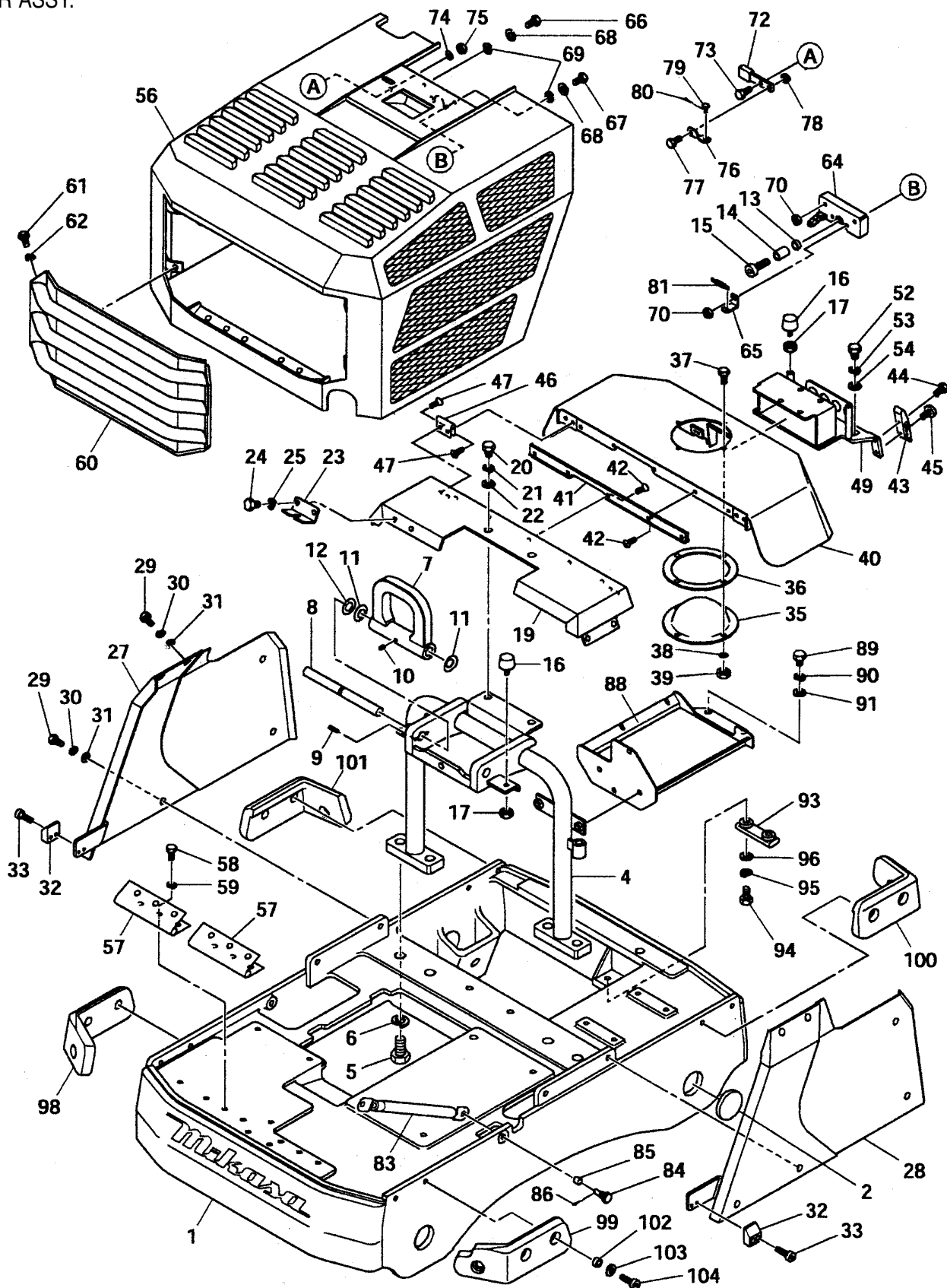
MVH-702DRSC COMPACTOR — COVER ASSY.

COVER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	462116400	BASE	1	
2	953010020	PLUG	4	
4	462215600	HOOK FRAME	1	
5	001221850	BOLT 18 X 50 T	4	
6	030218460	WASHER, LOCK M18	4	
7	462340190	HOOK	1	
8	462454650	FIXING HOOK SHAFT	1	
9	099206020	SOCKET HEAD SCREW 6 X 20 T	2	
10	099206010	SOCKET HEAD SCREW 6 X 10	1	
11	032118300	CONICAL SPRING WASHER M18	2	
12	031118260	WASHER, FLAT M18	1	
13	952406640	COLLAR 12.5 X 18 X 7	1	
14	462010010	INNER RACE/ FIR121725	1	
15	001521245	SOCKET HEAD BOLT 12 X 45 T	1	
16	939010170	RUBBER STOPPER	4	
17	020308060	NUT M8	4	
19	462215610	UPPER CENTER COVER 1		
20	001221225	BOLT 12 X 25 T	2	
21	030212300	WASHER, LOCK M12	2	
22	031112230	WASHER, FLAT M12	2	
23	462454660	CABLE STAY	1	
24	001220815	BOLT 8 X 15 T	2	
25	030208200	WASHER, LOCK M8	2	
27	462116460	RIGHT SIDE COVER	1	
28	462116470	LEFT SIDE COVER	1	
29	001221020	BOLT 10 X 20 T	12	
30	030210250	WASHER, LOCK M10	12	
31	031110160	WASHER, FLAT M10	12	
32	462454720	F. COVER SUPPORT	2	
33	001520615	SOCKET HEAD BOLT 6 X15 T	4	
35	462340200	COVER	1	
36	462455130	RUBBER SPACER	1	
37	001220620	BOLT 6 X 20 T	4	
38	952406480	WASHER 6 X16 X1.6	4	
39	022720607	NYLON NUT M6, H=6.6	4	
40	462215640	REAR COVER	1	
41	462215620	RUBBER HINGE	1	
42	092006015	FLAT HEAD SCREW 6 X15	10	
43	462010030	FASTENER (C- 1321)	2	
44	001520510	SOCKET HEAD BOLT 5 X 10 T	4	
45	091004010	SCREW 4X10	4	
46	462010040	HINGE (B- 1224)	2	
47	092005012	SCREW 5X 12	8	
49	462215650	STAY	1	
52	001220820	BOLT 8X20 T	2	
53	030208200	WASHER, LOCK M8	2	

MVH-702DRSC COMPACTOR — COVER ASSY. (CONT.)

COVER ASSY.



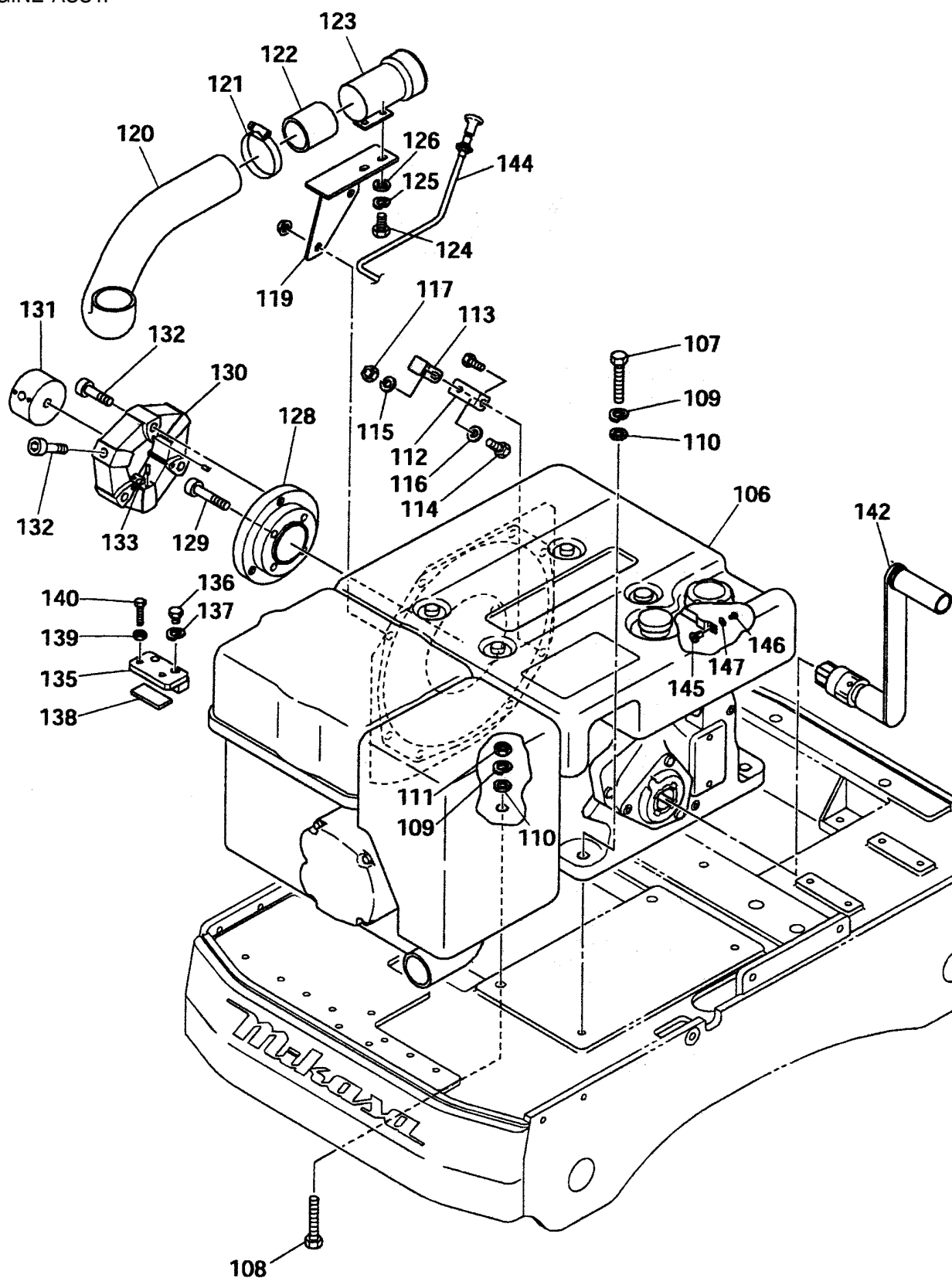
MVH-702DRSC COMPACTOR — COVER ASSY. (CONT)

COVER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
54	031108160	WASHER, FLAT M8	2	
56	462116410	FRONT COVER	1	
57	462010050	HINGE (B- 801- 1)	2	
58	001221025	BOLT 10X25 T	12	
59	030210250	WASHER, LOCK M10	12	
60	462215660	FRONT GRILL	1	
61	001220815	BOLT 8 X15 T	4	
62	030208200	WASHER, LOCK M8	4	
64	462010060	LOCKING DEVICE (C- 873- 2R)	1	
65	462454680	SPRING HOOK	1	
66	001220630	BOLT 6 X 30 T	3	
67	001220635	BOLT 6 X35 T	1	
68	030206150	WASHER, LOCK M6	4	
69	031106100	WASHER, FLAT M6	4	
70	020306050	NUT M6	4	
72	462454690	LEVER	1	
73	001220825	BOLT 8 X25 T	1	
74	032208180	CONICAL SPRING WASHER M8	1	
75	020308060	NUT M8	1	
76	462454700	TENSION BAR	1	
77	001220615	BOLT 6 X15 T	1	
78	020306050	NUT M6	1	
79	462454710	PIN	1	
80	025910060	SNAP PIN /SSP- 6	1	
81	462454910	TENSION SPRING	1	
83	462010070	DAMPER (KMF120- 20D)	2	
84	462455140	DAMPER PPIN	2	
85	952406660	COLLAR 9X 12X 11	2	
86	025910100	SNAP PIN /SSP- 10	4	
88	462340230	BRACKET (C. UNIT)	1	
89	001220820	BOLT 8X 20 T	4	
90	030208200	WASHER, LOCK M8	4	
91	031108160	WASHER, FLAT M8	2	
93	462454780	SLING BRACKET	2	
94	001221040	BOLT 10X 40 T	4	
95	030210250	WASHER, LOCK M10	4	
96	031110160	WASHER FLAT M10	4	
98	462215680	RUBBER BUMPER (A)	1	
99	462215690	RUBBER BUMPER (B)	1	
100	462215700	RUBBER BUMPER (C)	1	
101	462215710	RUBBER BUMPER (D)	1	
102	952406530	COLLAR 11X 17.5X 8	12	
103	031112230	WASHER, FLAT M12	12	
104	009110018	SCT. HEAD BOLT 10X 20 P1.5	12	

MVH-702DRSC COMPACTOR — ENGINE ASSY.

ENGINE ASSY.



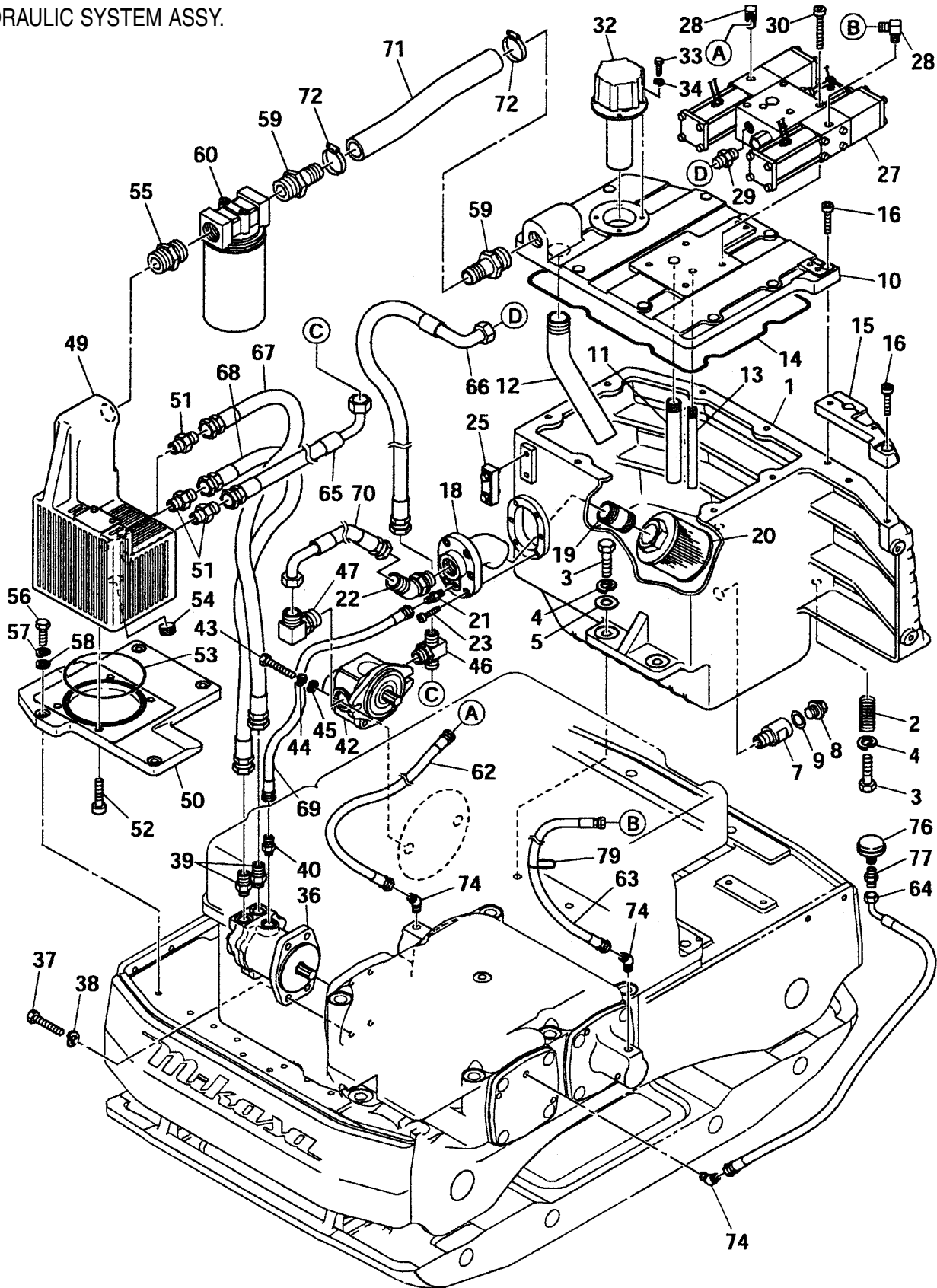
MVH-702DRSC COMPACTOR — ENGINE ASSY.

ENGINE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
106	918400700	ENGINE AY FARYMANN- 43F	1	
107	001221251	BOLT 12X 55 T	2	
108	001221252	BOLT 12X 60 T	2	
109	030212300	WASHER, LOCK M12	4	
110	031112230	WASHER, FLAT M12	4	
111	020312100	NUT M12	2	
112	462454580	HOSE STAY /MVH- 702	1	
113	954494239	CLAMP SA120- 18	1	
114	001220620	BOLT 6X 20 T	1	
115	030206150	WASHER, LOCK M6	1	
116	031106100	WASHER, FLAT M6	1	
117	020306050	NUT M6	1	
119	462215670	INTAKE BRACKET	1	
120	462340210	AIR CLEANER HOSE	1	
121	954406570	CLAMP (AH- 705)	2	
122	462454730	CYCLONE JOINT	1	
123	462010080	CYCLONE CLEANER	1	
124	001220615	BOLT 6X 15 T	2	
125	030206150	WASHER, LOCK M6	2	
126	031106100	WASHER, FLAT M6	2	
128	462340220	COUPLING	1	
129	001521045	SOCKET HEAD BOLT 10X 45 T	4	
130	462340310	RUBBER COUPLING	1	
131	462340320	CYLINDER HUB	1	
132	001521235	SOCKET HEAD BOLT 12X 35 T	6	
133	025405010	SPRING PIN 5X 10	6	
135	462454740	C. HANDLE CLAMP PLATE	1	
136	001221040	BOLT 10X 40 T	2	
137	030210250	WASHER, LOCK M10	2	
138	462454750	C. HANDLE SPONGE	1	
139	020308060	NUT M8	2	
140	001220830	BOLT 8X 30 T	2	
142	462010020	CRANK HANDLE	1	
144	462340300	CABLE	1	
145	462454670	WIRE STOPPER	1	
146	091004010	SCREW 4X 10	1	
147	031108160	WASHER, FLAT M8	1	

MVH-702DRSC COMPACTOR — HYDRAULIC SYSTEM ASSY.

HYDRAULIC SYSTEM ASSY.



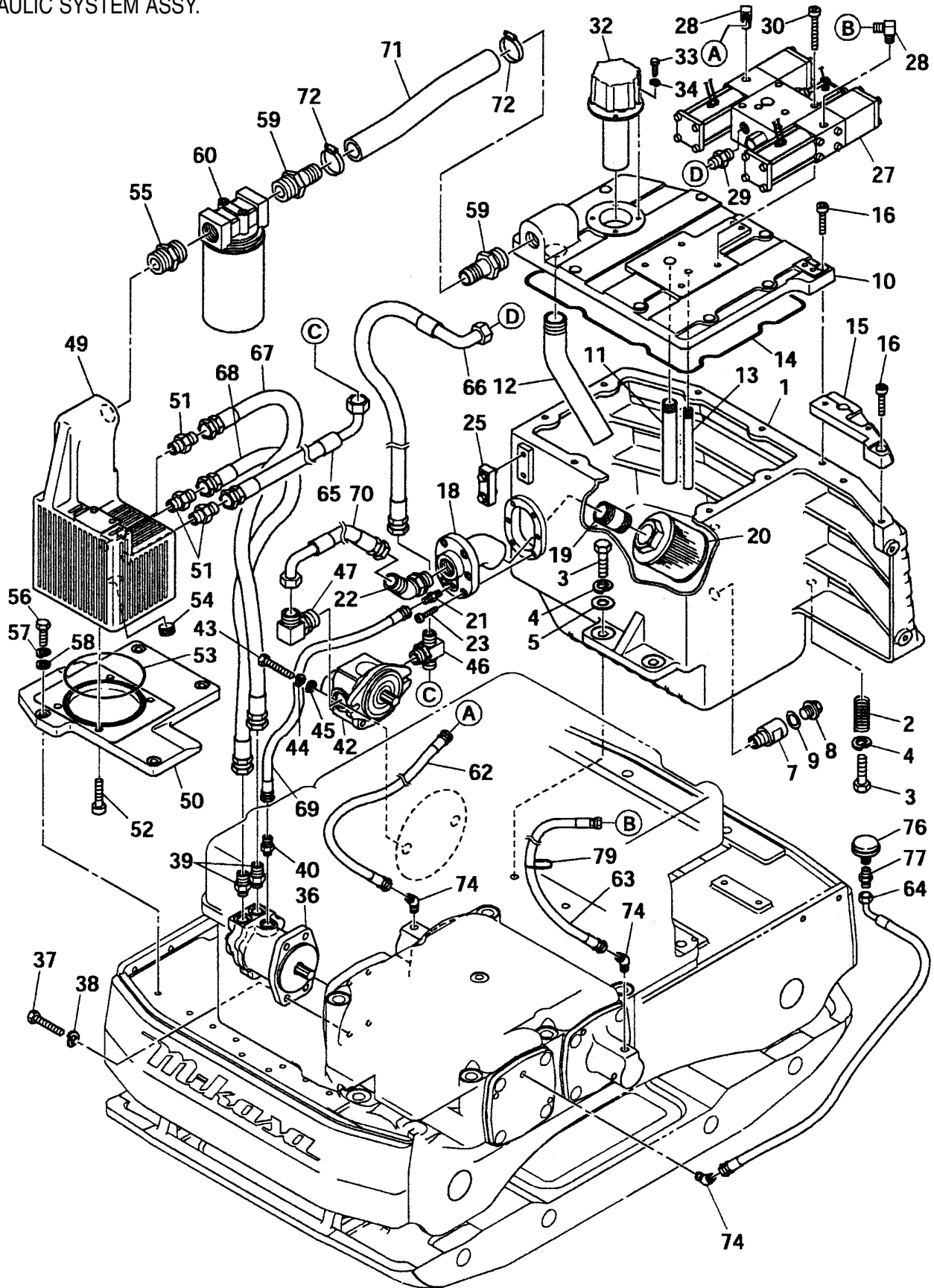
MVH-702DRSC COMPACTOR — HYDRAULIC SYSTEM ASSY.

HYDRAULIC SYSTEM ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	462116420	OIL TANK	1	
2	959010441	HELI- SERT M14X2D	2	
3	001221445	BOLT 14X45 T	4	
4	030214350	WASHER, LOCK M14	4	
5	031114260	WASHER, FLAT M14	2	
7	462454790	OIL DRAIN JOINT	1	
8	953405840	DRAIN PLUG M18 (H)	1	
9	953402930	COPPER PACKING 19X30X1	1	
10	462116430	OIL TANK COVER	1	
11	462454810	RETURN PIPE 1/2" -150L	1	
12	462454820	RETURN PIPE 1"	1	
13	462454830	RETURN PIPE 1/4" -150L	1	
14	050703870	O- RING D3870G	1	
15	462215720	BRACKET BASE	1	
16	009110019	SOCKET HEAD BOLT 10X30	11	
18	462340240	FILTER FLANGE	1	
19	462454800	FITTING PT1- 70L	1	
20	954001920	SUCTION FILTER	1	
21	954010020	CONNECTOR PT, PF1/4	1	
22	954002100	ELBOW (45) PF3/4	1	
23	001520825	SOCKET HEAD BOLT 8X25 T	6	
25	959010170	OIL GAUGE	1	
27	462215730	HYDRAULIC VALVE UNIT	1	
28	501011540	ELBOW 90 DEG. 1/4	2	
29	551010530	ADAPTER 1/2 1009- 08	1	
30	009110021	SOCKET HEAD BOLT 10X75	4	
32	954001900	CAP, W/ BREATHER	1	
33	001220615	BOLT 6X15 T	4	
34	030206150	WASHER, LOCK M6	4	
36	462340250	MOTOR OIL (MSF10- 10- 3)	1	
37	001221030	BOLT 10X30 T	4	
38	030210250	WASHER, LOCK M10	4	
39	954001860	ADAPTER PF1/2- 3/8	2	
40	505013030	UNION BP- 1/4	1	
42	462340260	PUMP GEAR (YP15A)	1	
43	001221030	BOLT 10X30 T	2	
44	030210250	WASHER, LOCK M10	2	
45	952406540	WASHER 10X22X3.2	2	
46	954002070	JOINT PF1/2	1	
47	954002080	ELBOW PF3/4	1	
49	462116440	SUB OIL TANK	1	

MVH-702DRSC COMPACTOR — HYDRAULIC SYSTEM ASSY. (CONT.)

HYDRAULIC SYSTEM ASSY.



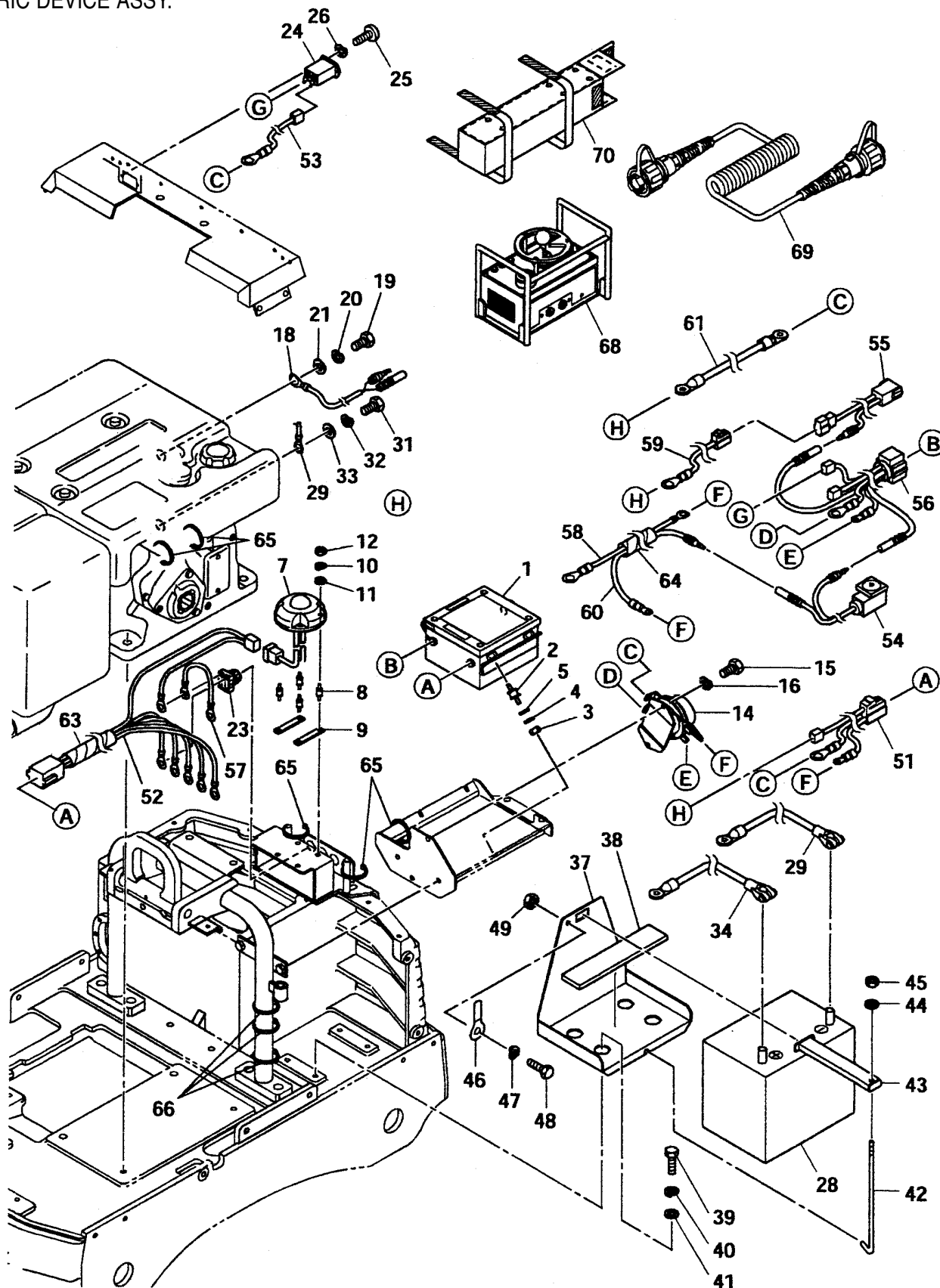
MVH-702DRSC COMPACTOR — HYDRAULIC SYSTEM ASSY. (CONT.)

HYDRAULIC SYSTEM ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
50	462116450	SUB OIL TANK BASE	1	
51	551010530	ADAPTER 1/2 1009- 08	3	
52	001521025	SOCKET HEAD BOLT 10X25 T	4	
53	050101200	O-RING G- 120	1	
54	954002050	SOCKET HEAD PLUG PT1/2	1	
55	954002040	FITTING PT1(H)	1	
56	001221035	BOLT 10X35 T	4	
57	030210250	WASHER, LOCK M10	4	
58	031110160	WASHER, FLAT M10	4	
59	954002060	PIPE SLEEVE PT1- 26D- 82L	2	
60	954001910	OIL FILTER (CP08- 175)	1	
62	954001990	OIL HOSE 1/4- 810L	1	
63	954002000	OIL HOSE 1/4- 900L	1	
64	954002950	OIL HOSE 1/4- 1005- 470	1	
65	954001940	OIL HOSE 1/2- 1005- 295	1	
66	954001930	OIL HOSE 1/2- 1005- 395	1	
67	954001960	OIL HOSE 1/2- 1005- 370	1	
68	954001970	OIL HOSE 1/2- 1005- 310	1	
69	954002610	OIL HOSE 1/4- 1005- 350L	1	
70	954002010	OIL HOSE 3/4- 1005- 285	1	
71	954002020	OIL HOSE #25- 310L	1	
72	954406580	BAND AH- 1038	2	
74	954010200	ELBOW 45 DEG. PF1/4- PT1/4	3	
76	954001890	VIBRATOR BREATHER	1	
77	954010020	CONNECTOR PT, PF1/4	1	
79	511010040	CLAMP TC- 300	1	

MVH-702DRSC COMPACTOR — ELECTRIC DEVICE ASSY.

ELECTRIC DEVICE ASSY.



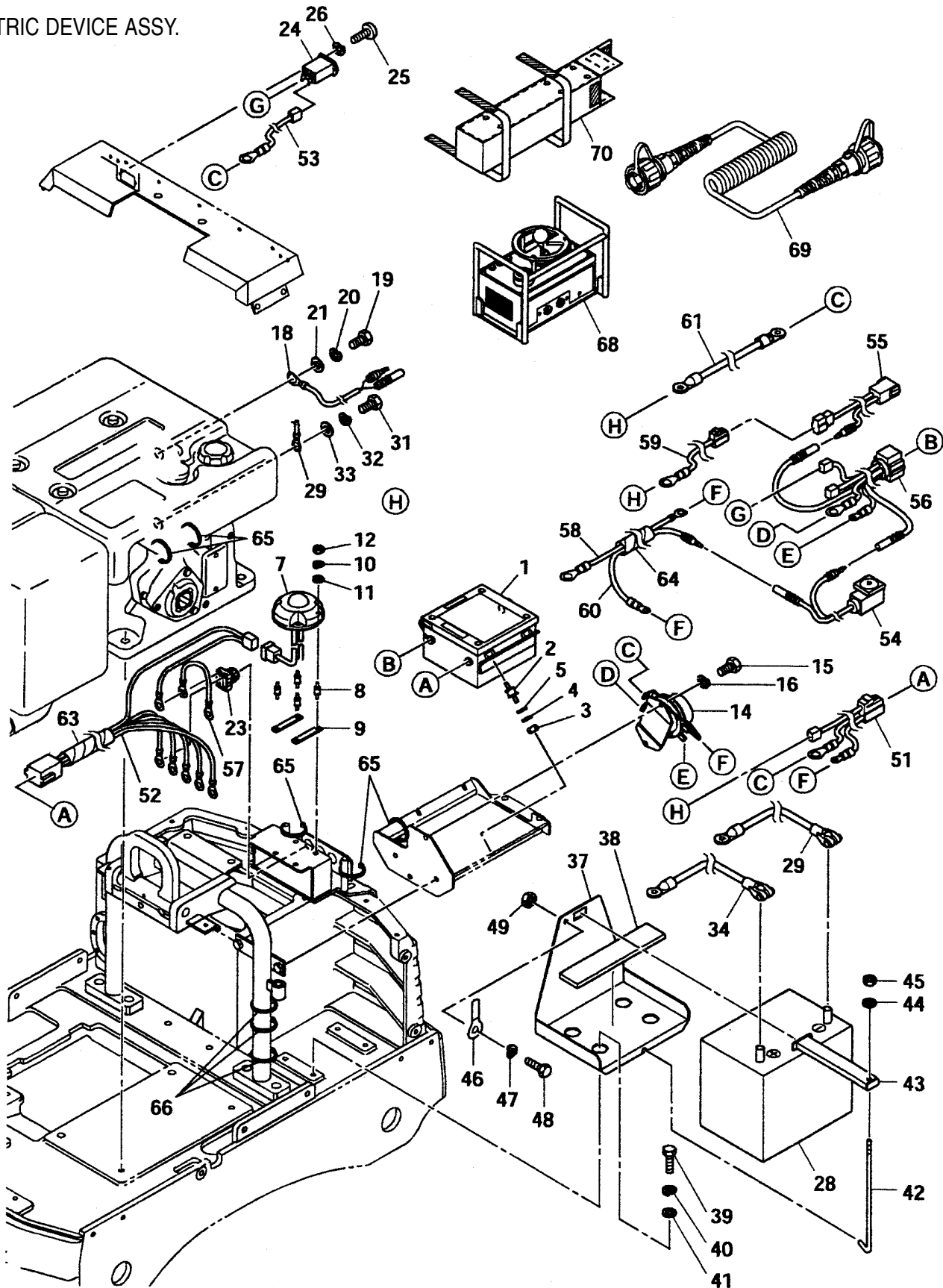
MVH-702DRSC COMPACTOR — ELECTRIC DEVICE ASSY.

ELECTRIC DEVICE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	462340660	RECIEVER	1	
2	930402021	SHOCK ABSORBER	4	
3	020306050	NUT M6	8	
4	030206150	WASHER, LOCK M6	8	
5	031106100	WASHER, FLAT M6	8	
7	462340530	FLASHING LAMP(RECEIVING)	1	
8	930601220	SHOCK ABSORBER KA- 12	4	
9	462454880	NUT PLATE	2	
10	030205130	WASHER, LOCK M5	4	
11	031105080	WASHER, FLAT M5	4	
12	020305040	NUT M5	4	
14	462340270	BATTERY RELAY 2	1	
15	001220820	BOLT 8X20 T	2	
16	030208200	SW M8	2	
18	462340520	OVER HEAT SENSOR	1	
19	001221020	BOLT 10X20 T	1	
20	030210250	WASHER, LOCK M10	1	
21	031110160	WASHER, FLAT M10	1	
23	462455120	LED LAMP (LU22)	4	
24	955406560	HOUR METER 85000 (HOBBS)	1	
25	091003512	SCREW 3.5X12	2	
26	030203580	WASHER, LOCK M3.5	2	
28	955010013	BATTERY 75D23R	1	
29	462454870	BATTERY TERMIN AL (-) W /CORD	1	
31	001221020	BOLT 10X20 T	1	
32	030210250	WASHER, LOCK M10	1	
33	031110160	WASHER, FLAT M10	1	
34	462454860	BATTERY TERMINAL (+) W /CORD	1	
37	462340280	BATTERY BASE	1	
38	456447600	RUBBER PLATE 50X240X10	2	
39	001221020	BOLT 10X20 T	4	
40	030210250	WASHER, LOCK M10	4	
41	031110160	WASHER, FLAT M10	4	
42	462454840	BATTERY BOLT	1	
43	462454850	BATTERY HOLDER	1	
44	031108160	WASHER, FLAT M8	1	
45	022710809	NYLON NUT M8	1	
46	0566000170	CLAMP	1	
47	030208200	WASHER, LOCK M8	1	
48	001220815	BOLT 8X15 T	1	
49	020308060	NUT M8	1	

MVH-702DRSC COMPACTOR — ELECTRIC DEVICE ASSY. (CONT.)

ELECTRIC DEVICE ASSY.



MVH-702DRSC COMPACTOR — ELECTRIC DEVICE ASSY. (CONT.)

ELECTRIC DEVICE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
51	462340480	HARNESS (PS)	1	
52	462340510	HARNESS (LED, F. LAMP)	1	
53	462340470	HARNESS (HOUR METER)	1	
54	462340460	HARNESS (MAGNET VALVE)	1	
55	462340500	HARNESS (REGU.- GENERATOR)	1	
56	462340490	HARNESS (ENGINE, RECEIVER)	1	
57	462455100	HARNESS (LED)	3	
58	462455090	HARNESS (RELAY EARTH)	1	
59	462455110	HARNESS (STARTER, REGULATOR)	1	
60	462455080	HARNESS (MAG. VALVE /JOINT)	1	
61	462454890	HARNESS (RELAY- ELECT. MOTOR)	1	
63	959021821	SPIRAL TUBE 6D- 120L	2	
64	959021814	SPIRAL TUBE 6D- 200L	1	
65	507010110	CLAMP TC- 200	6	
66	511010040	CLAMP TC- 300	3	
68	462340670	TRANSMITTER	1	
69	462340540	CONTROL CABLE	1	
70	462340450	CABLE BAG	1	

PAYMENT TERMS

Terms of payment for parts are net 10 days.

FREIGHT POLICY

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

MINIMUM ORDER

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

RETURNED GOODS POLICY

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

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

5. Parts must be in new and resalable condition, in the original Multiquip package (if any), and with Multiquip part numbers clearly marked.
6. The following items are not returnable:
 - a. Obsolete parts. (If an item is in the price book and shows 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 five working days from notification, pending instructions. If a reply is not received within five 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 \$35.00 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. Apart 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.

OPERATION AND PARTS MANUAL

HERE'S HOW TO GET HELP

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

MULTIQUIP'S MAIN PHONE NUMBERS

800-421-1244 FAX: 310-537-3927
310-537-3700

PARTS DEPARTMENT

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

MAYCO PARTS

800-306-2926 FAX: 800-672-7877
310-537-3700 FAX: 310-637-3284

SERVICE DEPARTMENT

800-478-1244 FAX: 310-537-4259
310-537-3700

MQ POWER SERVICE DEPARTMENT

800-835-2551 FAX: 310-638-8046
310-537-3700

TECHNICAL ASSISTANCE

800-478-1244 FAX: 310-631-5032

WARRANTY DEPARTMENT

800-421-1244, EXT. 279 FAX: 310-537-1173
310-537-3700, EXT. 279



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by
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