

VIBRATORY ROLLER

Model:TMG-MVR50



- Please read the product manual completely before assembly
- Check against the parts list to make sure all parts are received
- Wear proper safety goggles or other protective gears while in assembly

Missing parts or questions on assembly?

Please call: 1-877-761-2819 or email: cs@tmgindustrial.com

Do not return the product to dealer, they are not equipped to handle your requests

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1. FOREWORD

Thanks for purchasing our product!

This manual provides information and procedures to safely operate and maintain this TMG model. For your own safety and protection from injury, carefully read, understand and observe the safety instructions described in this manual.

Keep this manual or a copy of it with the machine. If you lose this manual or need an additional copy, please contact TMG Corporation. This machine is built with user safety in mind; however, it can present hazards if improperly operated and serviced. Follow operating instructions carefully! If you have questions about operating or servicing this equipment, please contact TMG Corporation. The information contained in this manual was based on machines in production at the time of publication. TMG Corporation reserves the right to change any portion of this information without notice. All rights, especially copying and distribution rights are reserved. No part of this publication may be reproduced in any form or by any means, electronic or mechanical, including photocopying, without express written permission from TMG Corporation. Any type of reproduction or distribution not authorized by TMG Corporation represents an infringement of valid copyrights and will be prosecuted. We expressly reserve the right to make technical modifications, even without due notice, which aim at improving our machines or their safety standards.

2. SAFETY INFORMATION

This manual contains DANGER, WARNING, CAUTION, and NOTE callouts which must be followed to reduce the possibility of personal injury, damage to the equipment, or improper service.



NOTE is the safety alert symbol. It is used to alert you to potential **NOTE** personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER indicates a hazardous situation which, if not avoided, **DANGER** will result in death or serious injury.



WARNING indicates a hazardous situation which, if not avoided, **WARNING** could result in death or serious injury.



CAUTION indicates a hazardous situation which, if not avoided, **CAUTION** could result in minor or moderate injury.



CAUTION indicates a hazardous situation which, if not avoided, **CAUTION** could result in minor or moderate injury.
CAUTION: Used without the safety alert symbol, **CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in property damage.

Note: Contains additional information important to a procedure

2.1 Operating Safety

FAMILIARITY AND PROPER TRAINING ARE REQUIRED FOR THE SAFE OPERATION OF EQUIPMENT.



WARNING Equipment operated improperly or by untrained personnel can be dangerous. Read the operating instructions contained in both this manual and the engine manual and familiarize yourself with the location and proper use of all controls. Inexperienced operators should receive instruction from someone familiar with the equipment before being allowed to operate the machine.

2.1.1 **ALWAYS** read, understand, and follow procedures in the Operator's Manual before attempting to operate the equipment.

ALWAYS disengage and stow the locking bar for the articulated steering joint before operating the machine. The machine cannot be steered when the locking bar is engaged.

2.1.2 **ALWAYS** check that all controls are functioning properly immediately after start-up!

DO NOT operate the machine unless all controls operate correctly.

2.1.3 **ALWAYS** remain aware of changing positions and the movement of other equipment and personnel on the job site.

2.1.4 **ALWAYS** remain seated at all times while operating the machine

2.1.5 **ALWAYS** remain aware of changing surface conditions and use extra care when operating over uneven ground, on hills, or over soft or coarse material. The machine could shift or slide unexpectedly.

2.1.6 **ALWAYS** use caution when operating near the edges of pits, trenches or platforms. Check to be sure that the ground surface is stable enough to support the weight of the machine with the operator and that there is no danger of the roller sliding, falling, or tipping.

2.1.7 **ALWAYS** wear protective clothing appropriate to the job site when operating equipment.

2.1.8 **ALWAYS** keep hands, feet, and loose clothing away from moving parts of the machine.

2.1.9 **ALWAYS** read, understand, and follow procedures in the Operator's manual before attempting to operate the equipment.

2.1.10 **ALWAYS** store the equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children.

2.1.11 **ALWAYS** operate the machine with all safety devices and guards in place and in working order.

2.1.12 **NEVER** allows anyone to operate this equipment without proper training. People operating this equipment must be familiar with the manual.

2.1.13 **NEVER** touches the engine or muffler while the engine is on or immediately after it has been turned off. These areas get hot and may cause burns.

2.1.14 **NEVER** uses parts or accessories not recommended by TMG as this may result in damage to the equipment and injury to the user.

2.1.15 **NEVER** leave machine running unattended.

2.1.16 **NEVER** operate the machine with the fuel cap loose or missing.

2.2 Operator safety while using internal combustion engines

Internal combustion engines present special hazards during



DANGER operation and fueling. Read and follow the warning instructions in the engineowner's manual and the safety guidelines below. Failure to follow the warnings and safety guidelines could result in severe injury or death.

2.2.1 **DO NOT** smoke while operating the machine.

2.2.2 **DO NOT** smoke when refueling the engine.

2.2.3 **DO NOT** refuel a hot or running engine.

2.2.4 **DO NOT** refuel the engine near an open flame.

2.2.5 **DO NOT** spill fuel when refueling the engine.

2.2.6 **DO NOT** run the engine near open flames.

2.2.7 **DO NOT** run the machine indoors or in an enclosed area such as deep trench unless adequate ventilation, through such items as exhaust fans or hoses, is provided. Exhaust gas from the engine contains poisonous carbon monoxide gas; exposure to carbon monoxide can cause loss of consciousness and may lead to death.

2.2.8 **ALWAYS** refill the fuel tank in a well-ventilated area.

2.2.9 **ALWAYS** replace the fuel tank cap after refueling.

2.2.10 **ALWAYS** keep the area around a hot exhaust pipe free of debris to reduce the chance of an accidental fire.

2.3 Service safety



Poorly maintained equipment can become a safety hazard! In

WARNING order for the equipment to operate safely and properly over long period of time, periodic maintenance and occasional repairs are necessary.

2.3.1 DO NOT attempt to clean or service the machine while it is running. rotating parts can cause severe injury.

2.3.2 DO NOT cranks a flooded engine with the spark plug removed on gasoline-powered engines. Fuel trapped in the cylinder will squirt out the spark plug opening.

2.3.3 DO NOT test for spark on gasoline-powered engines if the engine is flooded or the smell of gasoline is present. A stray spark could ignite the fumes.

2.3.4 DO NOT use gasoline or other types of fuels or flammable solvents to clean parts, especially in enclosed areas. Fumes from fuels and solvents can become explosive.

2.3.5 DO NOT modify the equipment without the express written approval of the manufacturer.

2.3.6 ALWAYS check all external fasteners at regular intervals.

2.3.6 ALWAYS replace worn or damaged components with spare parts designed and recommended by OUR Corporation.

2.3.7 ALWAYS keep the area around the muffler free of debris such as leaves, paper, cartons, etc. A hot muffler could ignite the debris and start a fire.

2.3.8 ALWAYS replace worn or damaged components with spare parts designed and recommended by TMG Corporation.

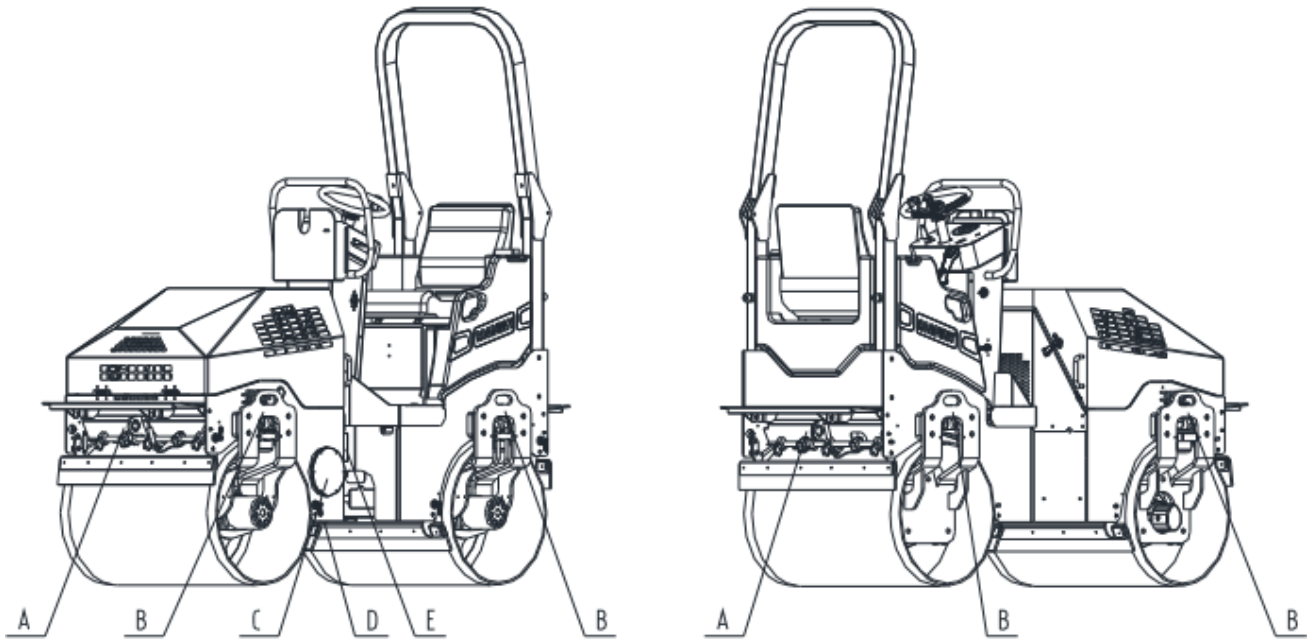
2.3.9 ALWAYS disconnect the spark plug on machines equipped with gasoline engines, before servicing, to avoid accidental start-up.

2.3.10 ALWAYS keeps the machine clean and labels legible. Replace all missing and hard-to-read labels. Labels provide important operating instructions and warn of dangers and hazards.

2.3.11 ALWAYS switch off the power supply at the battery disconnect before adjusting or maintaining the electrical equipment.






2.3.12 ALWAYS do Periodic Maintenance as recommended in the Operator's Manual.

2.4 Safety Labels



TMG machines use international pictorial labels where needed.

These labels are described below:

Ref.	Label	Meaning
A		CAUTION! Lifting point
B		CAUTION! Lifting point
C		Hydraulic oil reservoir fill tube
D		Hydraulic oil drain
E		Hydraulic oil reservoir level

3. TECHNICAL DATA

3.1 Roller

Item No.	TMG-MVR50
Roller	
Weight kg	1500
Water Tank Capacity L	150
Outside Turning Radius m	2.7
Forward /Reverse m /S	0-126
Gradeability%	25
Vibration Frequency Hz (vpm)	60 (3600)
Exciting force	30KN

3.2 Engine

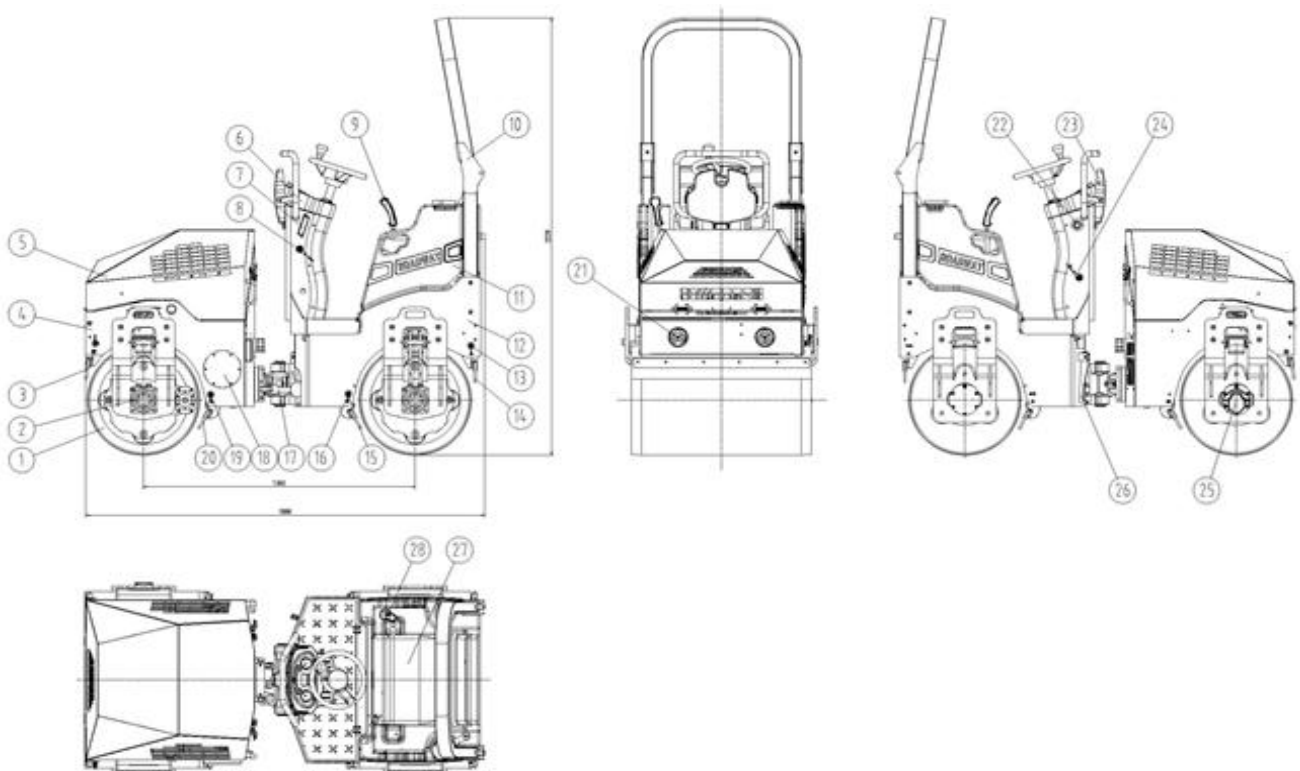
Item No.	TMG-MVR50
Engine	
Engine Type	4-stroke, 2 cylinder, air cooled
Engine Make	Honda
Engine Model	GX 630
Rated Power kW (hp)	13.4 (18)
Displacement cm ³ (in ³)	614 (37.5)
Spark Plug	(NGK) BPR6ES / (NGK) BPR6ESH High Heat
Electrode Gap mm (in)	0.71-0.79 (0.028-0.031)
Engine Speed—full load rpm Engine Speed—idler rpm	3200 1800
Valve Clearance (cold) intake: mm (in.) exhaust: mm (in.)	0.10-0.16 (0.004-0.006) 0.10-0.16 (0.004-0.006)
Battery V	12 VDC
Air Cleaner type	Dual Element
Fuel type	Regular Unleaded Gasoline
Fuel Tank Capacity L	28
Fuel Consumption L/hr.	4.6

3.3 Lubrication

Item No.	TMG-MVR50
Lubrication	
Engine Lubrication type	SAE 10W30 Class SG, SF, or SE rated
Hydraulic System type	Premium grade, Anti-wear hydraulic fluid 10W30
Exciter type	Wheel Bearing Grease Filmed EMB type
Rear Drum Drive type Bearing qty	Shell alvania RL2 Grease (1 grease fitting) 2-3 shots with hand-held grease gun
Front Drum Drive type Bearing	Sealed Bearings—No lubrication required
Articulated Joint type qty	Shell Alvania RL2 Grease 2-3 shots with hand-held grease gun

4. OPERATION

4.1 Operation and Service Locations



Ref.	Description	Ref.	Description
1	Front wheel	15	Mud scraping board
2	Motor	16	Fixed pin of Mud scraping board
3	Mud scraping board	17	Hinge assembly

4	Front frame	18	Cleaning hole
5	Machine cover	19	Fixed pin of Mud scraping board
6	Air door	20	Mud scraping board
7	Direction assembly	21	Working lamp
8	Spraying time setting	22	Key
9	Forward/reverse	23	Rain cover
10	ROPS	24	Accelerator
11	Water tank	25	Rear wheel vibration motor
12	Rear frame	26	Connect plate of front/rear frame
13	Fixed pin of Mud scraping board	27	Seat
14	Mud scraping board	28	Vibration switch

4.2 Application

This machine is designed as a lightweight roller to be used in the compaction of sublayers and finish layers of asphalt on roads, driveways, parking lots, and other types of asphalt-covered surfaces. Do not use this machine for any other purpose.

4.3 Recommended Fuel

The engine requires regular grade unleaded gasoline. Use only fresh, clean gasoline. Gasoline containing water or dirt will damage fuel system.

Consult engine Owner's Manual for complete fuel specifications.

4.4 Before Starting

Before starting the machine check the following:

- Engine oil level
- Hydraulic fluid level
- Condition of fuel lines
- Condition of air cleaner
- Operation of the brake system
- Fuel level
- Scraper bars are clean and properly adjusted
- Water level

Note: All fluid levels should be checked with the machine on a level surface that regular maintenance has been carried out. That the driver's platform is clean.

Always use the steps and handrails when climbing on and off the machine.

4.5 Starting

4.5.1 If the engine is cold, place the choke lever in the closed position. If the engine is warm, place the choke control in the open position.

4.5.2 Set the forward/reverse control in the neutral position.

Note: The roller will not start unless the forward/reverse control is in neutral.

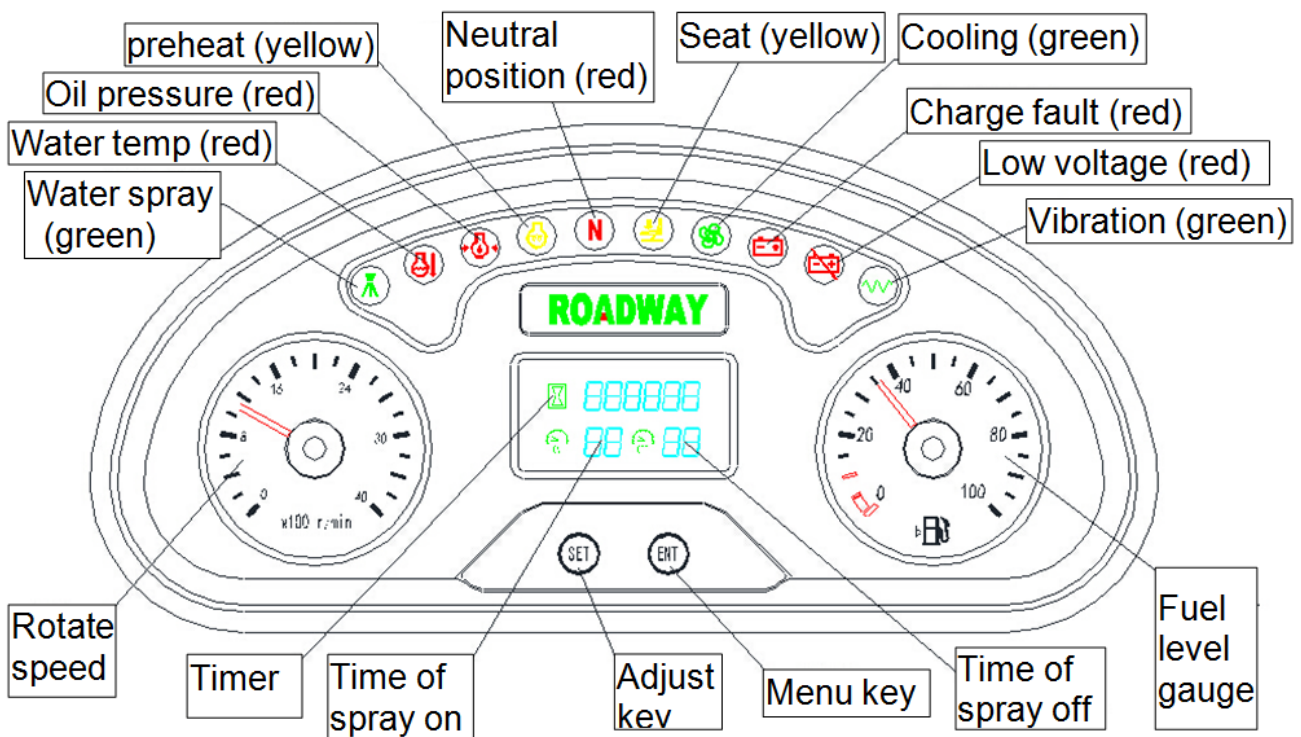
4.5.3 Check the parking brake.

4.5.4 Turn the ignition switch to start the engine. Turn off vibration.

4.6 Use of control instrument

4.6.1 Integration functions of instrument panel

See the follow picture, the function: Battery voltage alarm, work time, fuel display, water spray switch, working lamp switch, e-stop button, etc.



4.6.2 Explanation of function

1) Low voltage warning

If the system voltage is lower than standard voltage, the red warning will light on continuity.

2) Timer

After engine starting, the machine starts to timing, and engine stop, the timing stop.

3) Fuel level gauge

Show the fuel level real-time

4) Charge fault warning

Before engine start, the light is on. And after engine start, the light is off. When charging line is fault, the light is on.

5) Neutral position warning

When the light is on, the forward/ backward handle is not in neutral position, and can't start engine. When the light is off, and then can start the engine.

6) Seat indicator light

When the light is off, and then can start the engine. Operator can't leave the seat, or the engine will shut down.

7) Cooling indicator light

When the hydraulic oil temperature is over 65 °, cooling fan open. When the oil temperature is less than 55 °, cooling fan shut. Cooling fan open, the indicator light is on.

8) Rotate speed meter

Show the rotate speed of engine

9) Time of spray on/off

Set the time of spray on and off, and can come true interval spray water.

This machine is with function of spray time and interval adjustment at random. Double time is controlled by panel spray on and off. The time can be adjusted according to the construction requirements. Meet the construction requirements and save water.

Note: Press the "Menu key", "Time of spray on" start to flash, then press "Adjust key" to adjust time. Then press again the "Menu key", "Time of spray on" set up and stored in the system.

At same time, "Time of spray off" start to flash, and then press the "Menu key" third time, "Time of spray off" set up and stored in the system. The light flash 10 seconds, if don't operate within 10 seconds, will store to system automatically and stop flash.

If any fault lights on, the buzzer will ring. Please check the machine faults.

10) Spray water switch

11) Working lamp switch

It controls the on/off of working lamp. Open the working lamp when night construction.

12) E-stop button

When press down the e-stop button, forward/backward stop, vibration stop, and engine stops

4.7 Stopping/Parking

4.7.1 Turn vibration off.

4.7.2 Close both watering valves.

4.7.3 Return the engine throttle to idle by pressing the throttle switch, and allow the engine to cool down.

4.7.4 Stop the engine by turning the ignition switch to OFF.

4.7.5 Set the parking brake. Always set the parking brake before leaving the machine.

Note: *The parking brake engages the rear drum only.*

CAUTION: Avoid parking the roller on a hill or an incline. If the roller must be parked on a hill, block the drums in addition to setting the brake to prevent the roller from moving.

4.8 Direction and Speed

The forward/reverse lever controls both the direction and speed of the roller. Use the control lever, rather than the throttle, to control the speed of the machine while compacting. Daily, before operating, check the machine for *drift* (movement with the forward/reverse control in the NEUTRAL position) and adjust as needed. See section *Adjusting the Drive Control Cable*.

Speed is controlled by the amount the lever is moved in the direction of travel—forward or reverse.

While operating the machine, run it at full throttle. To run the machine at full throttle, press and release the throttle switch. This ensures maximum travel speeds and will produce the best compaction results. Operating the machine at slower engine speeds will reduce compaction, slow down machine functions, and damage hydraulic components.

4.9 Braking Machine

The machine will brake automatically when the control lever is returned to neutral. If the machine continues to drift, shift the control lever slightly in the opposite direction to stop movement and then return the lever to neutral. If the machine will not remain stationary in neutral, adjust it.

Emergency stop pushbutton

When pushed, the emergency stop pushbutton not only stops all travel (either forward or reverse) and applies the brake, but also stops exciter vibration.

4.10 Vibration

CAUTION: If the machine has been turned off with the vibration on, the vibration will come on as soon as the machine is restarted. Therefore, for easier starting and to keep the surface finish smooth, be ready to switch vibration off should it come on while cranking the engine.

4.11 Watering System

The watering system is controlled by two valves, one for each drum.

The valve handles are located to the right of the operator. Rotate the valve handles to control the amount of water being applied to the drum.

4.12 Articulation Joint Lockarm

A lockarm, located above the articulated joint, is provided to secure the front and rear halves of the roller together. Once secured, the lockarm prevents the two halves from swinging together.

To avoid being pinched by machine halves, set the lockarm



WARNING before lifting the machine for transport or repairs!

To set lockarm, release it from its holder and swing it out from its stored position. Place the forward end of the arm into the hole provided in the front frame of the machine. Secure it in this position using the large hairpin cotter provided.

4.13 Adding Ballast to Rear Drum

The rear drum can be filled with ballast to provide additional weight. Add ballast through plug opening. If water is used as ballast, add antifreeze or drain drum after use, in areas where temperatures are below freezing.

4.14 Roll Over Protection Structure (ROPS)

The machine is fitted with a Roll Over Protection Structure (ROPS).

The machine is normally delivered to the customer with the ROPS folded forward to facilitate transport.

Before using the machine, position the ROPS in the fully upright position as follows:

4.14.1 Support the ROPS using a crane and suitable rigging capable of supporting 48 kg. (105 lbs.), or two individuals capable of supporting the ROPS.

4.14.2 Loosen the screws (one on each side) without removing them.

4.14.3 Raise the ROPS to the upright position.

4.14.4 Insert the screws into the holes and torque all screws to 120 Nm (88 ft.lbs.).

4.14.5 Remove the rigging from the ROPS.

CAUTION: Do not use the ROPS to lift the machine.



WARNING Each month, check that the screws holding the ROPS in place are tight. Check that the ROPS frame is not rusty, cracked, broken or damaged in any way.

If the frame has been removed from the machine, it must be reinstalled before the machine is used. When reinstalling a safety frame, use the original nuts and bolts.



Keep the safety frame upright when working with the roller, and **WARNING** use the safety belt provided.

4.15 Hour Meter / Tachometer

The hour meter/tachometer is located on the steering column. When the engine is running, it acts as a tachometer. When the engine is shut down, it records the actual running time of the engine. Use the hour meter when planning scheduled maintenance.

4.16 Operation on Slopes

When operating on slopes or hills special care must be taken to reduce the risk of personal injury or damage to the equipment. Always operate the machine up and down hills rather than from side to side. For safe operation and for protection of the engine, continuous duty use should be restricted to front/rear slopes of 17° (30% grade) or less.



NEVER operate machine on side slopes. The machine may roll

WARNING over, even on stable ground.

4.17 Battery Disconnect



Always use this switch before performing any WARNING maintenance operations on electrical equipment.

5. Maintenance

5.1 Engine Maintenance

- The chart below lists basic engine maintenance. Refer to the engine manufacturer's Operation Manual for additional information on engine maintenance.

Honda	Daily before starting	After first 20 hrs.	Every 50 hrs.	Every 100 hrs.	Every 300 hrs.
Check fuel level.	●				
Check engine oil level.	●				
Inspect air filter. Replace as needed	●*				
Change engine oil and filter.		●		●	
Clean air cleaner.			●*		
Check and clean spark plug.				●	
Clean sediment cup.				●	
Check and adjust idle speed					●**
Check and adjust valve clearances					●**
Replace fuel filter.					●**

- Service more frequently in dusty conditions.
- These items should be serviced by an authorized Honda dealer, unless the owner has the proper tools and is mechanically proficient. See Honda shop manual.

Vanguard	Daily before starting	After first 20 hrs.	Every 50 hrs.	Every 100 hrs.	Every 300 hrs.
Check fuel level.	●				
Check engine oil level.	●				

Change engine oil.		•	•		
Change oil filter.				•	
Clean air cleaner.			•		
Check and clean spark plug.				•	
Check and adjust valve clearances.					•
Replace fuel filter.					•

5.2 Maintenance Schedule

TMG-MVR50	Daily before starting	Every 100 hrs.	Every 600 hrs.	Every 1200 hrs.
Check external hardware.	•			
Check level of hydraulic fluid.	•			
Grease articulated joint.		•		
Grease rear drum drive bearing.		•		
Grease exciter bearing.		•		
Change hydraulic system return line filter.			•	
Check and adjust scraper bars.			•	
Clean battery terminals.			•	
Change hydraulic oil.				•

Periodically:

- Check operation of the parking brake, making sure it engages.
- Check for leaks around hydraulic hoses and connections.
- Clean engine exterior, cooling fins, and blower housing.
- Check electrical wiring and connections.

New machines:

- Change the engine oil per engine schedule.
- Replace the hydraulic system return line filter after the first month or 100 hours of operation.

5.3 Fuel Filter

Change the in-line fuel filter once per year. Check the fuel lines and fittings daily for cracks or leaks. Replace as needed. Gasoline is extremely flammable! Turn the engine off and allow the engine to cool before replacing the fuel filter.



: The fuel filter is located under the floor panel of the
WARNING operating platform. Replace the oil filter after every 200
hours of operation.

To change the filter:

5.3.1 Drain the engine oil. See *Engine Oil*. Remove the used filter.

5.3.2 Before installing a new filter, lightly oil the filter gasket with fresh, clean engine oil. Screw the filter on by hand until gasket makes contact; then tighten an additional 7/8 turn.

5.3.3 Fill the engine with the recommended oil. See Engine Oil.

5.3.4 Start and run the engine to check for leaks. Stop the engine. Recheck the oil level and add oil if required. Refer to the engine owner's manual.

5.4 Engine Oil Drain

The engine oil drain has been routed to the outside of the front half of the TMG-MVR50. This is to make draining easier and to help keep the engine compartment clean.

5.5 Engine Oil

5.5.1 Drain the oil while the engine is still warm. To drain the oil:
Remove the filler cap drain screw, and washer. Drain the oil into a suitable container.

Note: In the interests of environmental protection, place a plastic sheet and a container under the machine to collect any liquid which drains off. Dispose of this liquid in accordance with environmental protection legislation.

5.5.2 Re-insert the drain screw and washer and tighten the screw securely.

5.5.3 Fill the engine with the recommended oil to the upper limit mark on the dipstick. See Technical Data for correct oil type and amount.



Burn hazard! Care must be taken when draining hot engine oil.

WARNING Hot oil can burn!

5.6 Spark Plug

- Clean or replace the spark plug as needed to ensure proper operation. Refer to the engine owner's manual.



The muffler becomes very hot during operation and remains hot **WARNING** for a while after stopping the engine. Do not touch the muffler while it is hot.

Note: Refer to the Technical Data for the recommended spark plug type and the electrode gap setting.

- 5.6.1 Remove the spark plug and inspect it.
- 5.6.2 Replace the spark plug if the insulator is cracked or chipped.
- 5.6.3 Clean the spark plug electrodes with a wire brush.
- 5.6.4 Set the electrode gap .
- 5.6.5 Tighten the spark plug securely.

CAUTION: A loose spark plug can become very hot and may cause engine damage.

5.7 Air Cleaner (Honda)

The Honda engine is equipped with a dual-element air cleaner.

To service:

- 5.7.1 Remove the wing bolt and cover .
- 5.7.2 Remove the 5 mm screws from the cover and remove paper element from the cover.
- 5.7.3 To clean the paper element, tap it lightly on a flat surface. Replace the paper element if it is damaged or heavily soiled. Reassemble the paper element to the cover. Include the gaskets .
- 5.7.4 To clean the foam element, wash it in liquid detergent and water.

Squeeze it dry in a clean cloth. Once dry, saturate the foam element in engine oil, then squeeze out the excess. Replace the foam element if it is damaged or heavily soiled. Reinstall the foam element and reassemble the air cleaner.

Note: Do not use petroleum solvents to clean the precleaner or the cartridge. Petroleum-type solvents will damage them. Do not use pressurized air to clean the cartridge. Pressurized air can also damage the cartridge.

5.8 Carburetor

Note: The air cleaner must be in place and the engine warm when making adjustments to the carburetor.

To adjust:

5.8.1 With the engine running, place the throttle in the SLOW position and rotate the carburetor throttle lever against the idle speed screw and hold it there.

5.8.2 Turn the idle speed screw to obtain 2000 rpm.

5.8.3 While still holding the throttle lever against the idle speed screw, turn the idle mixture valve midway between limits.

5.8.4 Readjust the idle speed to 1750 rpm and release the carburetor throttle lever. The engine should accelerate smoothly when throttle is opened. If it does not, readjust the idle mixture valve slightly counterclockwise.

5.9 Scraper Bars

- Scraper bars, located in front of and behind each drum, are used to prevent dirt and asphalt from sticking to and accumulating on the drum surface. These bars must be adjusted periodically as they wear.
- To adjust the scraper bar, loosen the bolts connecting the scraper bars to the shock mounts on both sides of the drum. Using a 9 mm (3/8") drive ratchet extension in the socket, rotate the assembly away from the drum until the bolts are observed to have rotated approximately 6 mm (1/4") in slots, then tighten the bolts.

- Check that the scraper bar has a slight deflection where it contacts the drum, and readjust as necessary.

Note: A large deflection of the scraper bar indicates excessive preloading of the rubber shockmounts, which will result in premature scraper wear.

5.10 Grease Fittings

Articulated Joint:



The articulated joint is equipped with grease fittings for lubrication. When being pinched by the machine halves, set the lock arm **WARNING** before greasing the articulating joint!

Rear Drum: The rear drum drive bearing is equipped with a grease fitting located at the center of the drum behind the right rear drum support.

Exciter: The exciter is grease lubricated. There are two grease fittings, one on each side of the machine, located behind the front drum supports.

5.11 Hydraulic System Cleanliness

Keeping the hydraulic oil clean is a vital factor affecting the service life of hydraulic components. Oil in hydraulic systems is used not only to transfer power, but also to lubricate the hydraulic components used in the system. Keeping the hydraulic system clean will help avoid costly

Major sources of hydraulic system contamination include:

- Particles of dirt introduced when the hydraulic system is opened for maintenance or repair
- Contaminants generated by the mechanical components of the system during operation
- Improper storage and handling of hydraulic oil
- Use of the wrong type of hydraulic oil
- Leakage in lines and fittings

To minimize hydraulic oil contamination:

CLEAN hydraulic connections before opening the lines. When adding oil, clean the hydraulic tank filler cap and surrounding area before removing it.

AVOID opening the pumps, motors, or hose connections unless absolutely necessary.

PLUG or cap all open hydraulic connections while servicing the system.

CLEAN and cover the containers, funnels, and spouts used to store and transfer the hydraulic oil.

CHANGE the hydraulic filters and oils at the recommended service intervals.

5.12 Hydraulic Oil Requirements

TMG recommends the use of a good petroleum-based, anti-wear hydraulic oil in the hydraulic system of this equipment. Good anti-wear hydraulic oils contain special additives to reduce oxidation, prevent foaming, and provide for good water separation. When selecting hydraulic oil for your machine, be sure to specify anti-wear properties. Most hydraulic oil suppliers will provide assistance in finding the correct hydraulic oil for your machine.

Avoid mixing different brands and grades of hydraulic oils.

Most hydraulic oils are available in different viscosities.

The SAE number for an oil is used strictly to identify viscosity—it does not indicate the type of oil (engine, hydraulic, gear, etc.).

When selecting a hydraulic oil be sure it matches the specified SAE viscosity rating and is intended to be used as a hydraulic oil. See Technical Data—Lubrication.

5.13 Hydraulic Oil Level

A hydraulic oil level sightglass is located near the bottom left side of the machine below the engine compartment.

Check that the hydraulic oil level is visible in the sightglass. If it is not, add oil through the filler port inside the engine compartment. Use only clean hydraulic oil.

Thoroughly clean the top of the filler cap before removing it from the tank. Care should be taken to prevent smaller dirt particles from entering the system. If hydraulic oil continually needs to be added, inspect the hoses and connections for possible leaks.

5.14 Suction Filter

A hydraulic filter is located in the hydraulic tank. This filter will not normally require service and does not need to be replaced when changing the hydraulic oil.

5.15 Changing Hydraulic Oil & Filter

All oils eventually shear or thin out with use, reducing their lubricating ability. In addition, heat, oxidation, and contamination may cause the formation of sludge, gum, or varnish in the system. For these reasons, it is important to change the hydraulic oil at specified intervals. See Maintenance Schedule.

5.15.1 Remove the filler cap from the top of the hydraulic tank.

5.15.2 Remove the drain plug and allow the hydraulic fluid to drain.

Note: In the interests of environmental protection, place a plastic sheet and a container under the machine to collect any liquid which drains off. Dispose of this liquid in accordance with environmental protection legislation.

5.16 Bleeding the Hydraulic System

5.16.1 Fill the hydraulic system with clean hydraulic oil until it is visible in the sightglass. Do not re-use used hydraulic oil.

5.16.2 Disconnect the line from the drive pump. Fill the pump case with hydraulic oil through the open connection. Reconnect the line.

5.16.3 Disconnect the spark plug wires to prevent the engine from starting and crank the engine 5–10 seconds. This will allow oil to fill inlet lines.

5.16.4 Reconnect the spark plug wires and place the forward/reverse control lever in NEUTRAL. Start the engine and run the machine at idle for 3–4 minutes.

5.16.5 With the engine still running at idle, move the control slowly back and

forth from forward to reverse for a short time to bleed air trapped in the drive circuit.

5.16.6 Increase the engine speed to full throttle and operate all controls to bleed the remaining air from the hydraulic lines.

5.16.7 Check the hydraulic oil level and add oil as required.

Note: If the drive pump chatters or operation is noisy, turn the machine off and check for air leaks in the inlet line of the charge pump.

5.17 Parking Brake Adjustment

The parking brake is located on the rear drive motor drum support and is used to prevent the roller from moving when the roller is turned off.

Adjust the brake for proper holding force as follows:

5.17.1 Unscrew the brake lever knob until the brake can be applied with moderate force (approximately 30 lbs.).

5.17.2 Start the roller on level ground and try to travel forward and reverse with the brake applied. If the roller drives through the brake, stop the machine, tighten the lever knob one turn and repeat the process.

5.17.3 When the machine no longer moves with the brake applied, stop the machine, turn the knob one more turn and the brake is properly set.

5.18 Throttle Solenoid Adjustment

5.18.1 With the engine still operating, set the throttle lever stop screw on the engine to 3200 rpm.

5.18.2 Shut down the engine and then turn the key to the first position. (Do not start the engine.) Activate the throttle solenoid. While holding the throttle lever on the engine to the fully engaged position, pull the cable tight through the throttle nut/set screw and secure the cable.

5.18.3 Turn the throttle lever stop screw counter-clockwise three turns.

5.18.4 Start the engine and engage the solenoid. Adjusting the top speed to 3200 rpm, and fasted with nuts.

5.19 Lifting Machine

Lock the front and rear machine halves together using the lockarm at the articulation joint. Place slings or chains through each lifting eye on the machine (4 places). Use four slings or chains with a minimum length of 2 meters (6 feet) on each leg connected to a central lifting device, OR two slings or chains with a minimum length of 4 meters (12 feet), one connecting the front lifting eyes and one connecting the rear lifting eyes, then brought together over the crane hook. Ensure that all lifting devices have sufficient weight-bearing capacity.



To avoid being pinched by the machine halves, set the lockarm **WARNING** before lifting the machine for transport or repairs!

CAUTION: Never use anything but the lifting eyes provided to lift the machine, as severe damage to the machine can result.

5.20 Transporting Machine

When transporting the machine place blocks in front of and behind each drum and use the front and rear tie-down lugs provided to securely fasten the machine to the trailer (2 places).

CAUTION: Never use anything but the tiedown lugs provided to tiedown the machine, as severe damage to the machine can result.

5.21 Storage

If the unit is to be stored for more than 30 days:

- Drain the fuel tank and the water tank. Also drain the rear drum, if ballast was added.
- Open the water valves and drain the water from the sprinkling system.
- Change the engine oil.
- Remove the spark plugs and pour approximately 3 ml (1 ounce) of SAE 30W oil into each engine cylinder through the spark plug opening.
- Install the spark plugs. Leave the ignition wires disconnected to prevent the engine from starting. Crank the engine for one or two seconds to distribute oil inside engine cylinders. Connect the ignition wires.
- Clean the entire roller and engine compartment.
- Remove any dirt from the cooling fins on the engine cylinders and on the blower housing.

- Set the lockarm to secure the roller halves together.
- Remove the battery from the machine and charge it periodically.
- Cover the entire machine and place it in a dry, protected area.

5.22 Towing

The drive circuit is equipped with a towing valve to allow oil to bypass the drive motors and let the roller freewheel for towing.

The towing valve should be used in emergency situations where the machine has become bogged down in loose or muddy soil, or cannot be driven due to an engine or hydraulic system failure.

CAUTION: Do not tow the roller long distances or at speeds greater than 3–5 km/h (2–3 mph). Damage to the drive motors may occur.

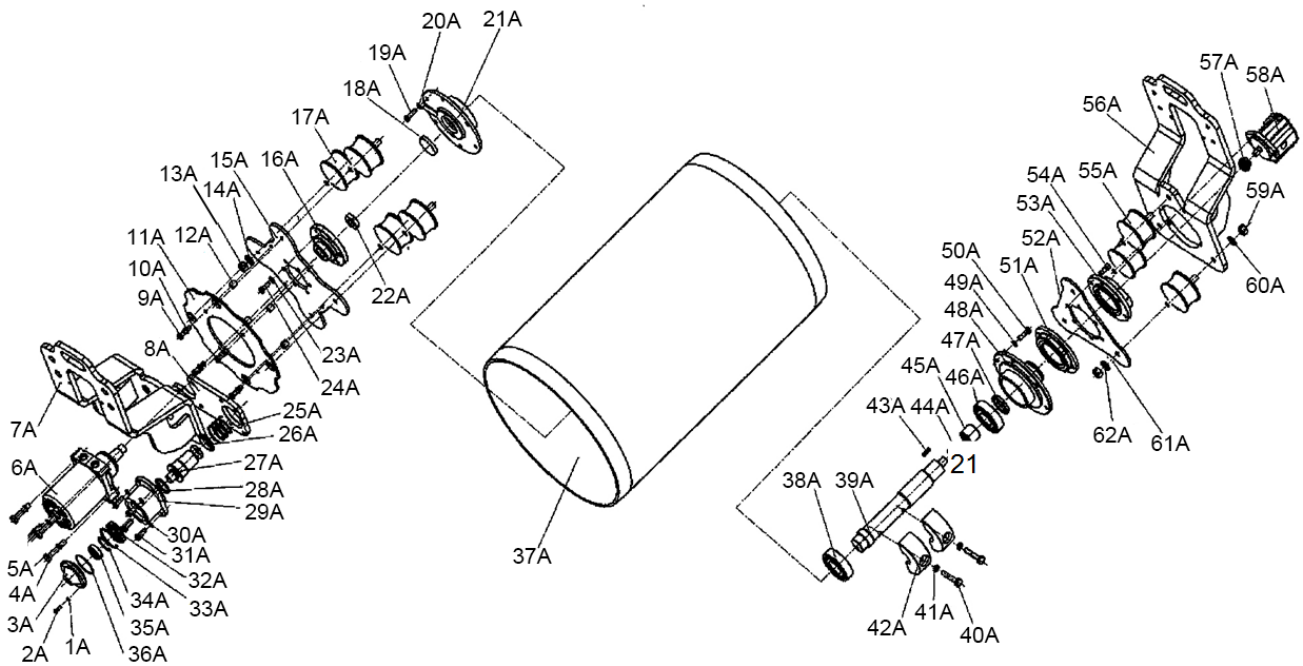
5.23 TMG-MVR50 Electrical Schematic

5.24 Wire Colors

Wire Colors							
B	Black	R	Red	Y	Yellow	Or	Orange
G	Green	T	Tan	Br	Brown	Pr	Purple
L	Blue	V	Violet	Cl	Clear	Sh	Shield
P	Pink	W	White	Gr	Gray	LL	Light blue

Exploded drawing of Vibratory roller (RWYL51)

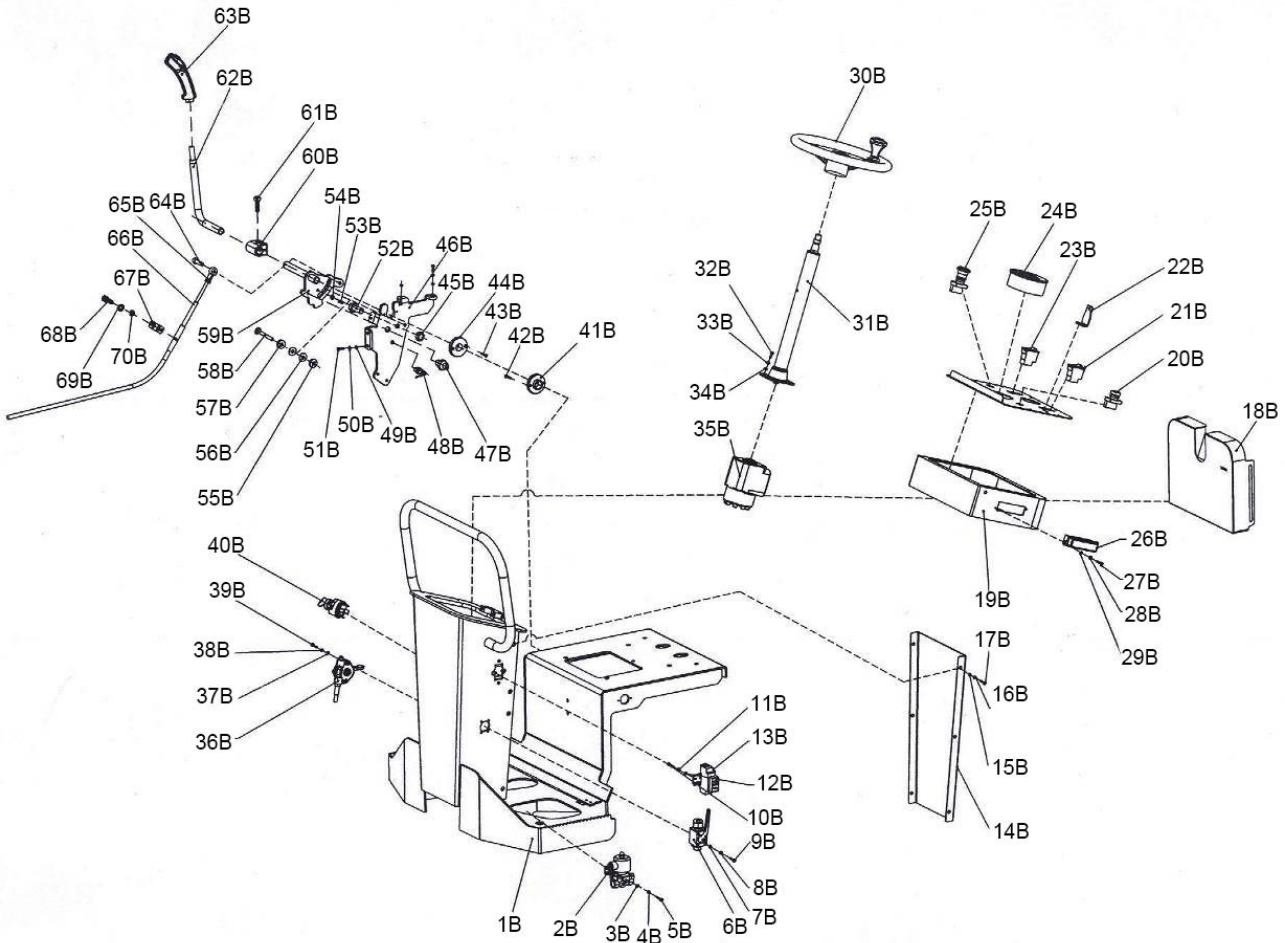
6. Front-wheel assembly



NO.	Code	Item	Quantity	Remark
1A		Plain washers	6	
2A		Bolt	6	
3A	2120404	Sealed cover plate	1	
4A		Bolt	4	
5A		Plain washer	4	
6A	2121006A	Drive motor	1	
7A	2120516	Drive supporting	1	
8A	2120402A	Fixed plate of brake	1	
9A		Bolt	4	
10A		Plain washer	4	
11A	2120401A	Brake disc	1	
12A	2120408	Cushion cover	4	
13A		Nut M16	4	
14A		Plain washer	4	
15A	2120409	Motor driving disc	1	
16A	2120515	Transmission sleeve	1	
17A	2120512	Shock absorber	4	
18A	2121027	Shaft cap	1	

19A		Bolt	6	
20A		Plain washer	6	
21A	2120505	Bearing end cover	1	
22A		Nut of motor	1	
23A		Plain washer	6	
24A		Bolt	6	
25A	2120407	Spring	1	
26A	2120406	Spacer sleeve	1	
27A	2120405	Pin roll	1	
28A	2121035	Dustband HW13	1	
29A	2120403	Brake shell	1	
30A		Plain washer	4	
31A		Bolt	4	
32A	NZK010509	Bearing 61909	1	
33A	DQK020118	Circlip for hole	1	
34A	DQK020113	Circlip for hole	1	
35A	NZK010105	Bearing6005	1	
36A	MFK020223	O-ring	1	
37A	2120504	Roller	1	
38A	WZK050109	Bearing	1	
39A	2120506	Vibrating shaft	1	
40A		Bolt	2	
41A		Plain washer	2	
42A	2120143	Eccentric block	2	
43A	2150116	Key	1	
44A	2150129	Coupling for vibration shaft	1	
45A	2150127	Nylon sleeve	1	
46A	WZK050109	Bearing	1	
47A	MFK011001	Framework oil seal	1	
48A	2120507	Bearing fixed support	1	
49A		Plain washer	6	
50A		Bolt	6	
51A	2120509	Drive bearing support	1	
52A	2120508	Driving disc	1	
53A	2120510	Vibration motor fixed support	1	
54A		Bolt	6	
55A	2120512	Shock absorber	3	
56A	2120513	Vibration supporting seat	1	
57A	2150128	Motor coupling	1	
58A	2121005	Vibration motor	1	
59A		Nut M16	3	
60A		Plain washer	3	
61A		Plain washer	3	
62A		Nut M16	3	

7. Control parts

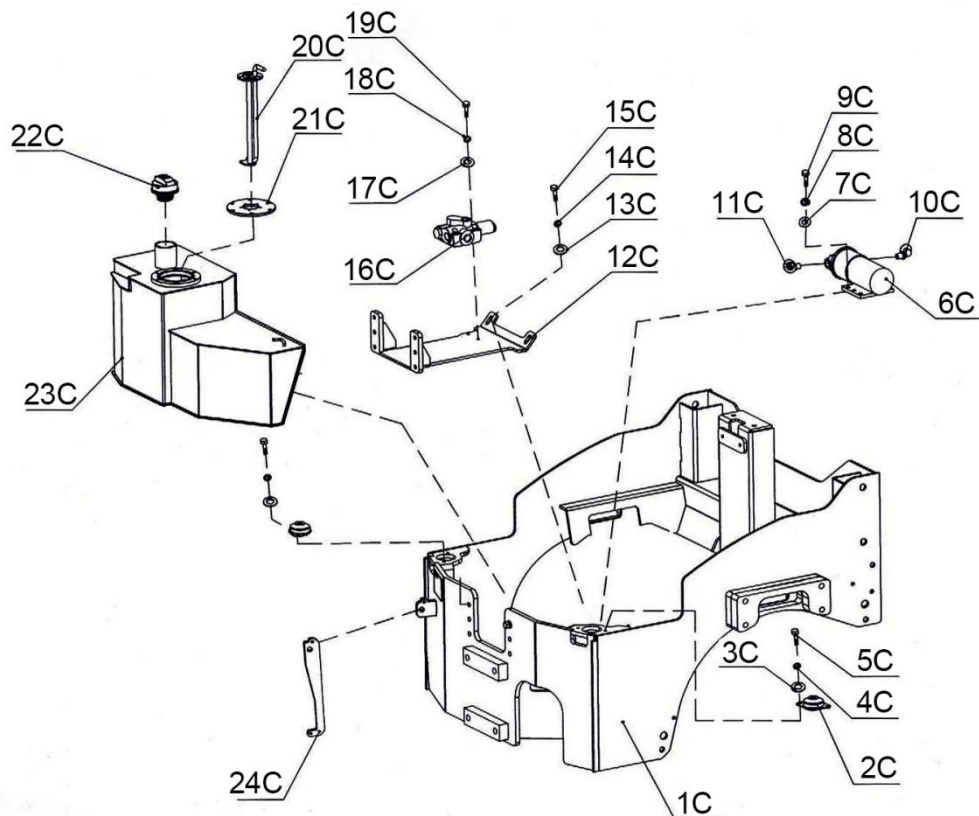


NO.	Code	Item	Quantity	Type	Remark
1B	2120202	Upper support frame assemble	1		
2B	2121029	Electromagnetic valve	1		
3B		Plain washer	2		
4B		Spring washer	2		
5B		Bolt	2		
6B	2200504	High pressure ball valve	1		
7B		Plain washer	2		
8B		Spring washer	2		
9B		Bolt	2		

10B		Bolt	2		
11B		Spring washer	2		
12B		Plain washer	2		
13B	DJD03060 3	Time relay	1		
14B	2120206	Cover plate of steering	1		
15B		Plain washer	6		
16B		Spring washer	6		
17B		Bolt	6		
18B	2120246	Rain cover	1		
19B	2120241	Instrument mounting	1		
20B	DAN01021 3	Button switch	1	XB2BA51C	
21B	2121022	Lamp switch	1	JK931-002	
22B	2120245	Lock nose	1		
23B	2121030	Water switch	1	JK931-002	
24B	2121011A	Combination instrument	1	HZB101-LDW	
25B	DAN02020 3	Emergency button Φ 22	1	ZB2BS54C(1Open1Shut)	
26B	2121032	Fuse holder	1	HG-4735-S6B	
27B		Bolt	2		
28B		Spring washer	2		
29B		Plain washer	2		
30B	2121026-1	Steering wheel	1		
31B	2121018	Steering column	1	730-1306	
32B		Bolt	4		
33B		Spring washer	4		
34B		Plain washer	4		
35B	2121064	Hydraulic steering gear	1	S20080AAEABPBAAAAAB	
36B		Accelerator assembly	1		
37B		Plain washer	2		
38B		Spring washer	2		
39B		Bolt	2		
40B	2202032	Start key	1	ZE001 (385201161)	

41B	2200412	Handle screw sleeve	1		
42B		Bolt	2		
43B		Bolt	2		
44B	2200412	Handle screw sleeve	1		
45B		Nut M16	1		
46B	2120205B	Reversing plate	1		
47B	2121045	Reverse switch	1		
48B	2121044	Proximity switch	1		
49B		Plain washer	2		
50B		Spring washer	2		
51B		Bolt	2		
52B	3070222	Location pilot pin	1		
53B	3070208	Limit spring	1		
54B	0260909	Steel ball	1		
55B	2120209	Spacer sleeve	1		
56B	DZK03010 7	Butterfly washer	2		
57B	2120209	Spacer sleeve	1		
58B		Bolt	1		
59B	2120219	Reversing rod assembly	1		
60B	2120218	Handle assembly	1		
61B		Bolt	2		
62B	2120211	Reversing rod assembly	1		
63B		Handle assembly	1		
64B		Bolt	1		
65B	NZK12010 2	Inside thread rod ends bearing	1		
66B	2120225	Direction control cable assembly	1		
67B	3070206	Fixed support of direction control cable	1		
68B		Bolt	2		
69B		Spring washer	2		
70B		Plain washer	2		

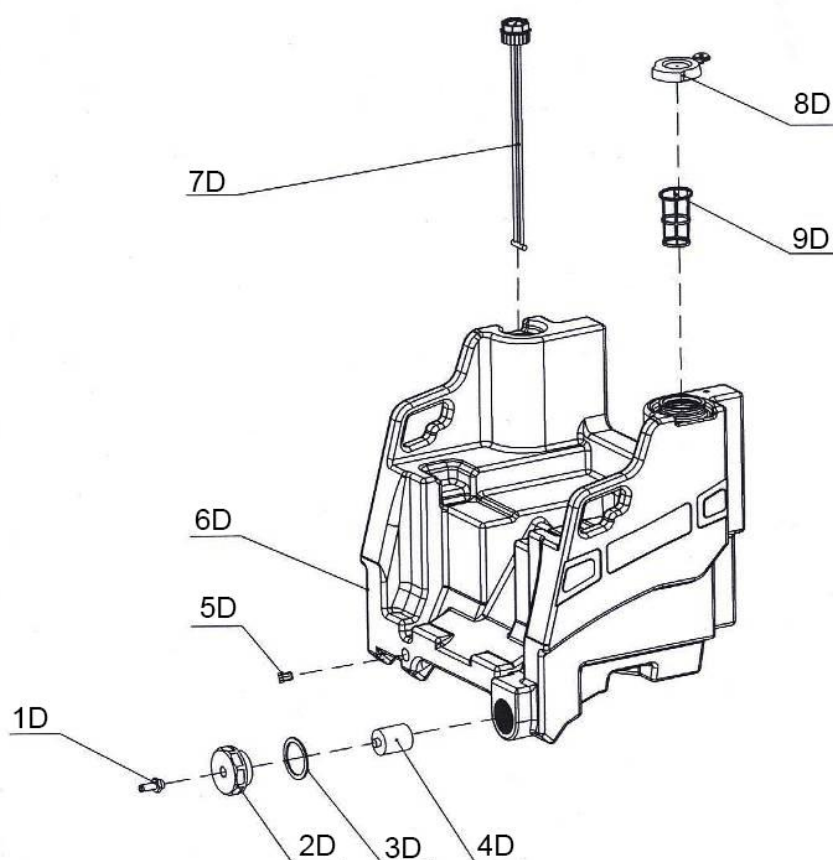
8. Fuel tank assembly and other accessory



NO.	Code	Item	Quantity	Type	Remark
1C	2120201	Rear frame assembly	1		
2C	2200508	Shock absorber of machine frame	4	XD1500.7.4	
3C		Plain washer	2		
4C		Spring washer	2		
5C		Bolt	2		
6C	2121015	Miniature reciprocating pump	1		
7C		Plain washer	4		
8C		Spring washer	4		

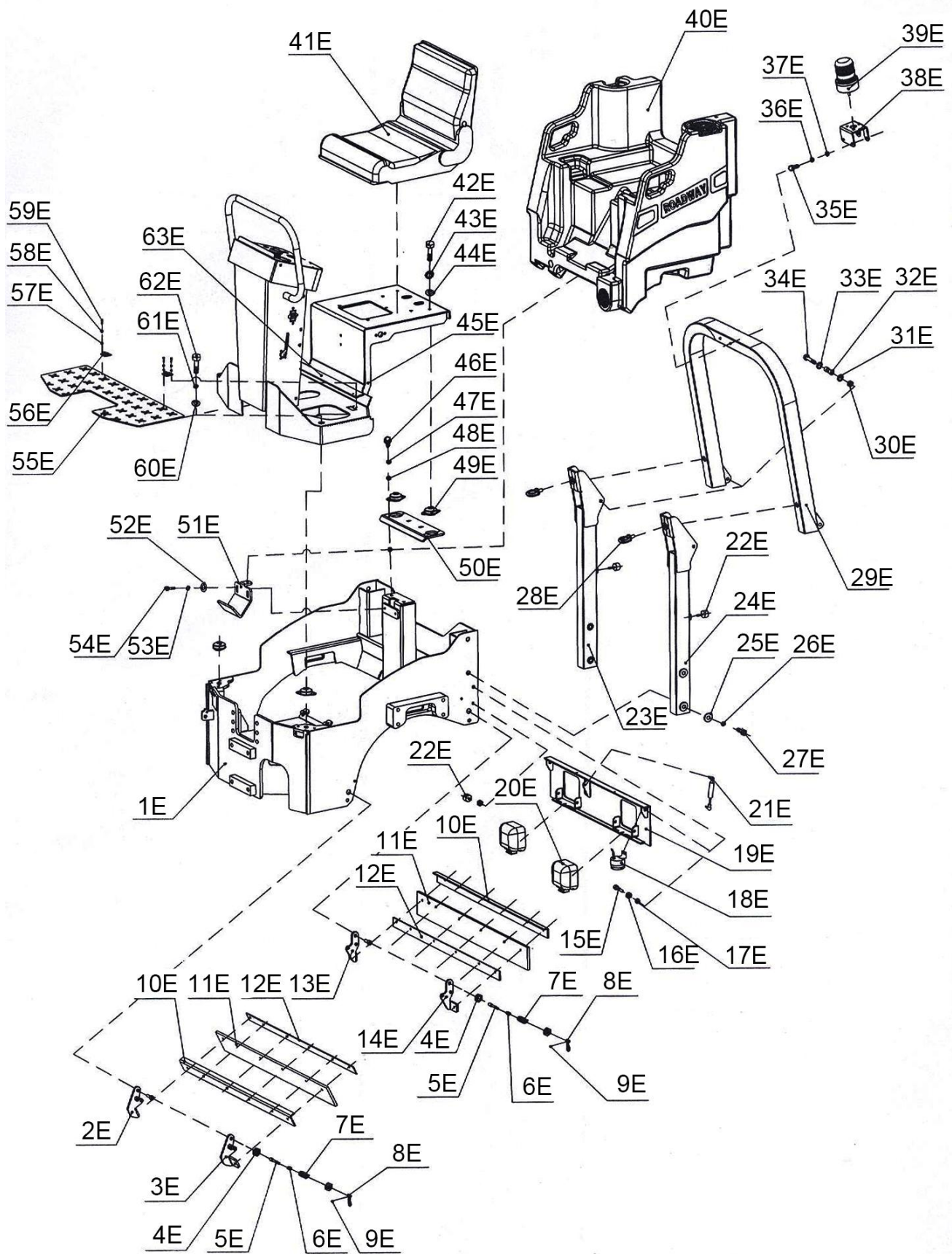
9C		Bolt	4		
10C		Water pump connector	1		
11C		Water pump connector	1		
12C	2120204	Connect frame assembly	1		
13C		Plain washer	2		
14C		Spring washer	2		
15C		Bolt	2		
16C	2121008	Stable single way diverter valve	1		
17C		Plain washer	3		
18C		Spring washer	3		
19C		Bolt	3		
20C	2121004	Oil level sensor	1		
21C	2120221	Sealing cover plate	1		
22C	1672254A	Oil tank cap	1		
23C	2120212	Fuel tank	1		
24C	2120220	Anti-rotation plate	1		

9. Water tank assembly



NO.	Code	Item	Quantity	Type	Remark
1D		Connector	1		
2D	2200428A	Drain cover of water tank	1		
3D	2202042	O-ring	1		
4D	2200507	Water filter	1		
5D		Plug	1		
6D	2120249	Water tank	1		
7D	2121001	Water level meter	1		
8D	0260702A	Water tank cap	1		
9D		Water filter screen	1		

10.Rear frame assembly

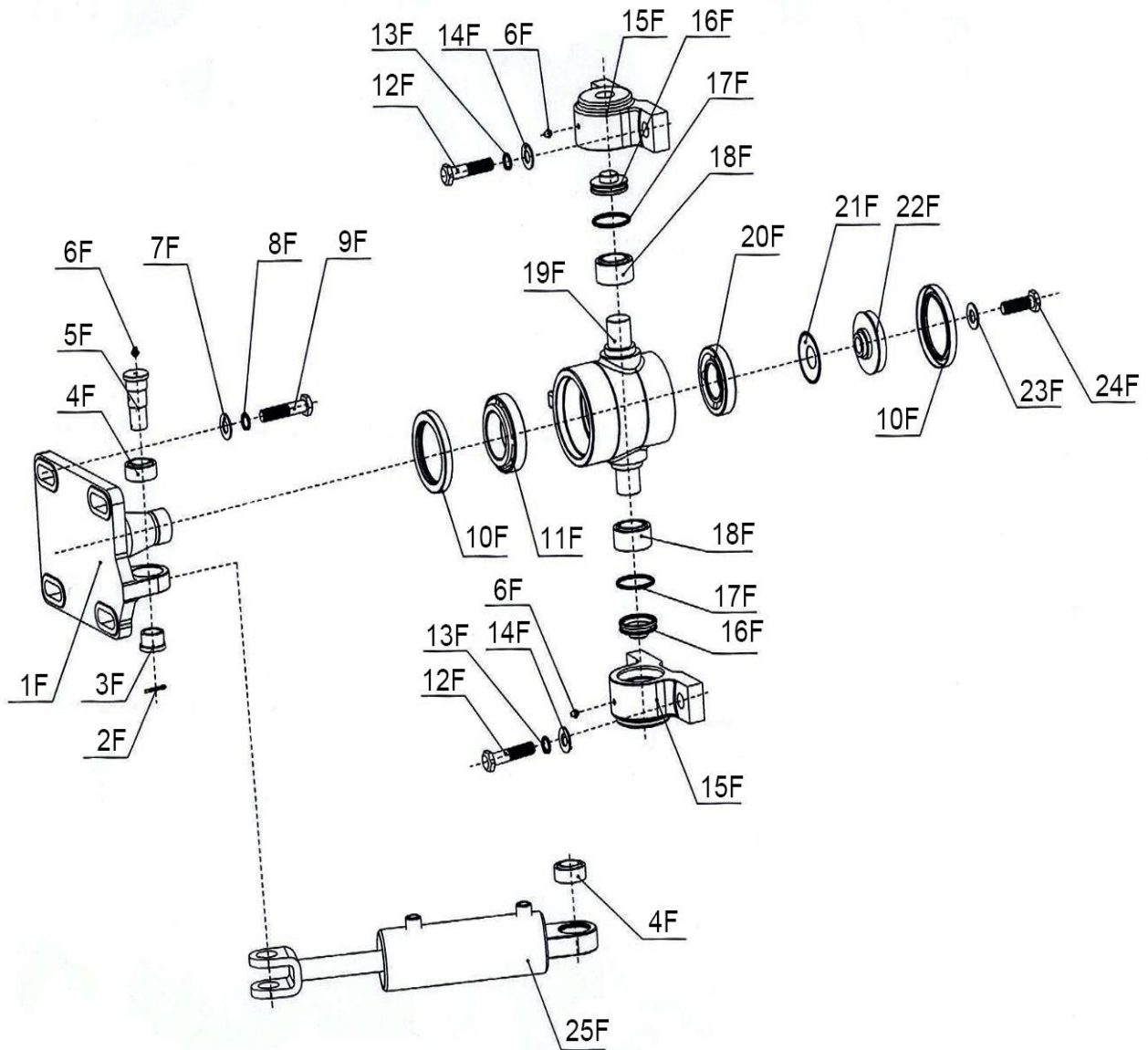


NO.	Code	Item	Quantity	Type	Remark
1E	2120201	Rear machine frame	1		

		welding assembly			
2E	2120108	Mounting plate at low right direction	1		
3E	2120107	Mounting plate at low left direction	1		
4E	LMK020202	Hexagon thin nut	2	M20*1.5	
5E	2200424A	Stop pin	1		
6E	2200445	Return spring	1		
7E	2200423	Stop pin support	1		
8E	2200432	Handle assembly	1		
9E	XZK010601	Elastic cylindrical pin	1		
10E	2120109	Scraping fender fixing plate	1		
11E	2120520	Scraper fender	1		
12E	2120523	Pressure plate of scraper fender	1		
13E	2120105	Mounting plate at right front direction	1		
14E	2120106	Mounting plate at left front direction	1		
15E		Bolt	1		
16E		Nut	1		
17E	2202011	Nylon push	1	SR1942(1092540000VR)	
18E	2121046	Reverse buzzer	1		
19E	2120103	Front damper	1		
20E	2121019	Working light	2	WD100*90/12V 55W	
21E	2202014	Gas spring	1	135*30*500N	
22E	2120136	Shield shock absorption	1		
23E	2120213	Low right fall prevention frame assembly	1		
24E	2120214	Low left fall prevention frame assembly	1		
25E		Plain washers	1		
26E		Spring washer	1		
27E		Outer hexagon bolt	1		
28E	2200510	Eyebolt	2	M12	
29E	2120217A	Up section fall prevention frame assembly	1		
30E		Nut	1		

31E		Plain washers	1		
32E	2120215	Cushion cover	2		
33E		Plain washers	1		
34E		Outer hexagon bolt	1		
35E		Bolt	1		
36E		Spring washer	1		
37E		Plain washers	1		
38E	2120801	Alarm fixing plate	1		
39E	1532218	Alarm light	1		
40E	2120249	Plastic water tank	1		
41E	3140412	Seat	1	SC1	
42E		Bolt	1		
43E		Spring washer	1		
44E		Plain washers	1		
45E	2120202	Up support frame assembly	1		
46E		Bolt	1		
47E		Spring washer	1		
48E		Plain washers	1		
49E	2200508	Chasis shock absorption	4	XD1500.7.4	
50E	2120207	Transition plate	1		
51E	2200409	Water tank fixing plate	1		
52E		Plain washers	1		
53E		Spring washer	1		
54E		Bolt	1		
55E	2120203	Pedal plate	1		
56E	1672222	Stainless steel hinge	2		
57E		Plain washers	4		
58E		Spring washer	4		
59E		Bolt	4		
60E		Plain washers	1		
61E		Spring washer	1		
62E		Bolt	1		
63E	2120208	Decorative plate	1		

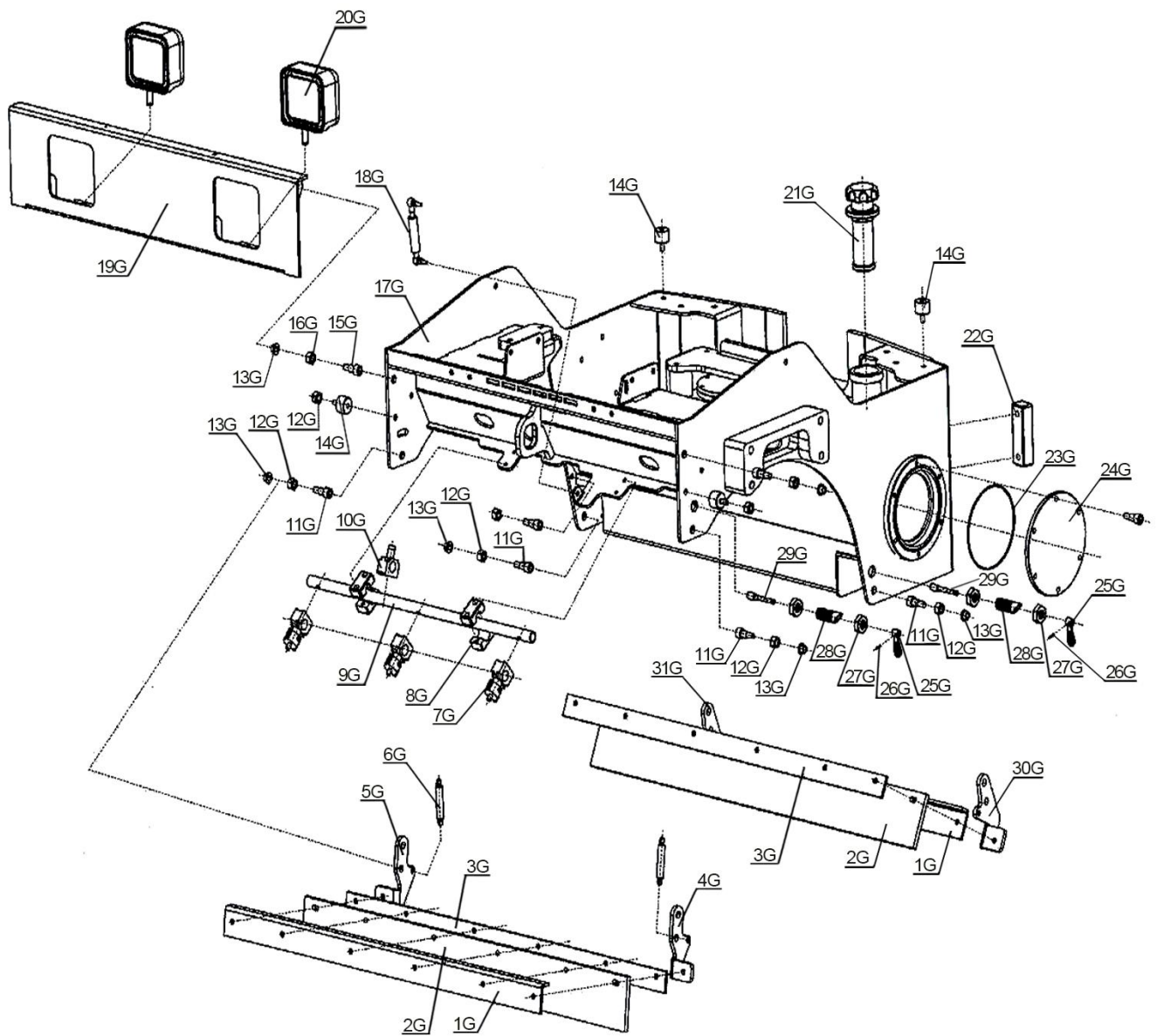
11. Steering system assembly



NO.	Code	Item	Quantity	Type	Remark
1F	2120302	Steering support	1		
2F		Cotter	1		
3F	2120305	Steering bushing	1		
4F	NZK11042 5	Knuckle bearing	2	GE25ES	
5F	2120304	Cylinder fixed axis	1		

6F	0040302	Nozzle	3	M6*1	
7F		Plain washers	4		
8F		Spring washer	4		
9F		Bolt	4		
10F	MFK0115 01	Oil seal	2	70*95*10	
11F	NZK07019 3	Bearing	1	2007111E (32011X)	
12F		Bolt	4		
13F		Spring washer	4		
14F		Plain washers	4		
15F	2120312	Bearing support	2		Structure change
16F	2120313	End cap	2		Structure change
17F		O type seal ring	2	44.4*3.1	Structure change
18F	NZK11033 1	Centripetal knuckle bearing	2	GEZ 31 ES	
19F	2120301	Steering bearing seat	1		
20F	NZK07030 8	Bearing	1	7208E (30208)	
21F	2121002	Belleville spring	1	A71-1 (71x36x5.6)	
22F	2120303	Belleville spring pressing plate	1		
23F		Plain washers	1		
24F		Bolt	1		
25F	2120314	Steering cylinder	1		

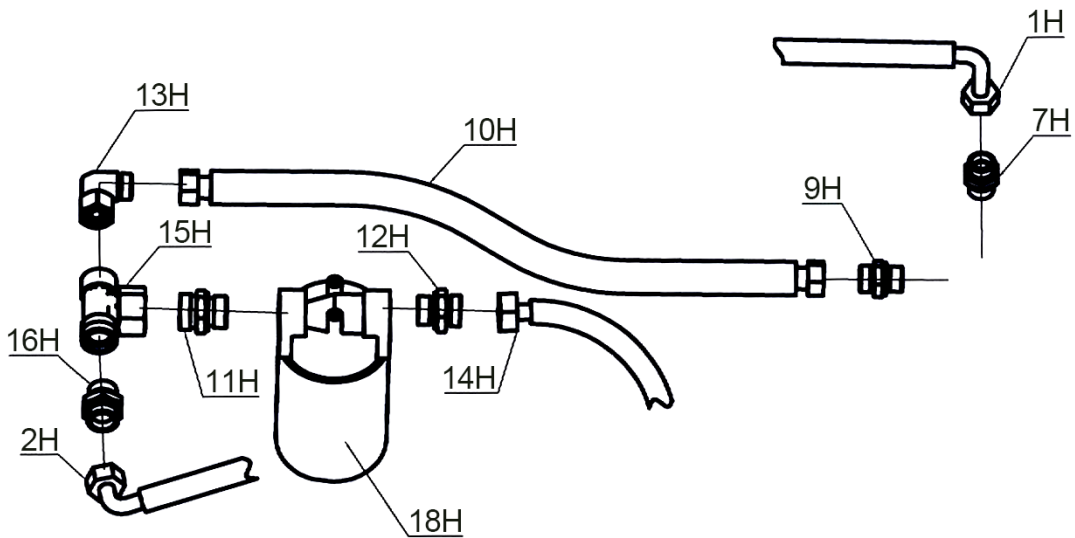
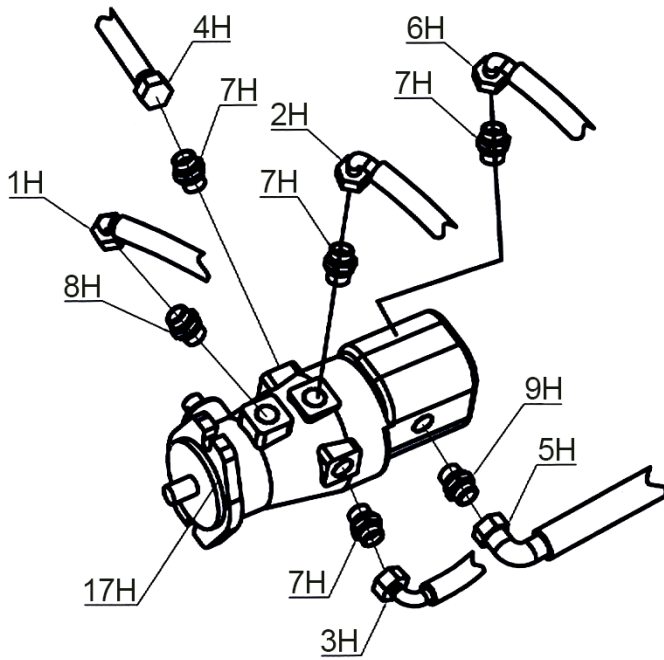
12. Front frame assembly



NO.	Code	Item	Quantity	Type	Remark
1G	2120109	Scraping fender fixing plate	1		
2G	2120520	Scraping plate	1		
3G	2120523	Scraping pressing plate	1		
4G	2120105	Mounting plate at right front direction	1		
5G	2120106	Mounting plate at left front direction	1		

6G	2120521	Extension spring	2		
7G	2121016	Shower nozzle	3	SPT-3	
8G	2120158	Pipe clamp	4		
9G	2120114	Spray pipe	1		
10G	2121017	Joint	1	SPT-2	
11G		Bolt	1		
12G		Nut	1		
13G	2202011	Nylon bush	1	SR1942(1092540000VR)	
14G	2120136	Shield shock absorber	1		
15G		Bolt	1		
16G		Nut	1		
17G	2120101	Front frame	1		
18G	2202014	Gas gasoline	1	135*30*500N	
19G	2120103	Front damper	1		
20G	2121019	Working light	2	WD100*90/12V 55W	
21G	2121010	Air cleaner	1	EF2-32	
22G	2121033	Liquid indicator	1	YWZ-80	
23G	MFK020139	O-rings	1	φ150*2.65	
24G	2120113	Clean out pore plate	1		
25G	2200432	Lifting handle assembly	1		
26G	XZK010601	Elastic cylindrical pin	1		
27G	LMK020202	Hexagon thin nut	2	M20*1.5	
28G	2200423	Stop pin support	1		
29G	2200424A	Stop pin	1		
30G	2120107	Mounting plate at left lower direction	1		
31G	2120108	Mounting plate at right lower direction	1		

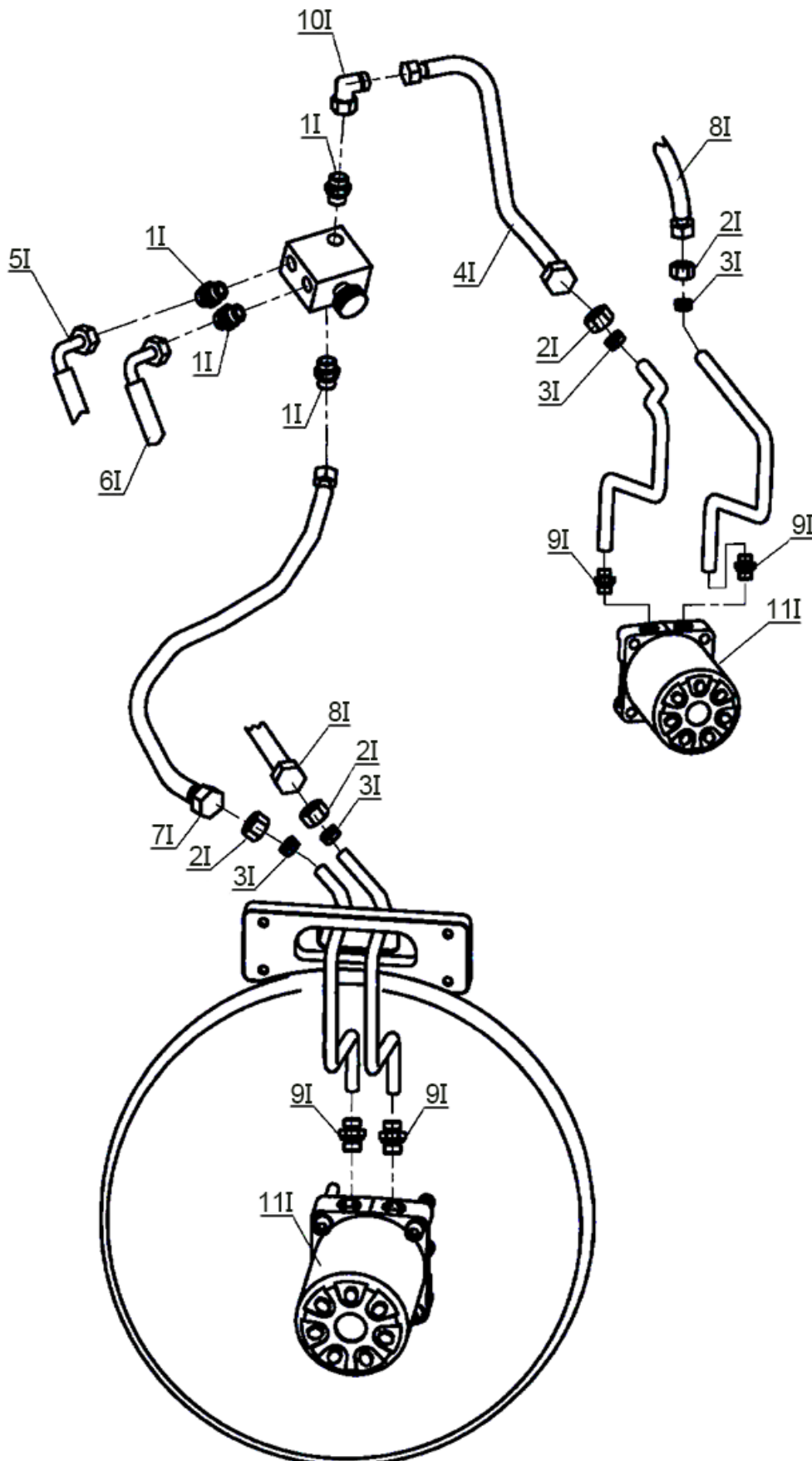
13.Hydraulic tube (1)



NO.	Code	Item	Quantity	Type	Remark
1H	2151001	Rubber tube assembly	1		
2H	2122001	Rubber tube assembly	1		

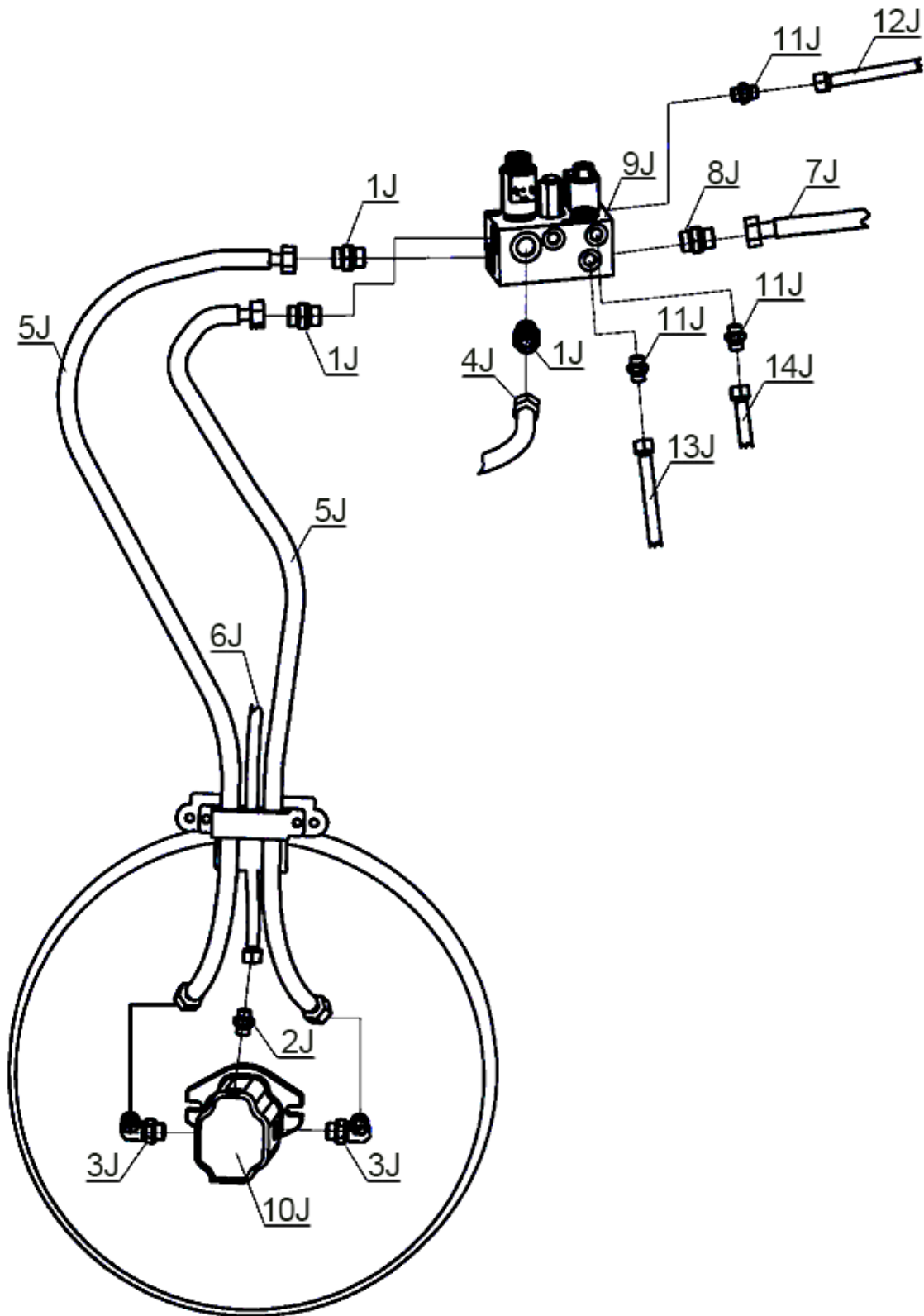
3H	2151002	Rubber tube assembly	1		
4H	2151002	Rubber tube assembly	1		
5H	2151003	Rubber tube assembly	1		
6H	2151017	Rubber tube assembly	1		
7H	2122033	Connector	5		
8H	2122029	Connector	1		
9H	2122034	Connector	2		
10H	2151007	Rubber tube assembly	1		
11H	2122034	Connector	1		
12H	2122048	Connector	1		
13H	2122035	Connector	1		
14H	2151013	Rubber tube assembly	1		
15H	2122030	Connector	1		
16H	2122032	Connector	1		
17H	2121003	Hydraulic pump assembly	1		
18H	2121007	Return oil filter	1		

14. Hydraulic tube (2)



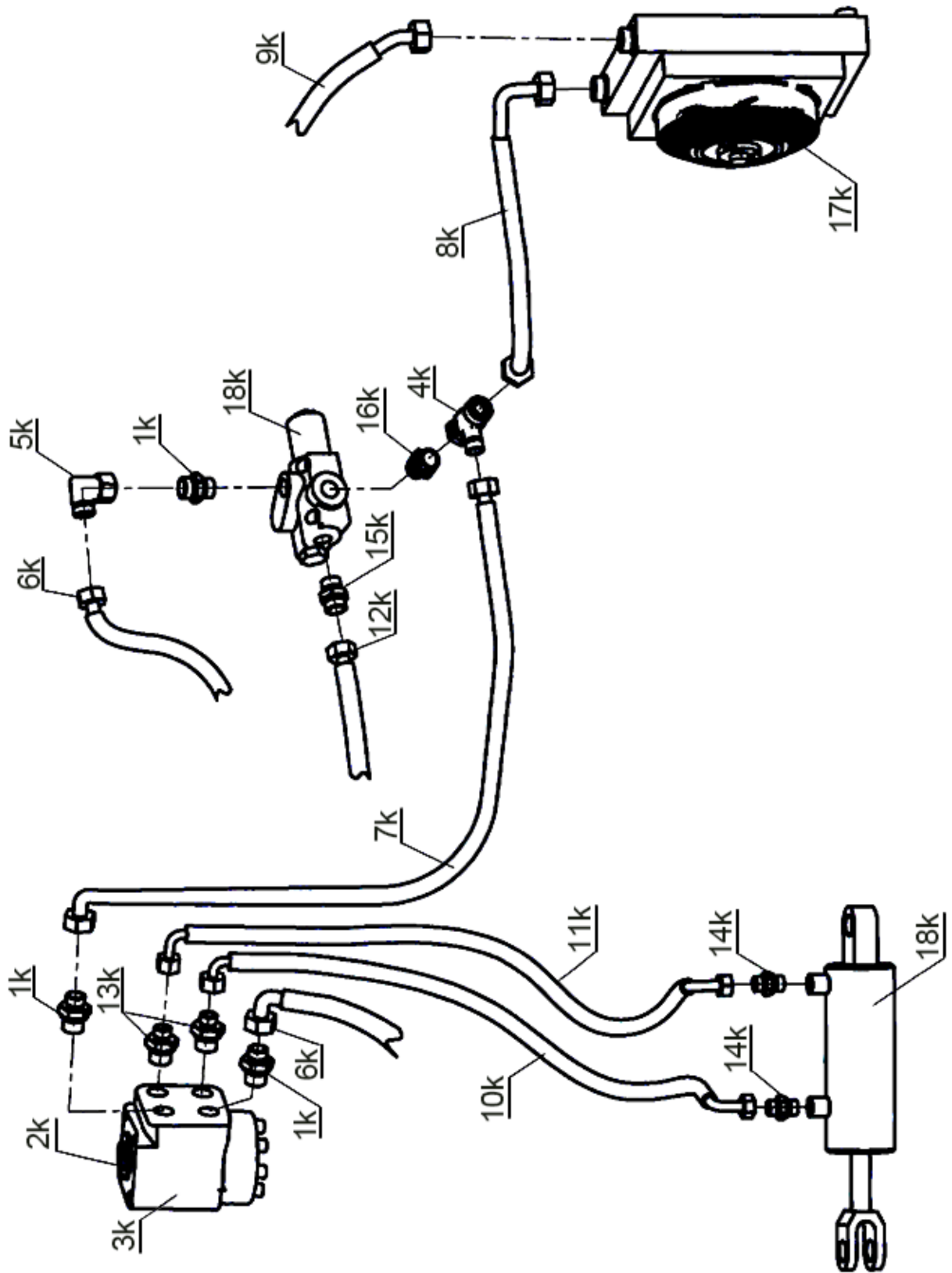
NO.	Code	Item	Quantity	Type	Remark
1I	2122033	Connector	4		
2I	2122037	Net	4		
3I	2122038	Cutting sleeve	4		
4I	2122006	Rubber tube assembly	1		
5I	2151002	Rubber tube assembly	1		
6I	2151002	Rubber tube assembly	1		
7I	2151017	Rubber tube assembly	1		
8I	2151005	Rubber tube assembly	1		
9I	2122036	Connector	4		
10I		Connector	1		
11I	2121006A	Driving motor	2		

15. Hydraulic tube (3)



NO.	Code	Item	Quantity	Type	Remark
1J	2122033	Connector	3		
2J	2201073	Connector	1		
3J	2122013	Connector	2		
4J	2151004B	Rubber tube assembly	1		
5J	2122007	Rubber tube assembly	2		
6J	2151006	Rubber tube assembly	1		
7J	2151008	Rubber tube assembly	1		
8J	2122041	Connector	1		
9J	2121041C	Vibration valve set	1		
10J	2121005	Gear motor	1		
11J	2122058	Connector	3		
12J	2122023A	Rubber tube assembly	1		
13J	2151015	Rubber tube assembly	1		
14J	2151016	Rubber tube assembly	1		

16. Hydraulic tube (4)



NO.	Code	Item	Quantity	Type	Remark
1K	2122044	Connector	3		
2K	2121064	Redirector	1		
3K	2121008	Shunt	1		
4K	2151011	Connector	1		
5K	2122043	Connector	1		
6K	2122056A	Rubber tube assembly	1		
7K	2151009A	Rubber tube assembly	1		
8K	2151012	Rubber tube assembly	1		
9K	2151013	Rubber tube assembly	1		
10K	2122011B	Rubber tube assembly	1		
11K	2122011B	Rubber tube assembly	1		
12K	2151008	Rubber tube assembly	1		
13K	2122049	Connector	2		
14K	2122050	Connector	2		
15K	2122042	Connector	1		
16K	2122046	Connector	1		
17K	2150101	Radiator	1		
18K	2120314	Steering cylinder	1		