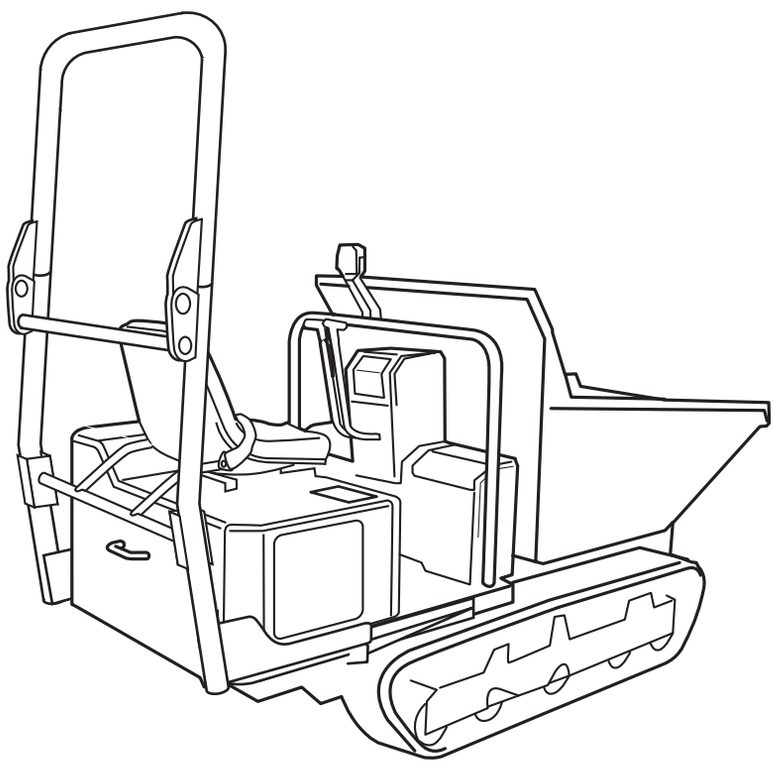
CANYCOM

Off-road Rubber Track Dumper

S100

Operator's Manual



⚠WARNING!

Read this manual completely before operating or maintaining this machine. Failure to follow safety precautions could result in serious injury or death. Keep this manual for future reference by you and by all those who operate and maintain this machine.

3677 5106 002

CHIKUSUI CANYCOM, INC.
90-1 Fukumasu, Yoshii-machi,
Ukiha-shi, Fukuoka, Japan 839-1396
Tel.+81-(0)943-75-2195 Fax.+81-(0)943-75-4396

CHIKUSUI CANYCOM, INC.

http://www.canycom.co.jp/

- Sales Headquarters TEL +81-(0)943-75-2195 FAX +81-(0)943-75-4396
- Foreign Trade Center TEL +81-(0)3-3552-6277 FAX +81-(0)3-3552-6288

Authorized Dealer

Notice to Users and Maintenance Personnel

Thank you for purchasing this machine.
This manual provides information needed for safe and effective use of this machine to those who operate or maintain the machine. Make sure to read and understand the manual thoroughly before operating this product. Also make sure to read the separate operator's manual for the engine.

⚠WARNING!

- **This machine can be very dangerous if the safety precautions in this manual and on the labels attached to this machine are not followed. Read and understand this manual and the safety labels on the machine thoroughly before using this machine. Always follow the instructions and safety precautions, or serious injury or death could result.**

- **This machine should only be used for its intended purpose: hauling and dumping. Any other use could be dangerous.**

- **This machine may not be operated on public road or what is considered to be public road. It is the sole responsibility of the operator to consult the local regulations.**

- **Do not modify this machine, or do not operate this machine with the safety covers removed or open. A serious accident could result.**

⚠CAUTION!

- **Store this manual in a safe, accessible place for easy reference.**

Notice to Owner

⚠CAUTION!

- **Be sure that everyone who uses this machine, including those who rent or lease this machine, receives a copy of this Operator's Manual and understands the importance of reading and following the information in this manual.**

Warning Terms Used in this Manual

In this manual, the following four warning terms are used to signal the four levels of hazard (or seriousness of possible accidents). Read and understand what they mean and always follow the instructions in this manual.

Warning Term	Definition
⚠DANGER!	**Indicates an imminently hazardous situation which will result in death or serious injury if the user does not follow the procedures or the instructions.**
⚠WARNING!	**Indicates a potentially hazardous situation which could result in death or serious injury if the user does not follow the procedures or the instructions.**
⚠CAUTION!	**Indicates a potentially hazardous situation which could result in minor to moderate injury or damage to the machine if the user does not follow the procedures or the instructions.**
NOTE	**Indicates important information which needs particular attention.**

Warranty and After-Sales Service

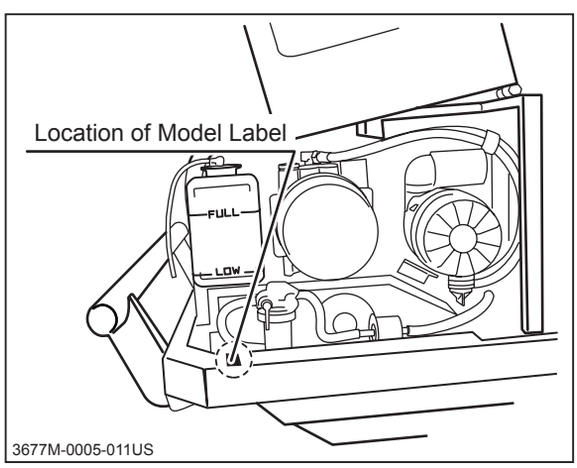
Warranty

CHIKUSUI CANYCOM, INC. guarantees this product, based on the terms of warranty. A copy of this warranty is reproduced in the back of this manual.

After-Sales Service

Consult your local CANYCOM dealer or our company's sales department regarding service orders or any questions or problems that may arise when using this machine. Please make sure to have the product name, serial number, and the make and type of the engine handy at the time of contact. The model and serial number can be found on the model label as shown below, and the make and type of the engine can be found in Chapter3 **Specifications** of this manual (Page13).

Location of Model Label



Model Label

Availability of Spare Parts

The replacement or repair parts for this product shall remain available for seven years after the production of this type of machine is discontinued.

Contents

Warranty

Warranty Certificate is attached at the end of this manual.

* Have the warranty certificate signed and sealed after you have received and fully understood the instructions for handling this machine and received the receipt.

Appendix

• Operator's Manual for the Engine

* Be sure to read and understand it together with this manual .

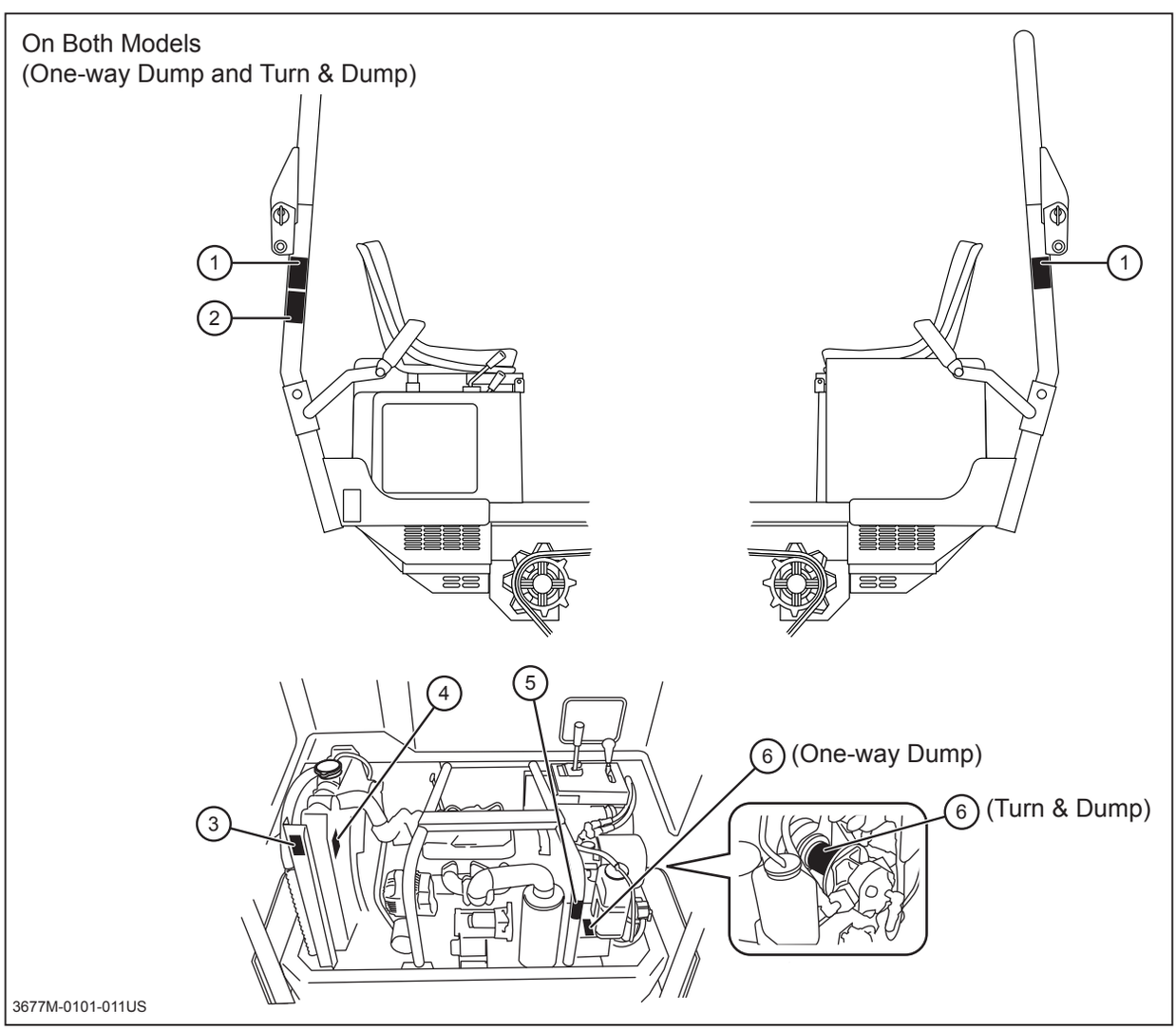
Safety Labels

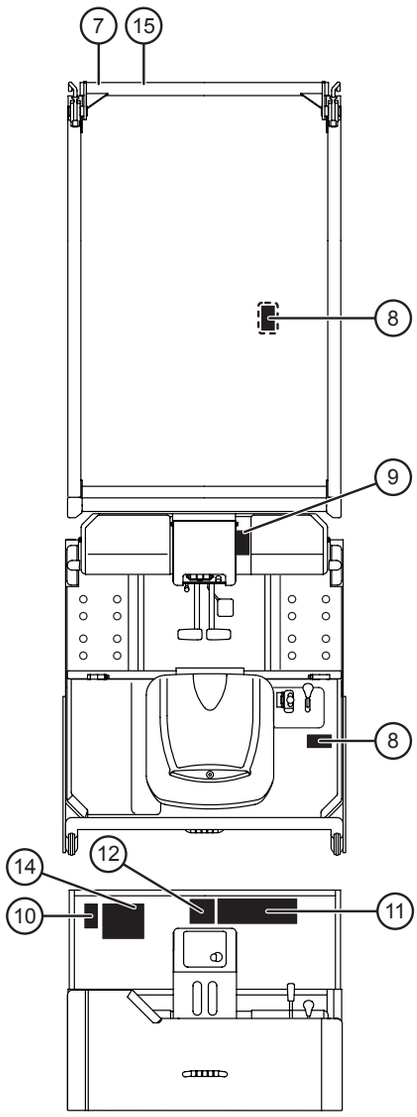
The safety labels shown on the next page are attached to the machine. See the illustration below for the location and the illustration on the next page for the content of each label on the machine.

- **Locate all the warning labels attached to this machine. Read and follow the instructions and precautions in them. Failure to do so could result in serious injury or death to the operator or bystanders.**

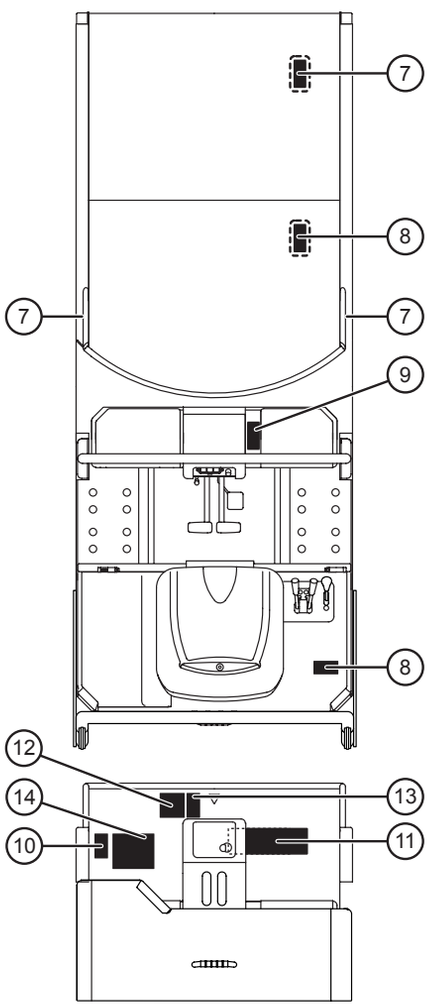
- **Keep the labels clean and legible. Do not use solvents or gasoline to clean the labels.**

- **Replace these labels immediately if they have been removed, have fallen off or become illegible. Use the part number, on the label or shown in this manual, to order a replacement label from your CANYCOM representative.**





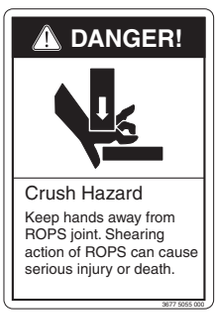
One-way Dump



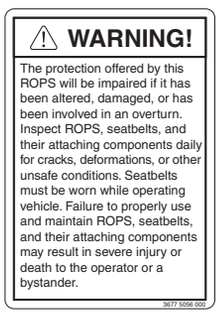
Turn & Dump

3677M-0101-021US

① 3677 5055 000

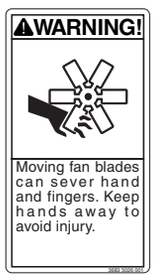


② 3677 5056 000



③ 3677 5045 001

④ 3683 5026 001



⑤ 3677 5043 001

⑥ 3683 5025 001

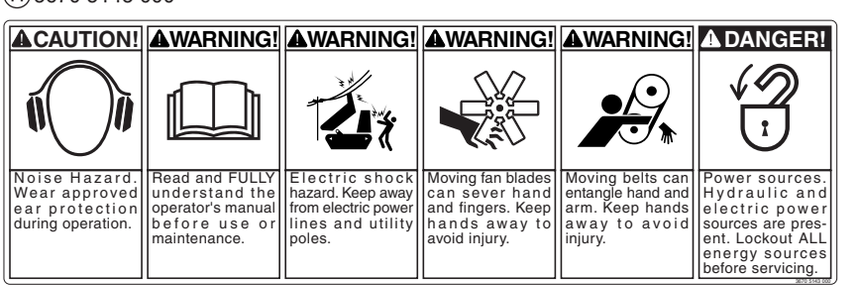
⑦ 3677 5044 001

⑧ 3677 5046 001

⑨ 3677 5042 001

⑩ 3677 5047 001

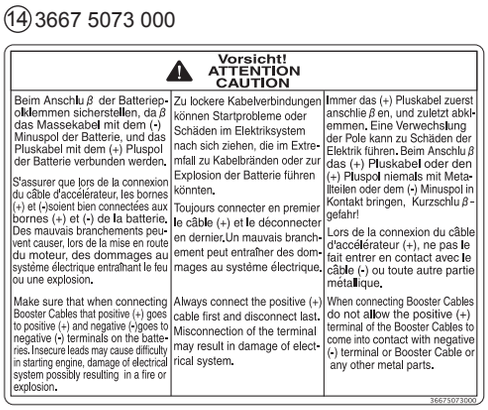
⑪ 3670 5143 000



⑫ 3670 5141 000

⑬ 3677 5048 001

⑭ 3667 5073 000



⑮ 3677 5049 001

3677M-0101-031US

Safety Precautions

This section contains safety precautions to follow when operating and maintaining the machine. Read and understand the precautions in this section as well as throughout this manual and follow them when operating or maintaining the machine. Failure to follow safety precautions could result in property damage, serious injury or death to the operator or bystanders.

Training

All operators and mechanics should receive practical instructions from their employer or renter. Such instructions should cover the following issues:

- **It is essential to familiarize yourself with the controls, safety labels and the proper use of the machine.**

- **Never allow people unfamiliar with these instructions to operate or service the machine. Do not let anyone under 18 years of age to operate this machine. Local regulations may restrict the minimum age for operating the machine. Consult your local authority.**

- **The operator is responsible for the accidents or hazards caused to other people or their property.**

- **This machine has a riding capacity for one person only. Do not carry passengers other than the operator.**

- **Always keep in mind that care and concentration is required when working with ride-on machines.**

- **Loss of control on a slope cannot be regained by the application of the brake. The main reasons for loss of control are:**

→ insufficient grip of tracks.
→ excessive speed.
→ misjudging of the ground conditions, especially slopes.
→ excessive load.
→ incorrect distribution of load.

Preparation

⚠WARNING!

- **Fuel is highly flammable. See Checking and Filling Fuel, page 15, for important safety information on handling fuel.**

- **Always wear protective footwear, long trousers, hardhat, safety glasses and ear protection when operating or servicing the machine. Proper clothing will minimize the chance of injury. Do not operate the equipment if you have long hair, loose clothing, or jewelry; all of which may get tangled in moving parts. Do not operate the machine barefoot or with open sandals.**

- **Prepare beforehand the working rules and procedures such as signaling and trafic control for the work place. Following such rules will reduce the risk of accidents.**

- **Never handle fuel or grease, service the engine, or recharge the battery in the presence of fire or spark.**

- **Perform the daily pre-startup inspection (see Maintenance Schedule) before starting the machine. Repair or replace damaged parts before starting the machine.**

Operation

This machine is intended for carrying sand and dirt. Carrying other materials may damage the machine. Avoid carrying liquid concrete. That will damage the machine.

The stability of the machine is affected by the speed, rate of steering, terrain and the load. Always pay close attention to these factors or a loss of control or tip over could occur, resulting in property damage, serious injury or death.

General Driving

- **Do not operate the engine in a confined space where dangerous carbon monoxide fumes can accumulate.**

- **Do not touch the engine, muffler or exhaust pipe while the engine is running or soon after it has stopped. These areas will be very hot and can cause burns.**

- **Do not operate the machine under the influence of alcohol or drugs.**
- **Always check for obstacles before operating on new terrain.**
- **Before starting the engine and moving the machine, scan around your surroundings and make sure all persons and other vehicles are a safe distance away from the machine. Sound the horn to warn bystanders.**
- **On the machine equipped with the optional ROPS, always keep the ROPS in the extended position when in use. Fold the ROPS only when it is absolutely necessary to do so when transporting the machine.**
- **On the machine equipped with the ROPS, always wear the seat belt when in use.**
- **Always stay seated in the operator's seat when driving the machine. Never operate the steering lever off of the machine.**
- **On a slippery surface, travel slowly and exercise caution to reduce the chance of skidding or sliding out of control. Never operate on ice.**
- **Always make certain that there is no obstacle or a person behind the machine when backing up. After confirming that it is safe to back up, move slowly and avoid sharp turns.**
- **To reduce the risk of tip over, pay special attention when encountering an obstacle or a slope, or when braking on a slope or during a turn. See Driving on a Slope on the next page.**
- **Never attempt to drive over a large obstacle such as rock or fallen tree.**
- **Always travel slowly and use extra caution when operating on unfamiliar terrain. Be alert when traveling on changing terrain.**
- **Never operate on terrain that you are not comfortable with. Avoid terrain that is so rough, slippery or loose that you feel like you could tip over.**
- **Do not operate the machine near the edge of a cliff, an overhang or a slide area.**

- Do not make sudden maneuvers. A sudden start, stop, or turn can make the machine lose control and could cause a tip over. Be especially cautious when traveling on soft or wet ground.

- Drive at a safe speed, taking into account the surface gradient, surface conditions and load.

- Use an observer to help direct the machine when the visibility is poor, terrain is rugged or hilly, or maneuvering room is limited. The observer should be able to see the machine and its immediate surroundings, and should give pre-arranged signals to direct the operator.

Driving on a Slope

⚠WARNING!

- Never use on a slope steeper than 20 degrees.

- Driving on a slope can be dangerous. It can result in a tip over and cause serious injury or death. Take the following precautions.

- Always follow proper procedures for driving on a slope as described in this manual.

- Driving on a slope in a wrong manner can cause a loss of control or a vehicle tip over. Check the terrain carefully before attempting to drive on a slope.

- Never drive on a slope that you are not comfortable with. Avoid a slope that is so rough, slippery, or loose that you feel like you could tip over.

- When driving up a slope, proceed at a steady rate of speed and throttle position.

- Never move the throttle lever or the control stick suddenly.

- If the engine stalls or loses traction during a climb and cannot make it to the top of the slope, do not try to turn the machine around. Carefully back down slowly, straight down the slope.

- **Drive straight up or down slopes. Avoid turning on a slope.**

- **When going over the top of a slope, go slow; an obstacle, a sharp drop, or another vehicle or person could be on the other side of the crest.**

- **Avoid driving the machine across a slope.**

- **Without a load, drive the machine backwards up a slope (operator's seat toward the top) when climbing, and drive it forward when going down a slope.**

- **With a load, drive the machine forward up a slope (operator's seat away from the top) when climbing, and drive it backwards when going down a slope. Be especially cautious when operating on a slope with a load.**

- **When driving down a slope, use the steering levers so that the machine travels down at the minimum speed. Use the engine speed to help keep the machine speed low.**

Loading and Driving with a Load

- **The maximum payload for this machine is 1000kg (2200lbs). Do not exceed this maximum payload under any circumstance.**

- **Do not operate on a slope steeper than 20 degrees when carrying a load. Do not carry more than 500 kg (1100lbs) when operating on a slope between 15 and 20 degrees.**

- **Load cargo in the bucket so the weight is evenly distributed. When carrying a cargo, strap the cargo to the load deck to prevent the cargo from shifting. Ensure that cargo does not obstruct the operator's field of view.**

- **When carrying a load, drive at a reduced speed. Allow a greater distance for braking.**

- **Before crossing a bridge or an overpass, make certain that the total combined weight of the machine, the load and the driver is within the stated weight limit for the bridge or the overpass. Then, proceed carefully and at a constant speed.**

Dumping/Turning

When turning the bucket and dumping material from the bucket, take the following precautions.

- **Always follow the proper procedures for dumping or turining as described in this manual.**
- **Only operate the bucket with the engine running.**
- **Always stay seated in the operator's seat when dumping or turning the bucket. Never operate the dump or turn lever off of the machine.**
- **Perform the dump operation on a flat, level and stable surface whenever possible. Raising or lowering the load deck on a slope or rough terrain could result in a tip over.**
- **Pay special care when dumping with the bucket turned to a side. Be tentative when raising the bucket which is turned to a side.**
- **Make certain that all persons are at a safe distance away from the machine when raising, lowering, or turning the bucket.**
- **Do not move the machine or leave it unattended with the bucket in the raised position.**
- **Engage the bucket safety prop if you must place any part of your body under the bucket in the raised position.**

Parking

- **Park the machine on a flat, level and stable surface. Never park on a slope steeper than 15 degrees. Avoid parking on a slope less than 15 degrees. If parking on a slope less than 15 degrees is unavoidable, turn the bucket straight, apply the parking brake and block the tracks at the lower end of the machine.**

→ Without a load, park the machine with the operator's seat facing downhill
→ With a load, park the machine with the operator's seat facing uphill
→ Do not park sideways on a slope.

- **Observe all the previous precautions for driving, driving on a slope, loading and driving with a load, and dumping.**

- **Whenever you park the machine, apply the parking brake and stop the engine. Remove the key whenever you leave the machine unattended to prevent unauthorized use or accidental starting.**

- **Diesel fuel is flammable and can be explosive. When parking the machine indoors, make certain that the building is well ventilated and that the machine is not close to any source of flame or spark, including appliances with pilot lights.**

Servicing

- **Do not service the machine when the engine is running. If it is absolutely necessary to run the engine while servicing, pay attention to the moving parts.**

- **Do not operate the engine in a confined space where dangerous carbon monoxide fumes can accumulate.**

- **Make sure all hydraulic line connectors are tight and all hydraulic hoses and lines are in good condition and leak-free before applying hydraulic pressure to the system.**

- **Keep your body and hands away from pinhole leaks or nozzles that eject hydraulic fluid under high pressure. Use paper or cardboard, not your hands, to search for leaks. Hydraulic fluid escaping under pressure can have sufficient force to penetrate the skin and cause serious injury.**

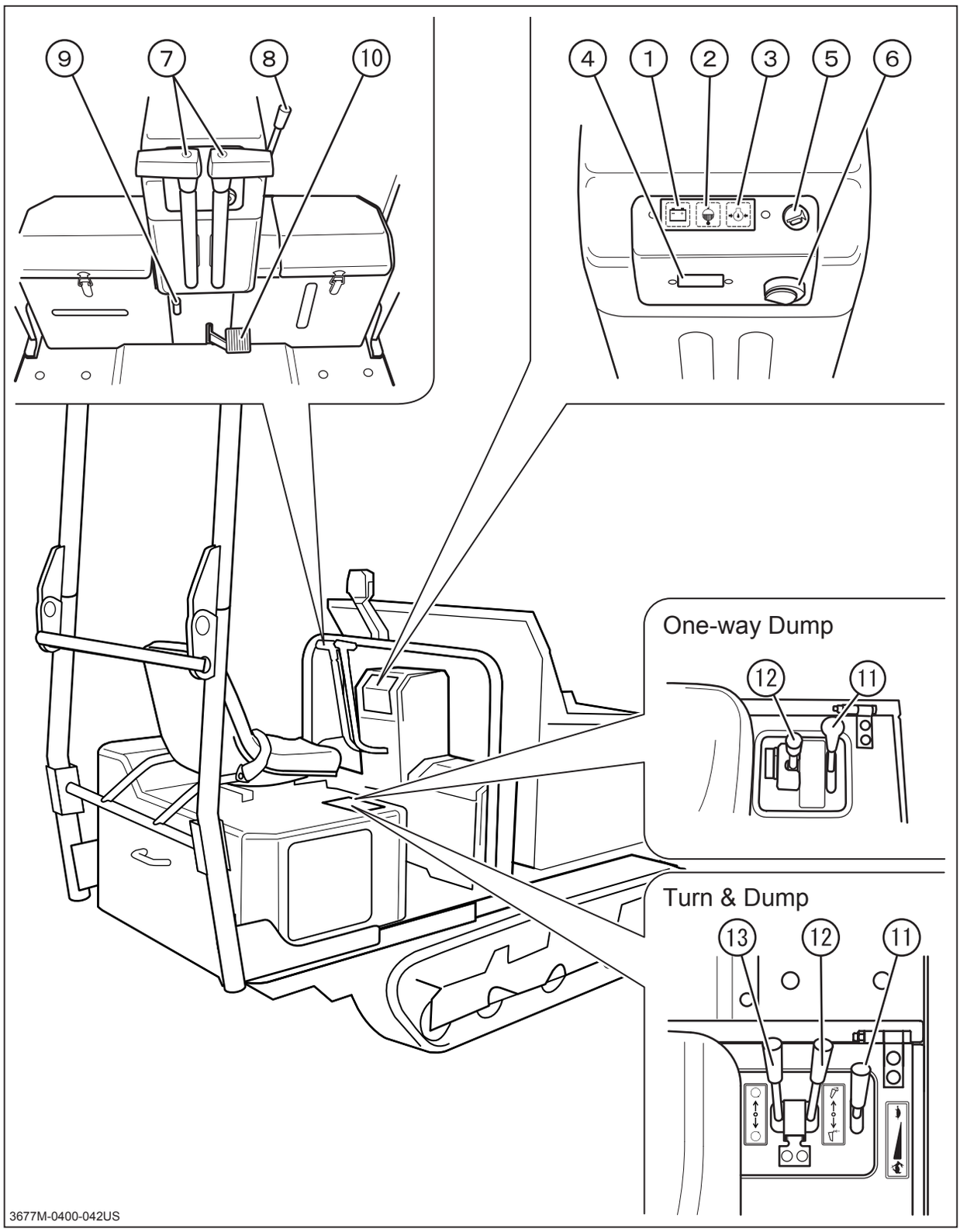
- **Check all fuel lines on a regular basis for tightness and wear. Tighten or repair them as needed.**

- **If the engine must be running to perform a service, keep hands, feet, clothing and any part of the body away from any moving part, especially the cooling fan and the belts at the side of the engine.**

- **Do not touch the engine, muffler, or exhaust pipe while the engine is running or soon after it has stopped. These areas will be very hot and can cause burns.**

- **The engine must be shut off before checking or adding oil.**

Name and Function of Controls



2 Controls and Components

1 Charge Lamp . . . . . This displays condition of battery charge. When main switch is turned to [I] position, it lights up, and if condition is normal, it will go out after engine starts.

2 Coolant Temperature Lamp . . . . This lights up when the temperature of engine coolant (engine cooling water) rises abnormally (overheat).

3 Oil Lamp . . . . . This shows if engine oil pressure is normal. When main switch is turned to [I] position, it lights up, and if conditions are normal, it will go out after engine starts.

4 Hour Meter . . . . . This displays the total number of hours that machine has been working in units of 0.1 hour.

5 Horn Switch . . . . . Press this button to sound horn. This is used when warning during traveling and signaling during operation.

6 Main Switch . . . . . Turn this key to start and stop engine.

7 Steering Lever . . . . . This is used to switch the traveling direction of machine (to forward or backward) and turns machine.

8 Clutch Lever . . . . . This is used when stability of engine is poor in winter or in cold areas.

9 Parking Brake Lock Lever . . . . . To lock brake pedal, pull this lever toward you with brake pedal depressed when machine is at a standstill.

10 Parking Brake Pedal . . . . . This is used to safely park machine.

11 Throttle Lever . . . . . This is used to increase or decrease speed of engine.

12 Dump Lever . . . . . This is used to raise or lower dump body.

13 Turn Lever . . . . . This is used to rotate a bed.

Product Specifications

⚠CAUTION!

· Use this product properly after understanding its specifications thoroughly.

Model and Type				S100	
				One-way Dump	Turn & Dump
Machine Mass			kg (lbs)	935 (2064)	965 (2130)
Maximum Payload			kN (lbs)	9.8 (2200)	
Dimensions	Overall Length		mm (in)	2840 (111.8)	2705 (106.5)
	Overall Width		mm (in)	1025 (40.4)	
	Overall Height		mm (in)	1270 [2345] (50 [92.3])	1265 [2345] (49.8 [92.3])
	Track Contact Length		mm (in)	1160 (43.5)	
	Track Gauge		mm (in)	750 (29.5)	
	Ground Clearance		mm (in)	145 (5.7)	
	Loading Deck Height		mm (in)	555 (21.9)	620 (24.4)
Loading Deck	Inside Dimensions	Length	mm (in)	1420 (55.9)	1340 (52.8)
		Width	mm (in)	870 (34.3)	890 (35.0)
		Height	mm (in)	320 (12.6)	490 (19.3)
	Payload	Struck	m^3 (cu ft)	0.4 (14.1)	0.39 (13.7)
		Heaped	m^3 (cu ft)	0.52 (18.3)	0.50 (17.6)
Engine	Model			Kubota D722	
	Type			Water-cooled 4-cycle Diesel, in-line 3 cylinder	
	Cylinder (Bore×Stroke)		mm (in)	67×68 (2.64×2.67)	
	Displacement		cm^3 (cu in)	719 (43.9)	
	Rated Output		kw(HP)/rpm	11.0 (14.8) / 3000	
	Maximum Torque		N•m(lbf•ft)/rpm	37.0 (27.3) / 2200	
	Starter System			Electric	
	Fuel			Diesel Fuel	
	Fuel Consumption		g/kW•h(oz/PS•h)	312.7 (11.08)	
	Fuel Tank Capacity		L (US gal)	15 (4.0)	
	Oil Capacity		L (US qt)	3.8 (4.0)	
	Coolant Capacity		L (US qt)	3.1 (3.3) excluding reservoir	
Electrical	Battery Type			75D23R	
	Battery Capacity		V/AH	12/52	
	Working Lamp		V/W	12/18.4	

*Figures in [ ] indicates when ROPS is extended.

3 Specifications

Model and Type				S100	
				One-way Dump	Turn & Dump
Performance and Operating Range	Speed		km/h (mph)	0-5.4 (0-3.4)	
	Minimum Turning Radius		m (ft)	1.55 (5.1)	
	Gradability		Degrees	25 (Empty) / 15 (Loaded)	
	Stability Angle (Loaded)		Degrees	25	25
	Operating Temperature		°C (°F)	-15~40 (5~104)	
	Altitude		m (ft)	0~1500 (0~4921)	
HST Oil Capacity			L (US gal)	20 (5.3)	23.3 (6.2)
Drive Train	Main Transmission			Twin HST	
	Steering			Twin HST, 2 Lever	
	Brakes			Internally Expanding	
	Track Size			230×48×72	
	Tranamission Oil Capacity		L (US qt)	2.0 (2.1)	
Dumping System	Dumping System			Front Dump	Swivel Dump
	Hydraulic Pump	Type		Power Package	Gear Pump
		Max. Speed	rpm	2300	2700
		Max. Discharge	L/min (US qt/min)	12.2 (12.9)	12 (12.7)
	Relief Pressure		MPa (PSI)	13.7 (1987)	14.7 (2132)
	Cylinder(Bore × Stroke)		mm	60×300	60×400
	Performance	Max. Angle	Degrees	67	90
		Lifting Time	Sec	approx. 6.2	approx. 6.3
		Lowering Time	Sec	approx. 3.8	approx. 5.1
	Hydraulic Fluid Capacity		L (US qt)	1.6 (1.7)	Shared with HST System
Swivel System	Swivel System			-	Hydraulic (Twin cylinder)
	Swiveling Angle		Degrees	-	90 (Right) - 90 (Left)
	Swiveling Time		Sec	-	approx. 3.0/90°
	Cylinder(Bore × Stroke)		mm (in)	-	50×160 (1.97×6.30)

*These specifications are subject to change without notice.

Contents of the Tool Bag

No.	Content	Quantitiy	Note
1	Operator's Manual	1	This Manual
2	Operator's Manual for the Engine	1	
3	Engine Service Tool	1	for Servicing the Engine

Preparation

Pre-start up Inspection

Always perform an inspection before use.
Refer to **Maintenance Schedule** (page 34) for the inspection schedule and procedure.

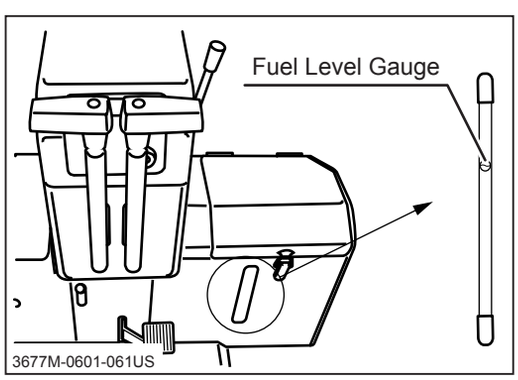
Checking and Filling Fuel

⚠WARNING!

- **Keep fire and spark away when handling fuel.**
- **Always stop engine before refueling.**
- **Do not overfill fuel so that fuel will not overflow. Check fuel gauge when filling. In case fuel is spilt, wipe out immediately.**

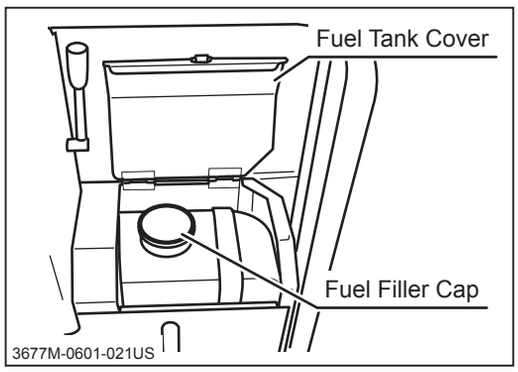
⚠CAUTION!

- **Pinch hazard. Beware of pinch areas when closing fuel tank cover.**



Checking Fuel

1. Visually check fuel level gage. If fuel is low, open fuel tank cap, and add fuel.



Filling Fuel

1. Open fuel tank cover.
2. Open fuel filler cap and fill fuel. Check fuel gauge when filling.
3. Put fuel filler cap back and tighten it securely.
4. Close fuel tank cover.

NOTE

- **Fuel : Diesel Fuel**
- **Fuel Tank Capacity : 15.0L (4.0US gal.)**

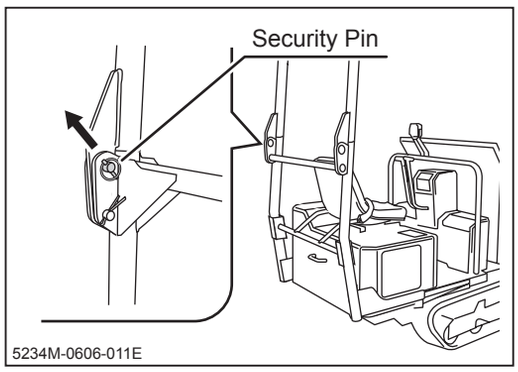
Using ROPS

⚠ DANGER!

- **Crush hazard. Keep hands away from ROPS joint. Shearing action of ROPS can cause serious injury or death.**

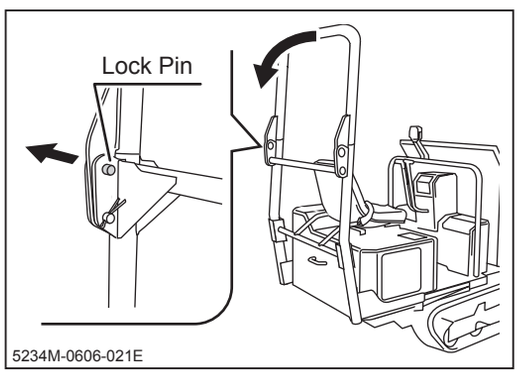
⚠ WARNING!

- **Always keep ROPS in the extended (unfolded) position when riding machine. Folding feature is provided for the convenience of transporting machine only.**
- **The protection offered by this ROPS will be impaired if it has been altered, damaged, or has been involved in an overturn. Inspect ROPS, seatbelts and their attaching components daily for cracks, deformation or other unsafe conditions.**
- **Stay clear of ROPS when folding it. Upper portion of ROPS may fall.**
- **Always wear seat belt when riding machine equipped with ROPS.**



Unfolding/folding ROPS

1. Pull off security pin from ROPS lock pin.



2. Pull off lock pin from either side of ROPS.
3. Fold ROPS.
4. Extend and secure ROPS in the reverse order.

Driving

Starting

⚠WARNING!

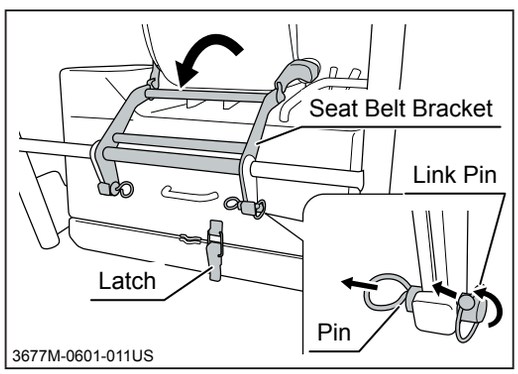
- **Always start and run engine in a well ventilated place.**
- **Always make certain of the safety of your surroundings when starting engine.**
- **An engine that has been running is very hot. Avoid touching engine and its ancillaries, or severe burns may result.**
- **Do not open engine cover while engine is running.**

⚠CAUTION!

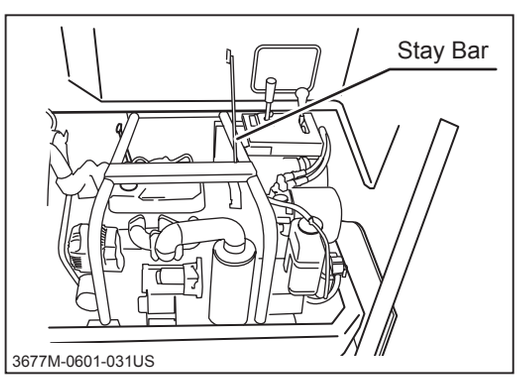
- **Do not turn starter when engine is running. Starter motor and/or engine may be damaged.**
- **Do not turn starter for more than 15 seconds. If engine does not start, wait for 30 seconds or more before attempting to start again.**
- **Do not use this machine in temperatures above 40ºC (104ºF) or below -15º (5ºF). This machine cannot perform adequately in these temperature ranges. Using this machine under such conditions may result in an accident or cause damage to machine.**
- **In the winter or cold climate, warm up engine thoroughly before driving machine. A cold engine delivers poor performance, which may result in an accident. It also causes excessive wear.**
- **Do not use this product in dusty places such as desert. Dust may clog air cleaner or enter engine, which may reslt in loss of performance and an accident. It also causes excessive wear.**

⚠CAUTION!

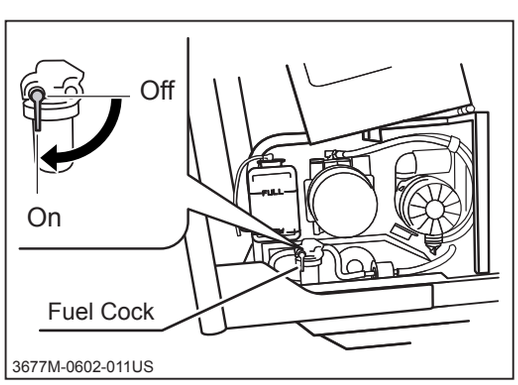
- **Do not use this machine in the altitude above 1500m (4,921ft) in its original configuration. This machine cannot perform adequately above that altitude. Using this machine under such conditions may result in an accident or cause damage to the machine. If you need to use this machine above that altitude, contact your Canycom representative.**



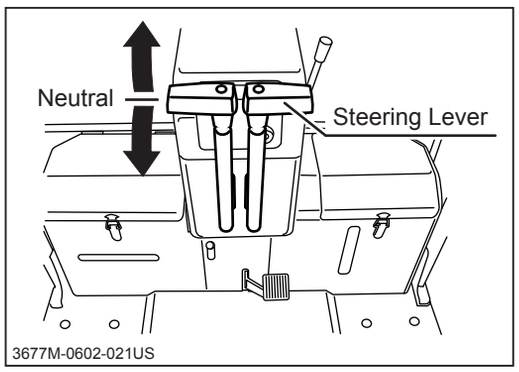
1. Lift ring on link pins and pull out link pins. Pull out pins.
2. Unbuckle seat belt and turn seat belt bracket.
3. Undo latch and open engine cover.



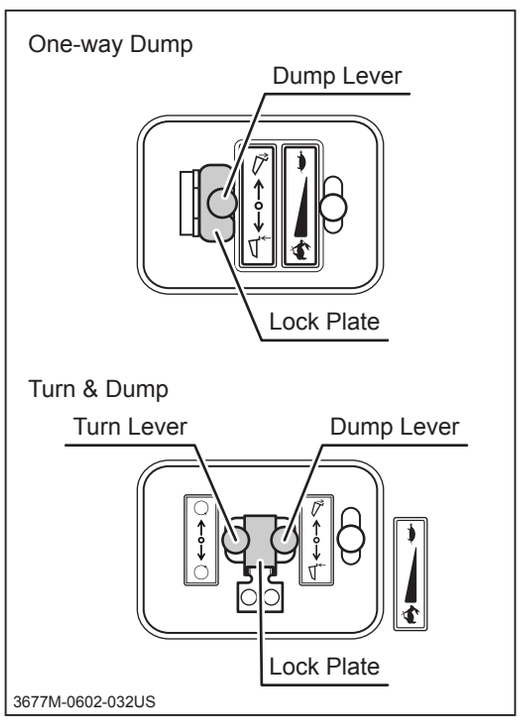
4. Insert stay-bar into holding hole to hold open engine cover.



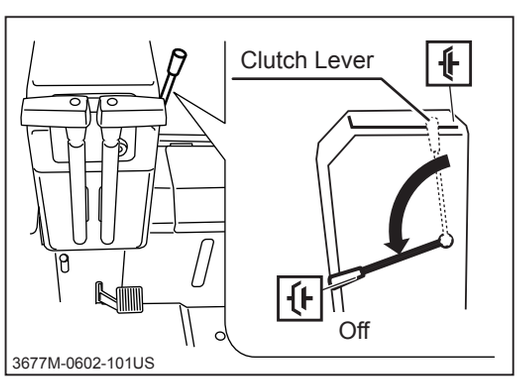
5. Turn fuel cock to [on] position.



6. Check that steering lever is in [neutral] position.



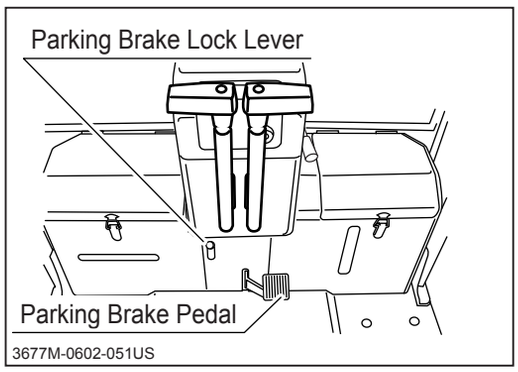
7. Check that dump lever (and turn lever in case of Turn & Dump model) is in [neutral] position, and locked with lock plate



8. Move clutch lever to [(off)] position.

NOTE

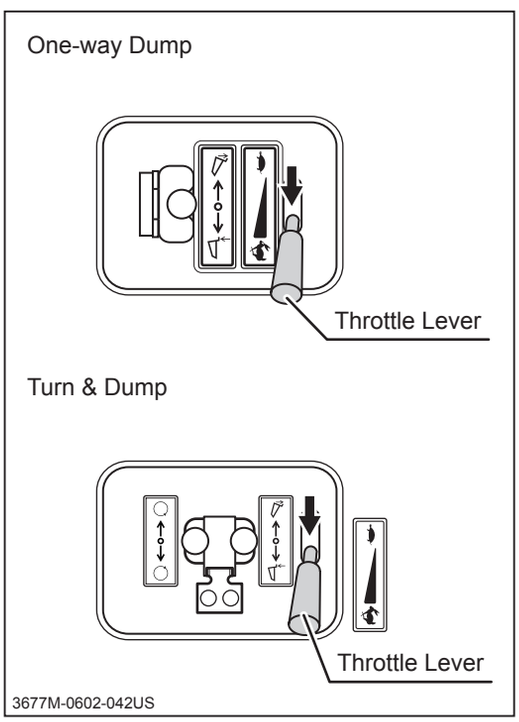
- **Moving clutch lever to [(off)] position reduces loading on starter motor and helps ease starting. This also reduces the chance of accidential movement of machine.**
- **When starting machine in a cold weather, make sure no part of machine is frozen. Forcefully starting engine or moving machine will cause damages.**



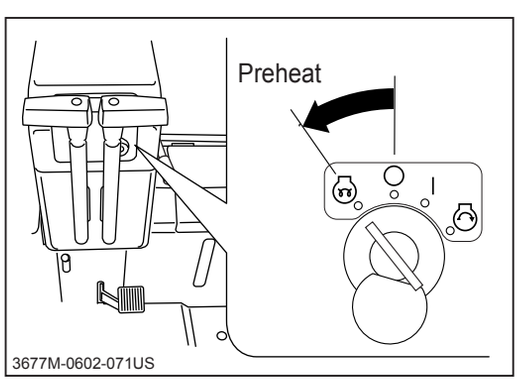
9. Depress parking brake pedal and pull parking brake lock lever so that parking brake pedal stays in depressed position.

NOTE

- **This machine is equipped with starting safety mechanism, so engine can be started only when steering levers are in neutral position and parking brake pedal is in locked (depressed) position.**



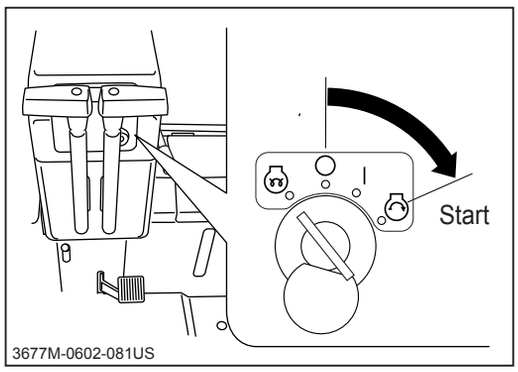
10. Push throttle lever to [(fast)] position.



11. Turn key in main switch to [(preheat)] position and preheat grow-plug.

NOTE

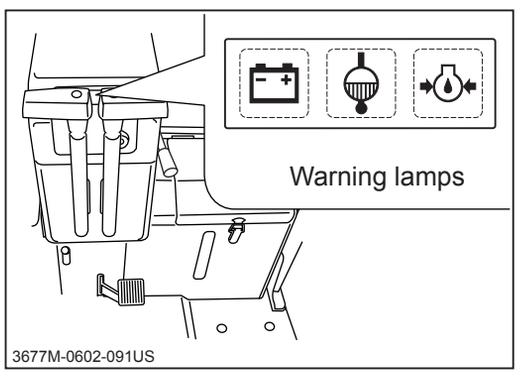
- **Preheat engine for about 10 seconds when starting in normal temperature and for 20 to 30 seconds when starting in cold weather (ambient temperature below -5°C/23°F).**
- **Preheating is not necessary when engine is already warm.**



12. Turn main switch to [(start)] position to start engine. Once engine starts, release switch immediately. Switch will automatically return to [| (on)] position.

NOTE

- **Avoid frequent starting. Once engine starts, run it continuously for a while to charge battery.**



13. Make sure warning lamps (charge, coolant temperature, oil) are not lit.

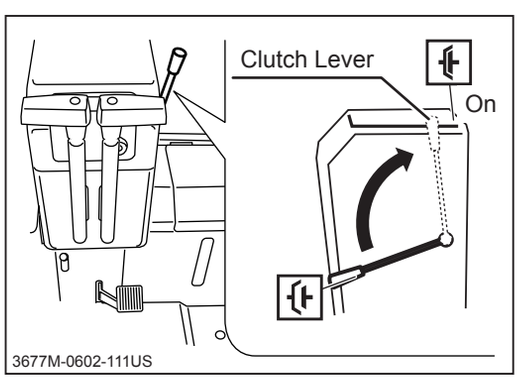
NOTE

- **Under normal condition, these lamps will go out once engine starts. If any of these lamps remains lit, it indicates that there is a problem in the related area. Stop engine immediately and investigate the cause. (See Troubleshooting, page 67)**

14. Run engine for about 5 minutes without loading to warm up.

NOTE

- **Drive machine gently in the first 40 to 50 hours of use after purchase for breaking-in.**



15. Push clutch lever to [(on)] position.

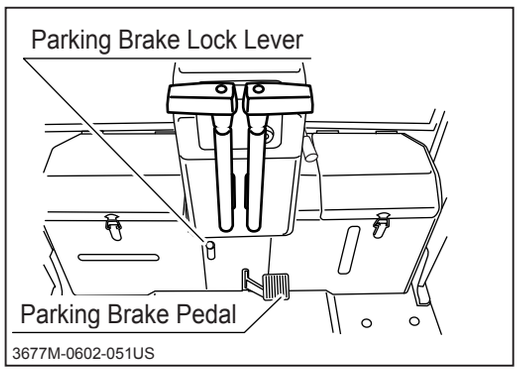
Driving

⚠WARNING!

- Do not allow bystanders to come near machine when driving.
- Always make certain of the safety of your surroundings before driving; start slow.
- Always stay seated in operator's seat when driving machine. Never operate steering lever off of machine. This may cause machine to run over or crush operator.
- Always make certain of the safety of your surroundings before turning
- Do not make sudden starts, acceralation, change of speed, change of direction, or stop. Do not turn at speed. Avoid sudden maneuvers; this may cause operator to fall or to be thrown, or machine to tip over.
- Do not turn the key to [○ (off)] position while traveling. Machine can lose stability and tip over.
- Always move steering levers back to neutral position before releasing. Letting it go from other operating positions may result in sudden deceleration and can cause machine to tip over or operator to fall or to be thrown.

⚠CAUTION!

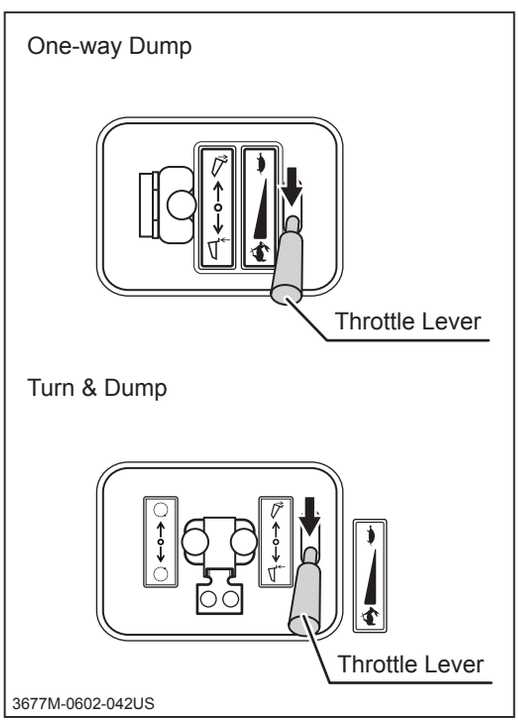
- Do not operate steering levers when parking brake is engaged (parking brake pedal is pressed down). It can wear out brake.



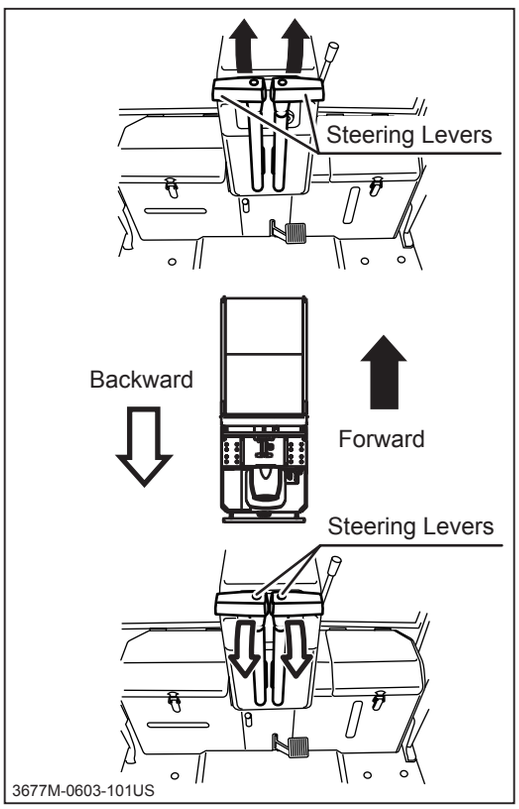
1. Make certain of the safety of your surroundings.
2. Unlock parking brake by depressing parking brake pedal and move parking brake lock lever down.

NOTE

- **If steering lever is operated while parking brake pedal is depressed or locked, warning buzzer beeps. Release parking brake before operating steering lever.**



3. Push throttle lever to [(fast)] position to increase engine speed.

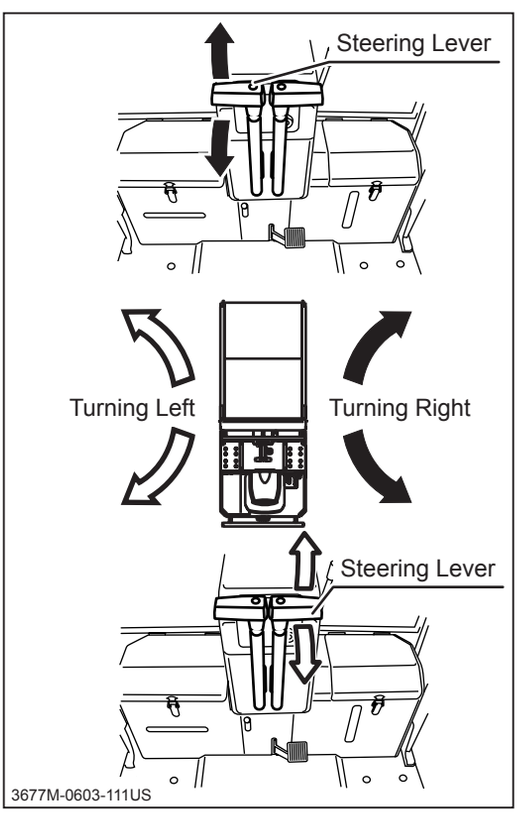


Moving Forward

4. Push both steering leverss gradually to the front to move machine slowly forward. Traveling speed of machine can be adjusted by the angle of steering levers.

Moving Backward

4. Push both steering levers gradually to the rear to move machine slowly backward. Traveling speed of machine can be adjusted by the angle of steering levers.

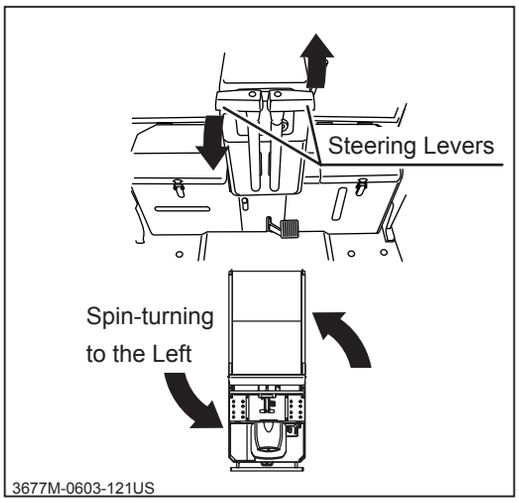


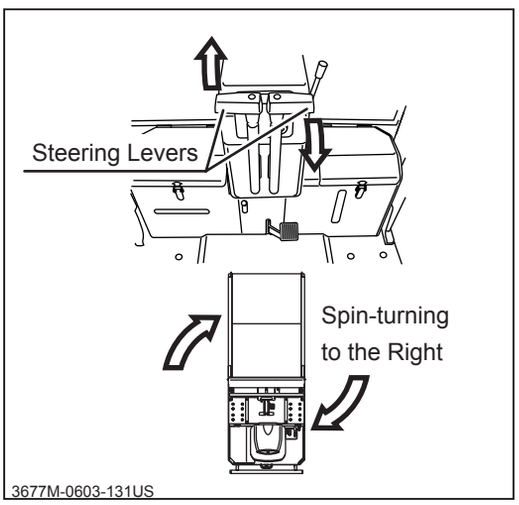
Normal Right Turn

5. To turn right when traveling forward, push left steering lever slowly forward.
6. To turn right when traveling backward, push left steering lever slowly backward.

Normal Left Turn

5. To turn left when traveling forward, push right steering lever slowly forward.
6. To turn left when traveling backward, push right steering lever slowly backward.





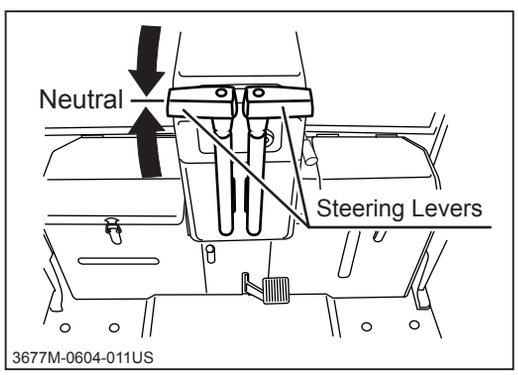
Spin-Turning

7. Move steering levers in opposite directions to make a turn on spot (spin-turn).

Stopping

⚠WARNING!

- **Do not make a sudden stop. Machine may skid or tip over.**
- **Do not release steering levers suddenly. Machine may stop suddenly and skid or tip over.**
- **Always park on a firm, level place. Never park on a potentially dangerous place.**

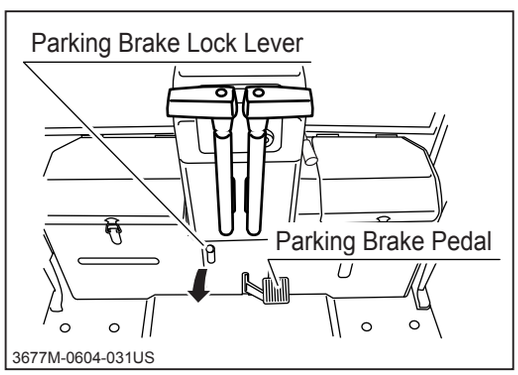


1. Move steering levers gradually to the neutral position.
2. Depress parking brake pedal.

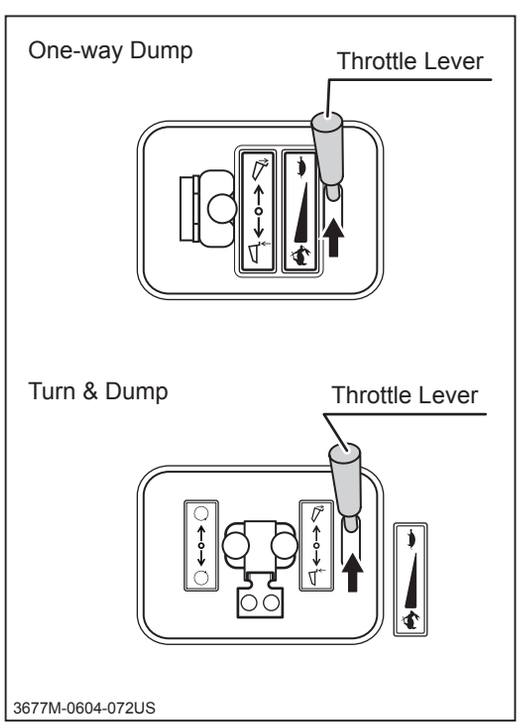
Parking

⚠WARNING!

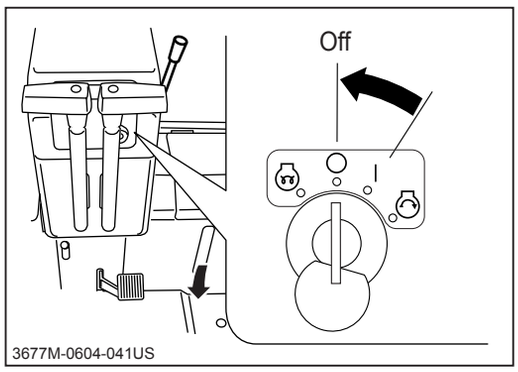
- **Always park on a firm, level place. Never park on a potentially dangerous place.**
- **Avoid parking on a slope. Never park on a slope with an incline of 15 degrees or steeper. If it is absolutely necessary to park machine on a slope less than 15 degrees, make certain to apply parking brake firmly and block tracks with chocks.**



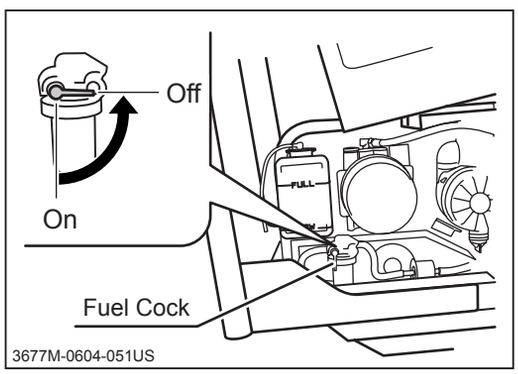
1. With parking brake pedal depressed, pull out parking brake lock lever to lock parking brake.



2. Push throttle lever to [(slow)] position to lower engine speed.



3. Turn main switch to [◯ (off)] position and remove key from main switch.



4. Open engine cover and hold it with stay-bar. (See page 19)
5. Turn fuel cock to [off] position.

Working

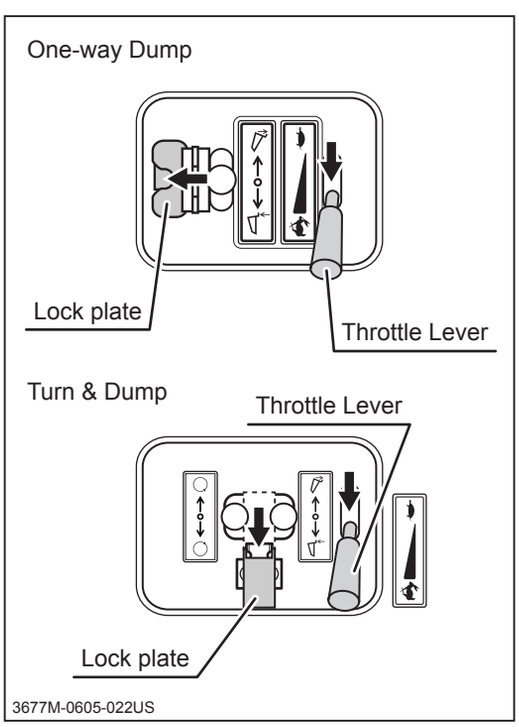
Dumping and Turning Bucket

⚠WARNING!

- **Always make certain of the safety of your surroundings when dumping or turning bucket.**
- **Never operate dumping or turning lever off of machine. This may cause bucket to hit or crush operator or bystander.**
- **Never dump or turn bucket on a slope. Machine can tip over.**

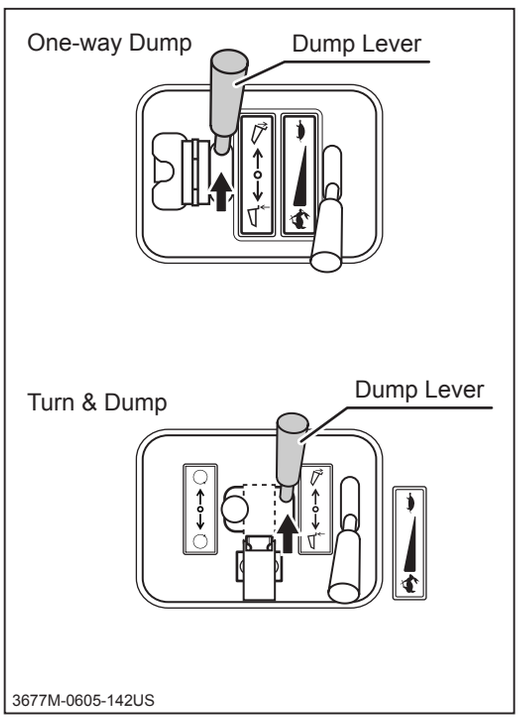
⚠CAUTION!

- **Always run engine when dumping or turning bucket.**
- **When lowering loaded bucket, slow engine speed and lower bucket gently.**

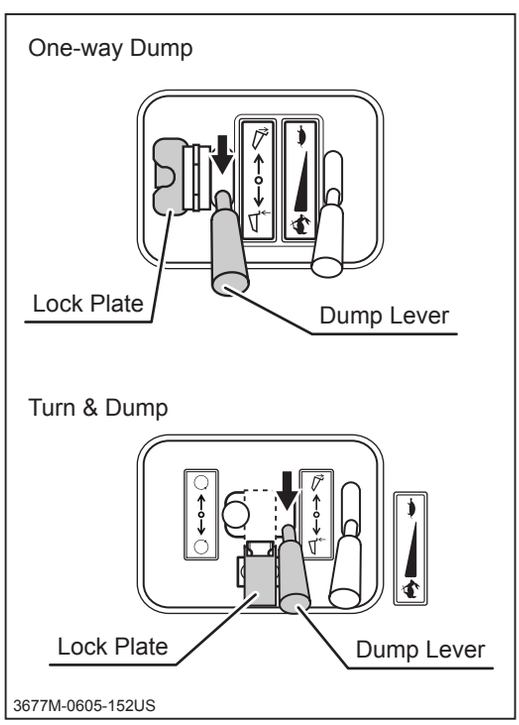


Raising Bucket

1. Start engine. Move throttle lever to [(fast)] position to increase engine speed.
2. Turn lock plate to the side so that dump lever can be operated.

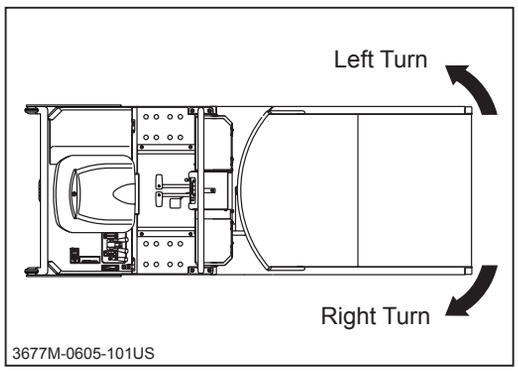


3. Move dump lever gradually toward [(up)] to raise bucket.
4. When bucket reaches its upper limit, a hissing noise is heard; move dump lever back to [○ (neutral)] position.



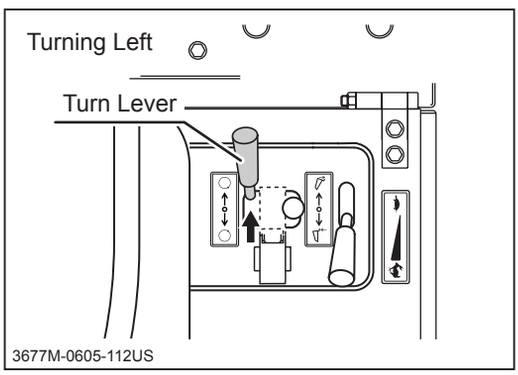
Lowering Bucket

5. Move dump lever gradually toward [(down)] to lower bucket.
6. When bucket reaches its lower limit, a hissing noise is heard; move dump lever back to [○ (neutral)] position.
7. Turn lock plate back in place to lock dump lever.

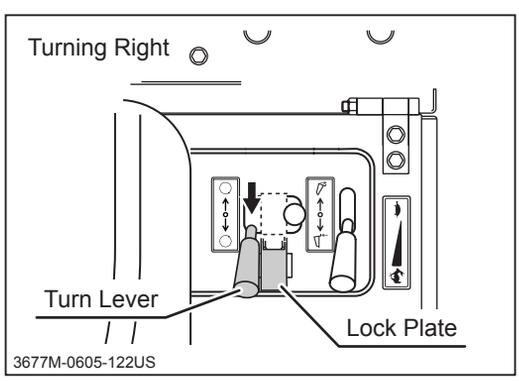


Turning (Turn & Dump Model)

8. Turn lock plate to the side so that turn lever can be operated.



9. Move turn lever gradually toward [↺ (left)] to turn bucket left.
10. When bucket reaches its limit, a hissing noise is heard; move turn lever back to [○ (neutral)] position.



11. Move turn lever gradually toward [↻ (right)] to turn bucket right.
12. When bucket reaches its limit, a hissing noise is heard; move turn lever back to [○ (neutral)] position.
13. Turn lock plate back in place to lock turn lever.

NOTE

- **Maximum angle of rotation: Right 90° - Left 90°**

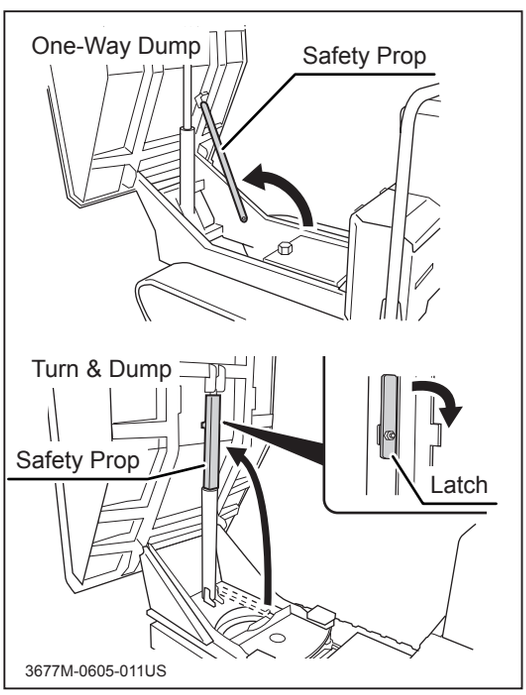
Using Safety Prop

⚠WARNING!

- **Place safety prop under bucket when inspecting or working under bucket.**

⚠CAUTION!

- **Make certain to undo safety prop before lowering bucket.**



1. Raise bucket.
2. Hold the bucket with safety prop.

Maintenance Schedule

⚠WARNING!

- **Follow the scheduled maintenance as described below. Failure to do so may result in mechanical or property damage, injury or death.**

- **Perform a pre-startup inspection (PSI) before each use, a monthly inspection once a month, and a yearly inspection once a year.**

- **Some maintenance procedures described below may require special knowledge or tools and instruments. Contact your Canycom representative to perform such procedures.**

Item			Description	Schedule			Note
				PSI	Mon	Year	
Engine	General	Starting	Engine shall start easily without making any irregular noise.	√	√	√	
			Glow plugs work correctly.	√	√	√	
		Running	Engine speed shall be set properly at idle and at full without loading. Engine shall stay running smoothly.		√	√	Contact your Canycom representative for inspection.
			When accelerating engine, throttle lever shall move smoothly, and engine shall accelerate smoothly without stopping or knocking.	√	√	√	
		Exhaust	Warm up engine thoroughly, and observe exhaust sound and gas from idle to fast speed; exhaust sound shall be normal and smoke shall not be excessive.	√	√	√	
			There shall be no leak in exhaust system or muffler.		√	√	
		Air Cleaner	Air cleaner case shall not be deformed or cracked. Case lid and connecting air hose shall be firmly in place.		√	√	
			Cleaner element shall be in good shape without damage or excessive dust.		√	√	Cleaning/Replacing: Page 44
		Fasteners	Bolts and nuts fastening cylinder head, intake and exhaust manifolds shall be tightly fastened. * this may be skipped if there is no gas or water leaks found in these areas.			√	

Item			Description	Schedule			Note
				PSI	Mon	Year	
Engine	General	Valve Clearance	Valve clearance shall be correct. * this may be skipped if there is no noise due to incorrect valve clearance, and engine runs normally.			√	Contact your Canycom representative for inspection.
		Compression	Compression shall be normal * this may be skipped if running and exhaust condition is normal at idle and under acceleration.			√	Contact your Canycom representative for inspection.
		Engine Mount	Engine base shall be free of cracks or deformation.	√	√	√	
			Mounting bolts and nuts shall not be loose or missing.	√	√	√	
	Lubrication System		Oil shall be clean and at correct level.	√	√	√	Inspecting/Changing: Page 42
			No noticable oil leaks shall be found in head cover, oil pan, or pipes.	√	√	√	
	Fuel System		There shall not be any leaks in fuel tank, injection pump, hoses, or pipes.	√	√	√	
			Fuel hoses shall be free of damage or deterioration.	√	√	√	
			Fuel filter shall not be excessively dirty or clogged.		√	√	
			There shall not be sediment or water in fuel tank.		√	√	
			Injection puressure and injection condition from the nozzle shall be normal. * this may be skipped if running and exhaust condition is normal at idle and under acceleration.			√	Contact your Canycom representative for inspection.
	Cooling System		Coolant shall be clean and at the correct level.	√	√	√	Inspecting/Filling: Page 45
			There shall not be any leaks from radiator, engine, water pump, or hoses.	√	√	√	
			Radiator fins shall be free of clogging.	√	√	√	
			Radiator cap valve shall function properly.			√	
			Fan belt shall be free of wear and damage, and shall be properly tensioned.			√	
			Cooling fan, duct, and cover shall be free of cracks, damage, or deformation.			√	
			Mounting bolts and nuts on cooling fan, duct, and covers shall not be loose or missing.			√	

Item			Description	Schedule			Note
				PSI	Mon	Year	
Engine	Electrical System	Charge System	Charge system shall work properly.			√	Contact your Canycom representative for inspection.
		Battery	Battery electrolyte level shall be within the correct range.		√	√	Inspecting/Filling: Page 62
			Terminals shall be free of marked corrosion and are tightly secured.		√	√	
		Wiring	Connections shall be securely connected.		√	√	
			Wiring shall be free of damages.		√	√	
Drive Train	Clutch		Clutch shall not make noise and shall disengage completely when operated at idle.		√	√	
			Clutch shall not slip and shall engage smoothly.		√	√	
	Drive Belts		Belt tension shall be properly adjusted.		√	√	Inspecting/Adjusting: Page 55
			Belt shall be free of damage, excessive wear, or dirt; shall be free of oil or grease.		√	√	
	Transmission		Irregular noise or overheating shall not be observed.	√	√	√	
			Oil shall be clean and filled to the proper level.		√	√	Replacing: Page 53
			There shall not be oil leaks in or around transmission.		√	√	
	HST Pump		Drive the machine forward and backward, turn left and right in both directions; machine shall move normally and free of irregular noise or overheating.	√	√	√	
			Hydraulic fluid shall be filled to a proper level.		√	√	Inspecting/Changing: Page 50
			Hydraulic fluid shall be clean and free of dirt or contamination.		√	√	Inspecting/Changing: Page 50
			There shall be no fluid leaks in or around fluid tank.		√	√	
	Linkage		Rods, links, and wires in linkage shall be free of deformation or damage.		√	√	
			Connections shall be free of looseness, excessive play, or missing cotter pins.		√	√	

Item		Description	Schedule			Note
			PSI	Mon	Year	
Undercarriage	Wheels Sprockets Idlers	Shall be free of cracks, defromation, or excessive wear.	√	√	√	
		There shall not be excessive play in axle. Irregular noise or overheating shall not be observed when traveling.	√	√	√	
		Mounting bolt or nut shall not be loose or missing.	√	√	√	
		There shall be no oil leak in or around axle.		√	√	
	Tracks	There shall not be marked cut, deterioration, or wear.	√	√	√	
		Track shall be properly tensioned; shall not be too loose or too tight.	√	√	√	Adjusting: Page 49
		Track core shall not be missing or damaged.	√	√	√	
		Tension bolt shall be free of deformation or corrosion.	√	√	√	
Brake System	Parking Brake	Parking brake shall work properly.	√	√	√	Adjusting: Page 56
		Parking brake shall be able to hold the machine on a 20-degree slope.		√	√	
	Linkage	Rods, links, and wires in linkage shall be free of deformation or damage.		√	√	
		Connections shall be free of looseness, excessive play, or missing cotter pins.		√	√	
Hydraulic System	Hydraulic Pump	There shall be no leak in or around hydraulic pump.		√	√	
		Fastening bolts and nuts shall not be loose or missing.		√	√	
		No irregular vibration, noise, or heat shall be observed when hydraulic pump is in operation.		√	√	
		Amount and pressure of discharge under load shall be within the standard range specified by the manufacturer. *this may be skipped if irregular vibration, noise, or heat described above is not observed.			√	
	Hydraulic Valve	Valves shall move smoothly, and shall activate and stop hydraulic cylinder properly.	√	√	√	
		Valves shall be mounted properly.		√	√	
		There shall be no leak in or around hydraulic valve.		√	√	

Item		Description	Schedule			Note
			PSI	Mon	Year	
Hydraulic System	Plumbing	Plumbing shall be free of cracks, damage, twists, or deterioration.		√	√	
		There shall be no leaks in pipes, hoses, joints, or seals.		√	√	
		Plumbing shall be mounted properly, and fastening bolts and nuts shall not be loose or missing.		√	√	
		Breather shall not be clogged.		√	√	
	Hydraulic Cylinders	Shall work smoothly.		√	√	
		There shall be no leaks when extending and contracting cylinder.		√	√	
		Extend dump cylinder fully under load and hold. Stroke shall be within the range specified by manufacturer.			√	
		Cylinder tube and rod shall be free of dents, cracks, bends, or scratches.		√	√	
		Cylinder mounting pins shall be free of damage or excessive wear.		√	√	
Body, Chassis, Loading Deck	Chassis Frame	Shall be free of cracks, deformation, or corrosion.		√	√	
		All oiling and greasing points shall be properly lubricated.		√	√	
		Fastening bolts or nuts shall not be loose or missing.		√	√	
	Body Panels	Shall be free of cracks or deformation.		√	√	
		Doors shall open, close, and lock properly.	√	√	√	
		Fastening bolts or nuts shall not be loose or missing.		√	√	
	Loading Deck	Loading deck shall be raised,lowered and turned smoothly.		√	√	
		Shall be free of cracks, deformation, or corrosion.		√	√	
		Fastening bolts or nuts shall not be loose or missing.		√	√	
	Safety Prop	Safety prop shall be free of any cracks, corrosion or deformation.		√	√	
	Labels	Warning labels and instruction plates shall be clean, legible, and free of damage.	√	√	√	

Item		Description	Schedule			Note
			PSI	Mon	Year	
Safety Devices	**Work Lamp**	Work lamp shall work.	√	√	√	
		Lamp lens shall be free of cracks or chipping and water shall not be in the lamp.		√	√	
	Horn	Horn shall work.	√	√	√	

List of Fluids and Lubricants

Item	Schedule	Grade	Cap.	Ref.
Fuel	As needed.	Diesel Fuel	15.0L (4.0US gal)	Page 15
Engine Oil	Fill Inspect daily. Fill as needed. Change Initially - After 50 hours of use. Every 100 hours afterwards.	Diesel Engine Oil API glade: CD or better. SAE index: 10W-30	3.8L (4.0US qt)	Page 42
Transmission Oil	Change Initially - After 50 hours of use. Every 100 hours afterwards.	Gear Oil API glade: GL-4 or 5 SAE index: 80	2.0L (2.1US qt)	Page 53
HST Fluid	Change Initially - After 50 hours. Every 500 hours afterwards.	High viscosity index hydraulic fluid, ISO VG46	[One-way] 20.0L (5.3 US gal) [Turn & Dump] 23.3L (6.2 US gal)	Page 50
Coolant	Check Everyday Add as needed Change every 2 years	Long Life Coolant (LLC) and pure water Mixture	3.1L (0.8 US gal)	Page 45
Battery Electrolyte	Inspect daily.	Distilled Water	-	Page 62

Greasing and Oiling Points

Point	Schedule	Grade	Cap.	Ref.
Greasing Points	Once a Month	Chassis Grease	-	Page 59
Oiling Points	Once a Month	Gear Oil API glade: GL-4 or 5 SAE index: 80	-	Page 59

List of Consumables and Spares

⚠CAUTION!

- **When replacing consumables or spares, always use CANYCOM genuine parts.**

Item		Part No.	Schedule	Qty.	Ref.
Engine					
Air Cleaner		ZK6798082632	Every year or every 6 cleanings of air cleaner element. Replace more often when you are working in dusty areas.	1	Page 44
Fuel Filter		3714 0051 400	Check every 100 hours, Replace if necessary.	1	Page 47
Engine Oil Filter		ZK1585332430	1st time: 50 hours. 2nd time on: every 200 hours.	1	Page 44
Drive Train					
Drive Belt		0853 1500 060	Replace if defective.	1	Page 55
Track	OHTSU	3677 2012 000	Replace if defective or reaches the wear limit.	2	Page 49
	Bridgestone	3677 2013 000			
Brake Lining		7301 4007 000	Replace if defective. (Replace in pairs)	2	Page 56
Electrical System					
Battery (40B19R)		3673 0655 000	Replace if defective.	1	Page 62
Fuse	40A	0980 1004 003	Replace if defective.	1	Page 64
	30A	0980 1003 003		1	
	5A	0980 1000 502		2	
Light Bulb		0980 8121 844	Replace if defective.	1	
Hydraulic System					
Hydraulics Belt	One-way	0852 1300 029	Replace if defective.	1	Page 61
	Turn & Dump	0852 1300 028			
Hydraulic Hose		Refer to the parts list	Every 2 years or if defective.	-	Contact your CANYCOM representative
Suction Filter	One-way	3663 6014 000	Once a year or every 500 hours.	1	Page 52
	Turn & Dump	3663 6029 000		1	Page 52
Line Filter		3676 6121 200		1	Page 52

Parts not listed here: Please contact your CANYCOM representative.

NOTE

- **Rubber products such as hydraulic hose deteriorate over time. Replace them every 2 years.**
- **Track wear limit: 5mm of lug height**

Engine

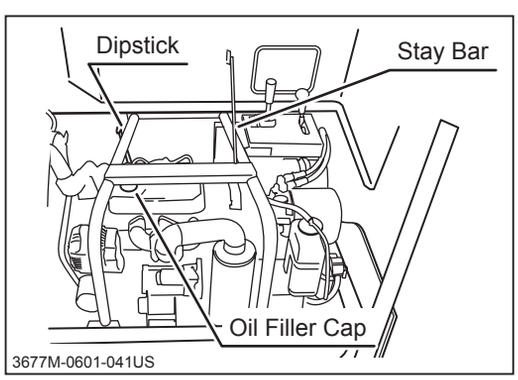
⚠WARNING!

- **Always stop the engine before servicing.**
- **An engine that has been running is very hot. Allow the engine to cool before servicing, or severe burns may result.**
- **Keep fire and spark away when handling fuel.**

Engine Oil

⚠CAUTION!

- **Dispose of the drained oil properly.**
- **Make certain to fill the engine with correct grade of oil to the specified level. Insufficient amount or wrong grade of oil reduces performance and may cause permanent damage to the engine.**

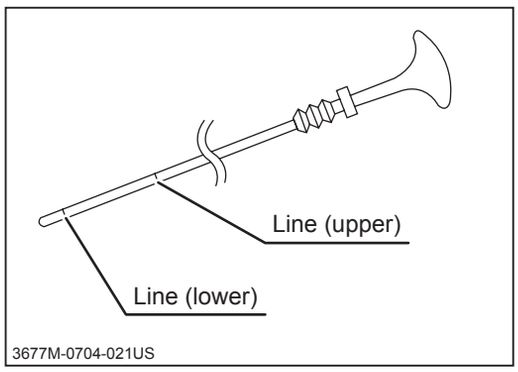


Inspecting

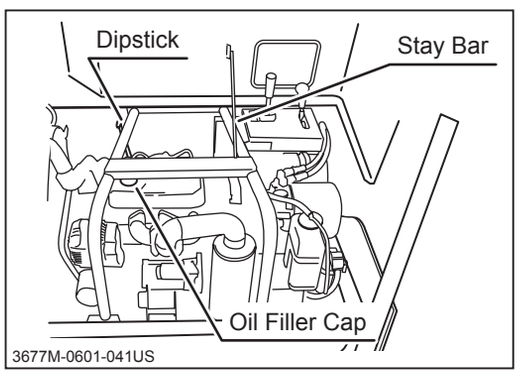
1. Park the machine on a level surface.
2. Open engine cover and hold it in place with stay bar. (See page 19)

NOTE

- **To obtain correct reading, check oil level before starting, or wait about 10 minutes after stopping the engine to allow oil to drain back to the oil pan.**
- **Always check oil level on a level surface.**

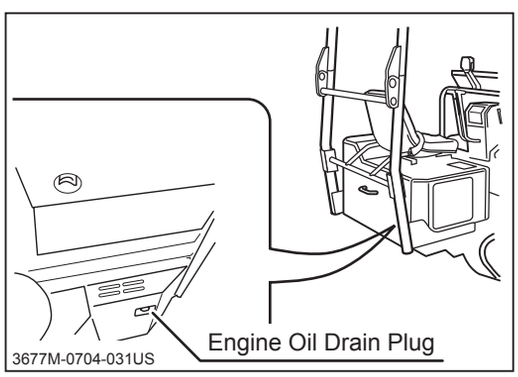


3. Pull out dipstick. Wipe it with clean cloth and insert it fully again. Puill it out again to check oil level.
4. Make sure oil level is between [Upper] and [Lower] lines. If it is below this range, add oil.
5. Visually inspect the condition of oil. If it is dirty, change.
6. Replace dicpstick.
7. Close engine cover.



Filling

1. Open engine cover and hold it in place with stay bar. (See page 19)
2. Remove oil filler cap and fill oil.
3. Check oil level.
4. Put oil filler cap back in place.
5. Close engine cover.



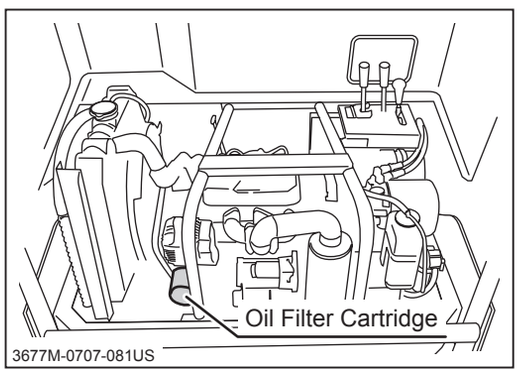
Changing

1. Open engine cover and hold it in place with stay bar. (See page 19)
2. Have an appropriate oil drain pan.
3. Remove engine oil drain plug to drain oil.
4. Clean drain plug and put it back in place and tighten it securely.
5. Fill oil.
6. Check oil level.
7. Close engine cover.

NOTE

- **Oil to Use: Diesel Engine Oil, API glade CD or better, SAE index 10W-30.**
- **Oil Capacity: 3.8L (4.0US qt.)**
- **Removing oil filler cap helps drain oil faster.**

Oil Filter



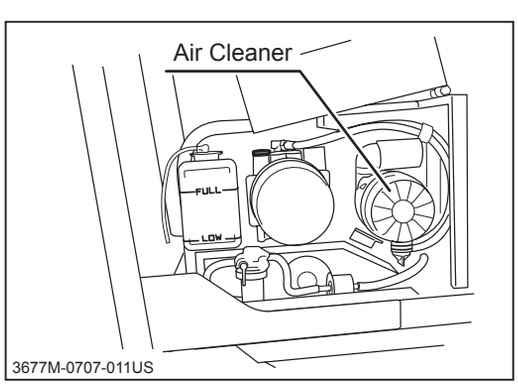
1. Open engine cover and hold it in place with stay bar. (See page 19)
2. Have an appropriate oil drain pan.
3. Remove drain plug to drain oil.
4. Remove oil filter cartridge with filter wrench.
5. Clean oil filter base on engine.
6. Have a new cartridge. Apply clean oil evenly on oil seal on cartridge.
7. Install new cartridge on engine. Tighten it fully by hand. Do not use oil filter wrench when installing.
8. Clean drain plug and put it back in place and tighten it securely. Fill oil and check oil level.
9. Close engine cover.
10. Start engine. Make sure there is no leak on the base of oil filter cartridge.

Air Cleaner

⚠CAUTION!

- **Clean air cleaner element regularly according to the maintenance schedule. Clean more often when working in a dusty area. Dirty cleaner element reduces engine performance and life.**

- **Handle air cleaner element carefully. Replace air cleaner element if damaged.**

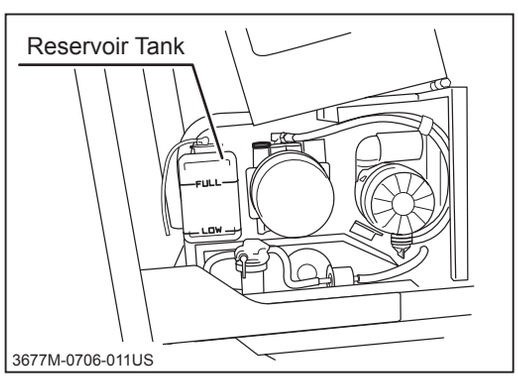


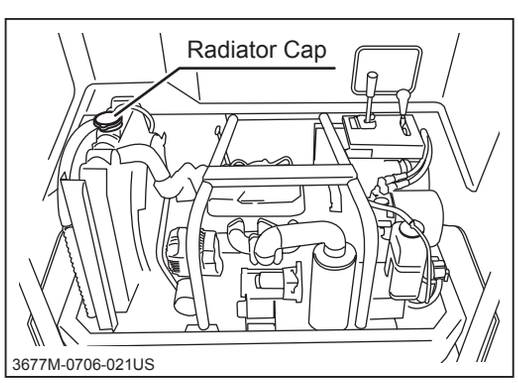
1. Open engine cover and hold it in place with stay bar. (See page 19)
2. Follow the instructions in the **Operator's Manual for the engine** to inspect, clean or change air cleaner element.
3. Close engine cover.

Coolant

⚠CAUTION!

- **Do not open radiator cap when engine or radiator is hot. Opening cap when they are still hot may release boiling coolant and cause severe burns. Wait for engine to cool after operation (about 10 minutes) before opening.**
- **Take extreme care when handling the coolant; antifreeze solution is inflammable. Avoid exposure to open flame. It is also toxic. If coolant is caught in the eye, wash the eye clean with running water and consult a physician immediately.**
- **Dispose of the drained coolant properly.**





Inspecting/Filling

1. Open engine cover and hold it in place with stay bar. (See page 19)
2. When engine is cold, check engine coolant level in reservoir tank. Make sure it is between [LOW] and [FULL] lines. If level is low, add water up to [FULL] line.
3. Open radiator cap.
4. Check engine coolant level. If the level is low, add water.
5. Put radiator cap back in place.
6. Close engine cover.

NOTE

- **When coolant temperature warning lamp is lit, it may mean the coolant level is low. Immediately inspect and add water as necessary.**
- **Reservior Capacity: 0.7L (0.7 US qt)**

Freezing Temperature	Amount of Antifreeze
-10 °C (14 °F)	30%
-15 °C (5 °F)	35%

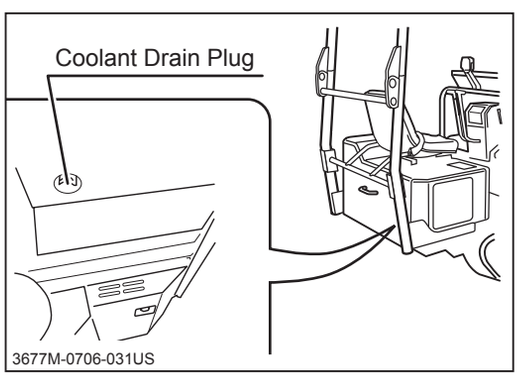
* Choose a mixture whose freezing temperature is adequately (5°C/9°F) below the expected minimum temperature of the work area.

Antifreeze Mixture (Reference)

When this machine is shipped from the factory, it is filled with a mixture of 40% antifreeze long-life coolant (LLC) and 60% water. To prevent coolant from freezing, determine the ratio of mixture according to the table on the left. Make sure the freezing temperature of coolant should be adequately (5°C/9°F) below the expected minimum temperature of the work area.

NOTE

- **Antifreeze to use: Long Life Coolant (LLC).**
- **Use pure water to make antifreeze mixture.**



Changing

1. Open engine cover and hold it in place with stay bar. (See page 19)
2. Have an appropriate drain pan.
3. Remove coolant drain plug at the bottom of radiator to drain coolant. Wash inside radiator.
4. Put drain plug back in place and tighten it securely.
5. Fill coolant.
6. Close engine cover.

NOTE

- **Coolant Capacity (excluding reservoir): 3.1L (3.3US qt)**
- **Removing radiator cap helps drain the coolant.**

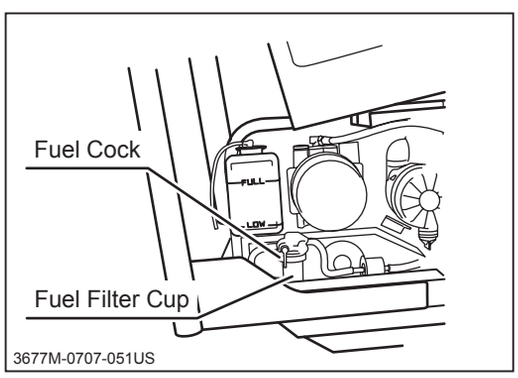
Fuel Filter

⚠WARNING!

- **Fuel is highly flammable. Keep fire and spark away when servicing fuel filter. If fuel is spilt, wipe immediately.**

⚠CAUTION!

- **Dispose risidual fuel in fuel filter properly.**



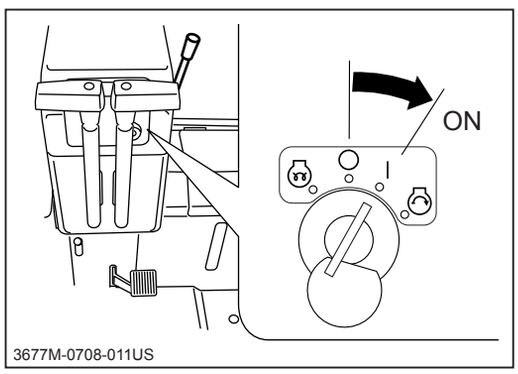
Inspecting/Cleaning

1. Open engine cover and hold it in place with stay bar. (See page 19)
2. Turn fuel cock to [Off] position.
3. Remove fuel filter cup.
4. Remove sediments and water accumulated in the cup.
5. Slowly pull down fuel filter element to remove.
6. Clean element with fresh deisel fuel.
7. Replace element and cup back in place.
8. Turn fuel cock to [On] position.
9. Close engine cover.

NOTE

- **If fuel filter is damaged, replace it with a new filter.**

Bleeding Air From Fuel



1. Fill fuel into fuel tank.
2. Turn main switch to [| (on)] position to let fuel pump run for about 5 seconds. Air is automatically bled from fuel system.

NOTE

- **To avoid difficult starting, bleed air from fuel system whenever fuel filter or fuel hose is replaced, or fuel tank was completely emptied.**

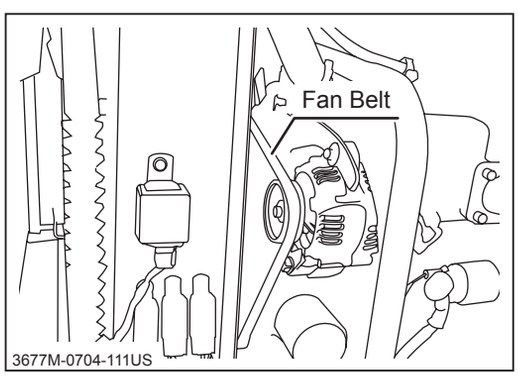
Fan Belt

⚠WARNING!

- **Stop engine when servicing fan belt. Hand or fingers can be tangled.**

⚠CAUTION!

- **Adjust belt tension properly. Inproperly tensioned belts may reduce performance and its service life.**



Inspecting

1. Open engine cover and hold it in place with stay bar. (See page 19)
2. Press the center of fan belt with a finger to check tension. Deflection shall be 7mm (0.28in) with a force of 10kgf (22lbf).
3. If deflection is not close to that value, loosen alternator mounting bolts and move alternator to adjust tension.
4. Tighten mounting bolts.

Drive Train

⚠WARNING!

- **Stop engine when servicing drive train.**
- **Allow machine to cool off before servicing. Engine is very hot after operation and may pose a burn hazard.**

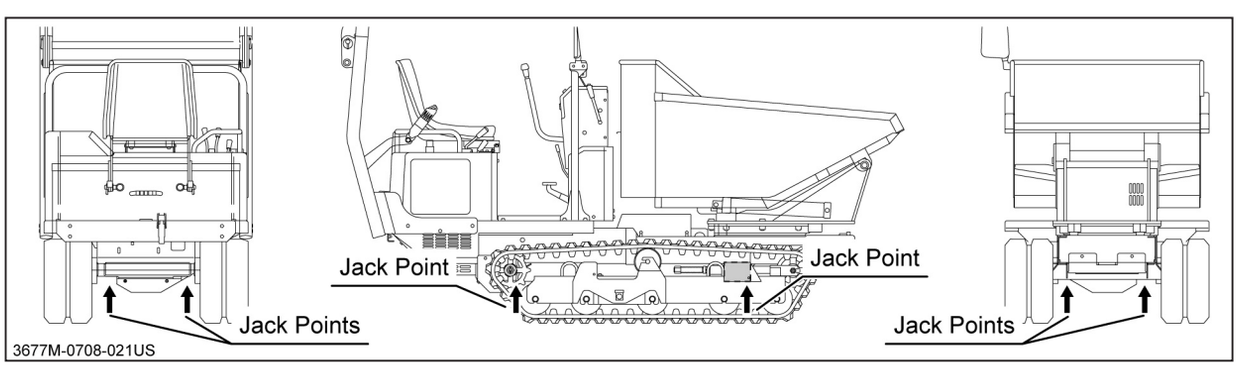
Track

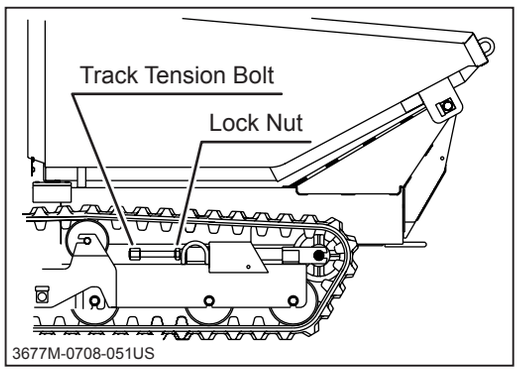
⚠WARNING!

- **Always jack up machine on a level ground.**
- **Jack up machine at jack points. Jack machine so that track is parallel to the ground.**
- **Once jacked up, hold machine at jack points with jack stands of sufficient strength. Make sure machine is stable before performing maintenance.**
- **Make certain to adjust track tension properly. Inproperly tensioned tracks may wear or come off, resulting in property damage, serious injury or death.**

⚠CAUTION!

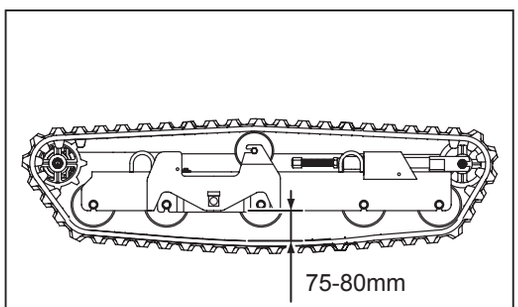
- **Always unload machine before jacking up.**





3677M-0708-051US

1. Park machine on a level ground.
2. Jack up machine at jack points. At the front, jack points are on cross member between tracks. At the rear, they are on axle tube. Jack on both sides. Jack up machine so that track is parallel to the ground.
3. Loosen lock nut on track tension bolt.



3677M-0708-061US

4. Turn track tension bolt to adjust clearance between track and frame to be between 75 and 80 mm (2.95 and 3.15in).
5. Tighten lock nut.
6. Lower machine.

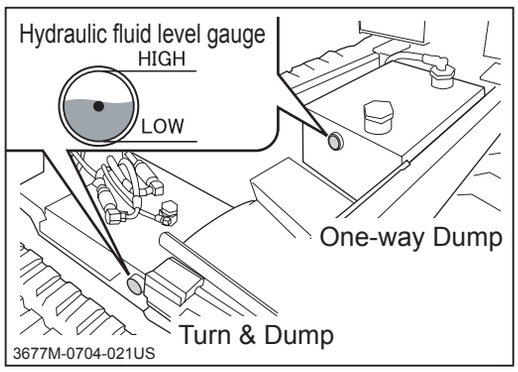
NOTE

- **Track stretches during its use-life. Inspect and adjust regularly.**

HST (Hydrostatic Transmission) Fluid

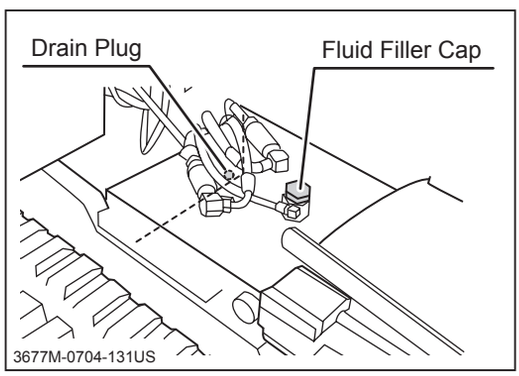
⚠CAUTION!

- **Low hydraulic fluid level decreases performance and may lead to a permanent damage.Check fluid level regularly according to maintenance schedule.**
- **Dispose of the drained fluid properly, according to the national and local regulations.**
- **Burn hazard; pay special attention when handling hydraulic fluid. Hot fluid may cause burns.**



Inspecting/Filling

1. Park the machine on a level ground.
2. Raise bucket and hold it with safety prop. (Page 33) Lock dump lever with lock plate.
3. Visually inspect fluid level gauge.



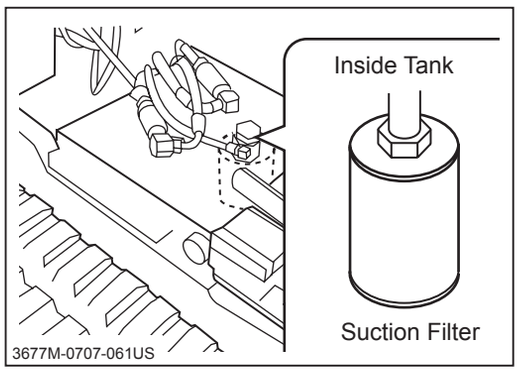
4. If fluid level is low, open fluid filler cap and fill fluid.
5. Put filler cap back in place.
6. Undo safety prop. Lower bucket.

Changing

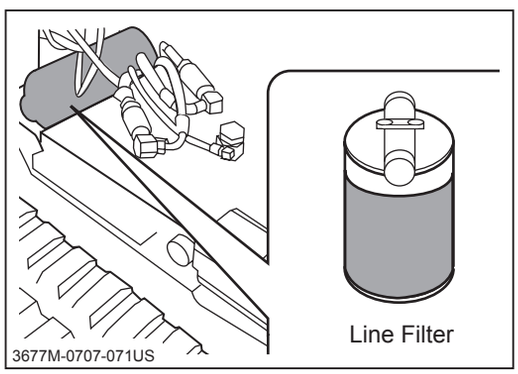
1. Raise bucket and hold it with safety prop. (Page 33) Lock dump lever with lock plate.
2. Have an appropriate oil drain pan.
3. Remove drain plug to drain fluid.
4. Wipe drain plug and drain hole clean. Put drain plug back in place. Tighten it securely.

NOTE

- **Fluid Capacity: 20.0L (5.3US gal)[One-way]/ 23.3L(6.2US gal)[Turn & Dump].**
- **Fluid to use: High viscosity index hydraulic fluid ISO VG46.**
- **Change suction filter and line filter when HST fluid is changed.**



6. Remove suction filter.
7. Have a new suction filter ready. Apply clean hydraulic fluid (oil) on filter oil seal evenly.
8. Install a new suction filter.



9. Remove line filter with a oil filter wrench.
10. Have a new line filter ready. Apply clean hydraulic fluid (oil) on filter oil seal evenly.
11. Install a new line filter. Tighten it securely.
12. Open filler cap and fill fluid. Put filler cap back in place.
13. Undo safety prop. Lower bucket.
14. Start engine and engage clutch to circulate the fluid. Watch for leaks.
15. Lift bucket and hold bucket with safety prop. Inspect fluid level. Fill fluid as necessary.
16. Undo safety prop. Lower bucket.

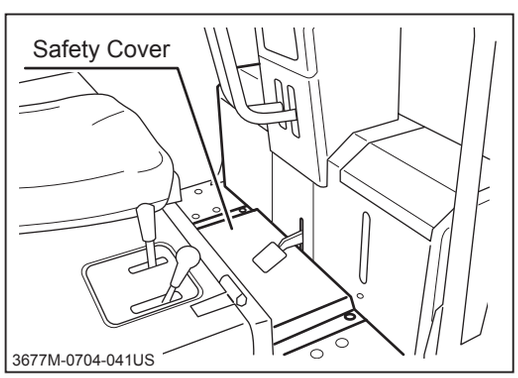
Transmission Oil

⚠WARNING!

- **Always park machine on a level surface and block tracks with chocks when working under machine.**

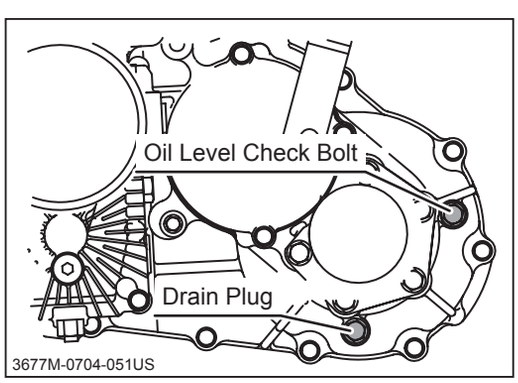
⚠CAUTION!

- **Dispose of the drained oil properly, according to the national and local regulations.**
- **Burn hazard; pay special attention when handling oil. Hot oil may cause burns.**

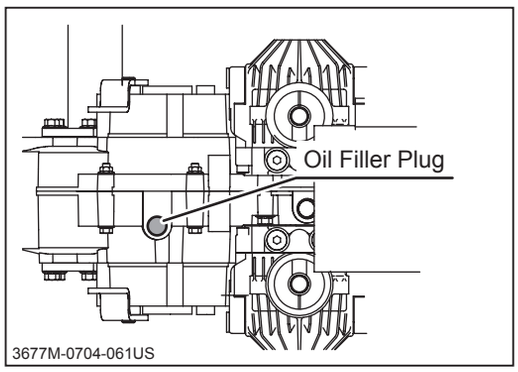


Inspecting/Adding

1. Park machine on a level ground.
2. Remove safety cover.



3. Remove oil level check bolt. Check that oil level is at the check bolt hole.



4. If oil level is low, open oil filler plug and add oil.
5. Visually inspect the condition of oil. If dirty, change it.
6. Wipe excess oil around check hole. Clean check bolt and put it back in place. Tighten it securely.
7. Install safety cover.

NOTE

• Removing filler cap helps drain oil.

Changing

1. Park machine on a level ground.
2. Have an appropriate oil drain pan ready.
3. Remove safety cover.
4. Remove drain plug to drain oil.
5. Clean drain plug and put it back in place. Tighten it securely. Watch for leaks.
6. Remove oil filler plug and oil level check bolt.
7. Fill oil slowly until oil flow out of check hole.
8. Wipe around check hole.
9. Clean check bolt and put it back in place. Tighten it securely. Watch for leaks.
10. Put oil filler plug back in place.
11. Install safety cover.

NOTE

• Oil to Use: Gear Oil, API glade GL-4 or 5, SAE index #80.

• Oil Capacity: 2.0L (2.1US qt)

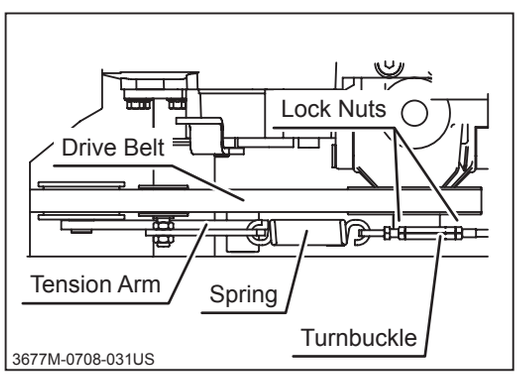
Drive Belt

⚠WARNING!

• Stop engine when servicing drive belt. Hand or fingers can be tangled.

⚠CAUTION!

• Adjust belt tension properly. Inproperly tensioned belts may reduce performance and its service life.

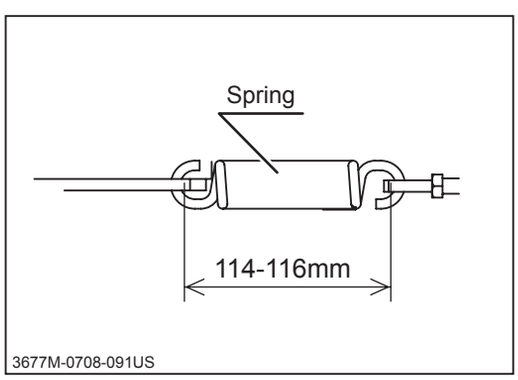


Inspecting

1. Push clutch lever to [(ON)] position.
2. Remove safety cover. (page 53)
3. Visually inspect drive belt. If it is damaged, replace.

NOTE

• Contact your CANYCOM representative when belt needs to be replaced.



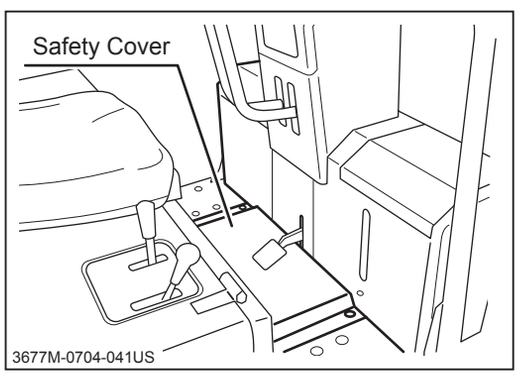
Adjusting

1. Remove safety cover. (page 53)
2. Loosen lock nut.
3. Adjust turnbuckle so that the inside dimension between spring hooks is between 114 and 116 mm (4.49 and 4.57in).
4. Install safety cover.

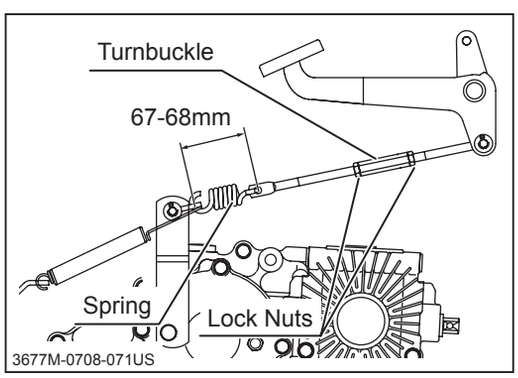
Parking Brake

⚠WARNING!

- **Always keep brake adjusted for maximum performance. Improperly adjusted brakes may result in property damage, serious injury, or death.**



1. Remove safety cover.
2. Depress parking brake pedal and lock it securely.



3. Loosen lock nuts on brake linkage.
4. Adjust turmbuckle so that the distance between spring hooks is between 67 and 68mm (2.64 and 2.68in).
5. Tighten lock nuts securely.
6. Install safety cover.

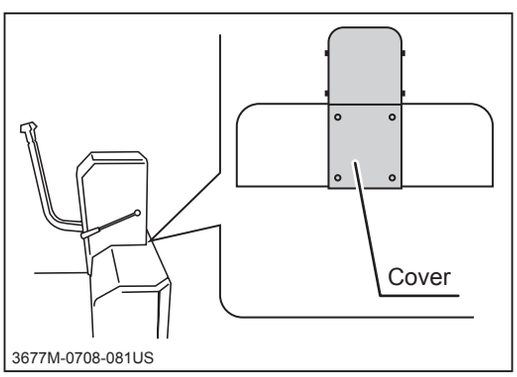
Steering Lever

NOTE

• Steering levers are properly adjusted at the time of shipment. Adjustment is needed only when transmission, steering levers, or their linkage is replaced or dismantled.

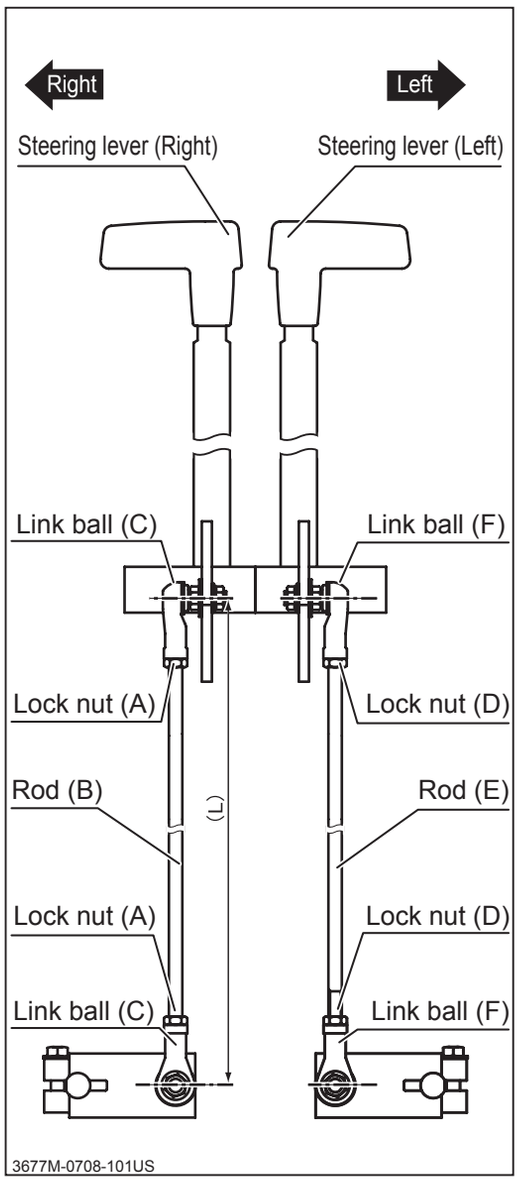
Inspecting

1. Start engine and increase engine speed by moving throttle lever to [(fast)]position.
2. Operate machine on a level surface and release steering levers; if track moves forward or backward, corresponding steering lever needs to be adjusted.



Adjusting - Before Adjustment

1. Raise loading deck and support it with safety prop.
2. Remove cover on the back of control panel.



Adjusting - When Right Track Moves

3. Loosen two lock nuts (A).
4. Rotate rod (B) until right track does not move.
   - When track moves forward, turn rod so that the distance between rod ends (C) becomes shorter.
   - When track moves backward, turn rod so that the distance between rod ends (C) becomes longer.
5. Tighten lock nuts (A) securely.

Adjusting - When Left Track Moves

6. Loosen two lock nuts (D).
7. Rotate rod (E) until left track does not move.
   - When track moves forward, turn rod so that the distance between rod ends (F) becomes shorter.
   - When track moves backward, turn rod so that the distance between rod ends (F) becomes longer.
8. Tighten lock nuts (D) securely.
9. Install cover.

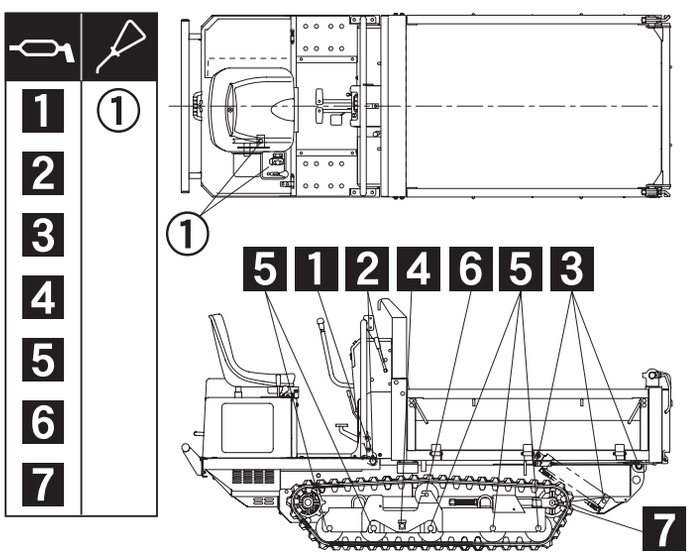
Greasing and Oiling

⚠CAUTION!

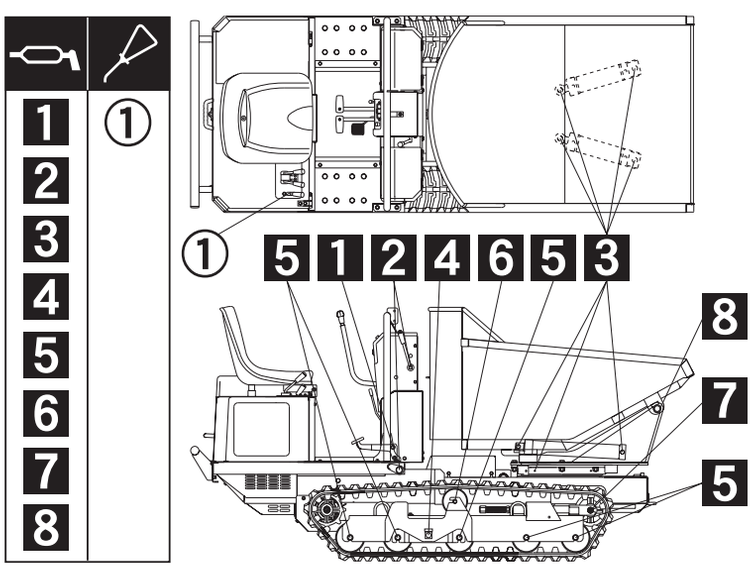
- **Follow the maintenance schedule to grease the machine. Lack of greasing may result in rust, excessive wear or seizure.**

1. Lubricate points as shown below.

One-way Dump



Turn & Dump



3677M-0705-031US

No.	Lubrication area	Lubrication points	Type of lubrication
1	Parking Brake Pedal Linkage	1	Grease
2	Clutch Lever Pivot	2	
3	Hydraulic Cylinder Pivot • (Turret Ring)	2 (7)	
4	Swing Roller Pivot	2	
5	Roller Shaft*	10	
6	Upper Roller	2	
7	Idler	2	
8	Loading Deck Pivot	1	
①	Throttle lever pivot and Hydraulic V-belt tension arm (One-way Dump) Throttle lever pivot (Turn & Dump)	1	Oil

NOTE

- **To lubricate roller shaft, remove outside nut and install grease nipple. Apply grease to rollers through grease nipple. After greasing, remove grease nipple and tighten nut firmly to shaft.**
- **Grease to use: Chassis Grease**
- **When using a manual grease gun, pump 5-6 times. When the handle of the gun becomes heavy, stop pumping immediately.**
- **When using a pneumatic grease gun, pump it for a few seconds.**
- **Oil to use: Gear Oil, API glade GL-4 or 5, SAE index 80.**

Hydraulic System

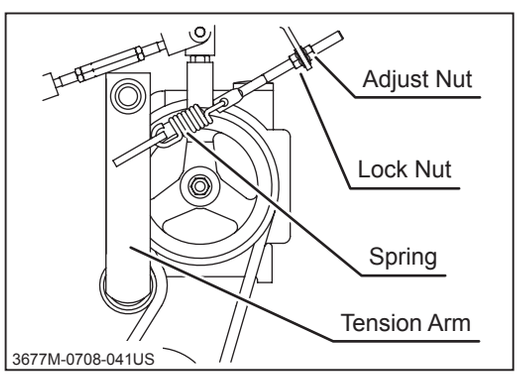
Hydraulics Belt

⚠WARNING!

• Stop engine when servicing hydraulics belt. Hand or fingers can be tangled.

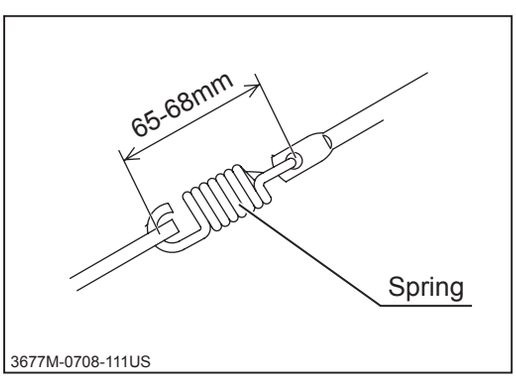
⚠CAUTION!

• Adjust belt tension properly. Inproperly tensioned belts may reduce performance and its service life.



Inspecting/Adjusting

1. Open engine cover and hold it in place with stay bar. (See page 19)
2. Visually inspect hydraulics belt. If it is damaged, replace.
3. Loosen lock nut.



4. Turn adjust nut so that the inside dimension between spring hooks is between 65 and 66 mm (2.56 and 2.68in).
5. Tighten lock nuts.
6. Close engine cover.

NOTE

• Contact your CANYCOM representative when belt needs to be replaced.

Electrical System

⚠WARNING!

- **Always stop engine and turn main switch to [◯ (off)] position, and disconnect negative (-) terminal of battery when servicing the electrical system.**

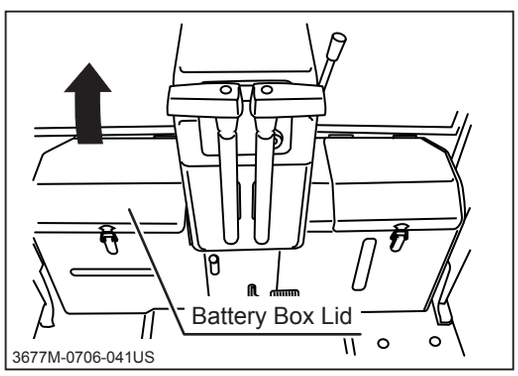
Battery

⚠WARNING!

- **Explosion hazard. Keep open flame or spark away from battery. Hydrogen gas generated during charging is extremely explosive.**
- **Battery fluid (diluted sulfic acid) is corrosive and causes severe burns. Be extremeley cautious when handling battery fluid. If battery fluid is spilt on clothes, immediately rinse with plenty of water. If spilt on skin or in an eye, immediately rinse with plenty of water and promptly consult a physician.**
- **Never charge battery when the fluid level is below lower limit. Charging battery with insufficient fluid may shorten battery life or cause an explosion.**
- **Never fill battery fluid beyond the upper limit. Battery fluid may spill and cause damage to machine or personal injury.**
- **Always disconnect negative (-) terminal first, and connect positive (+) terminal first. Disconnecting or connecting in the opposite order may cause a short circuit.**
- **When installing battery, make certain to connect positive (+) and negative (-) terminals to their respective original positions. Avoid contact between terminals and other surrounding parts.**

⚠CAUTION!

- **Always remove battery from machine before charging. Failure to do so may cause damage to electrical components and wiring.**
- **Follow battery charger user's manual when charging.**

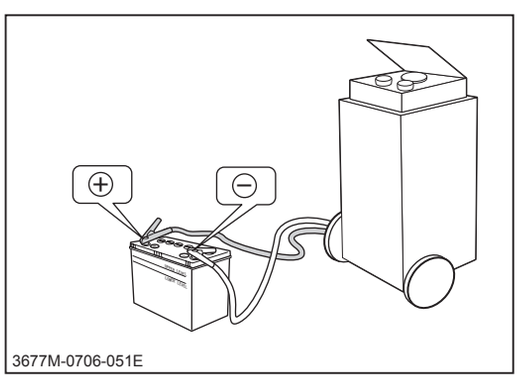


Inspecting/Filling

1. Park machine on a level ground.
2. Unlatch and open battery box lid.
3. Visually inspect that battery fluid level is between "UPPER LEVEL" and "LOWER LEVEL" lines. If fluid level is below "LOWER LEVEL" fill.

NOTE

- **Battery Fluid: Distilled Water**



Charging

1. Remove battery from machine.
2. Follow the instructions in **the battery charger user's manual** to charge battery.

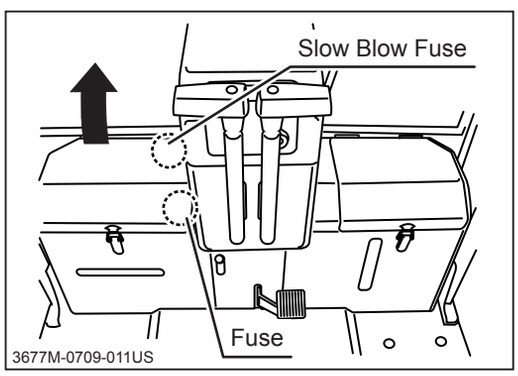
NOTE

- **Rapid charging is only an emergency measure. This method uses a large amount of current to compensate the lost charge in a short time. However, the battery needs to be fully charged in the ordinary method for a longer service life. Charge battery fully in a conventional method after battery is charged with rapid charging method.**

Fuse

⚠CAUTION!

- **If a fuse blows, investigate the cause before replacing. Always replace a fuse with the one of the correct rating.**



1. Open battery box lid.
2. Visually inspect fuses. Locate the blown fuse and replace it with a new one of the correct rating.
3. Close battery box lid.

NOTE

- **Replacement Fuses**

  Slow Blow Fuse

  Main Glow: 30A

  Alternator: 40A

  Fuse

  Hour Meter/

  Alarm Monitor/Fuel Pump: 5A

  Horn: 5A

After Use Care

⚠CAUTION!

- **Do not wash the engine, control panel, electrical parts, or tank caps with air breather with running water; water may enter inside and cause rust or damage.**
- **Clean the machine after use; leaving dirt or foreign objects may cause damage.**
- **Do not attempt to move the machine when it becomes inoperable due to freezing.**

After Normal Use

1. Clean machine; wash off dirt, mud, and other foreign matter after use.
2. If machine is to be left outside, cover machine with protective, water-proof covering after machine is cooled off.

After Cold Weather Use

1. Clean machine; wash off dirt, mud, and other foreign matter after use.
2. Park machine on a paved or firm, dry surface.
3. If machine is to be left outside, cover machine with protective, water-proof covering after it is cooled off.

Storage

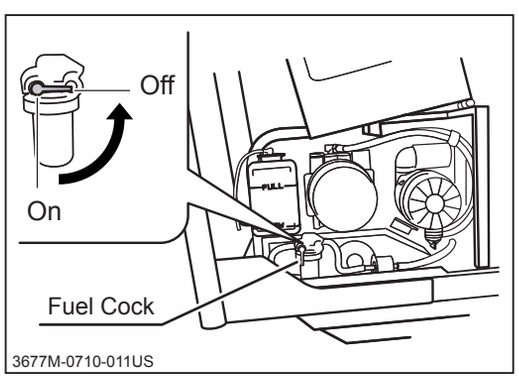
⚠WARNING!

- **Fire hazard; do not store machine where there is a possiblity of ignition.**

⚠CAUTION!

- **Do not wash engine or control panel with running water; water may enter inside and cause rust or damage.**
- **Clean machine before storage; leaving dirt or foreign objects may cause rust or damage.**
- **Do not store machine in a humid, dusty, or hot place.**

1. Follow instructions in **Parking** (page 28) to park machine.
2. Clean dirt off of machine.
3. Change engine oil (page 42).



4. Clean air cleaner (page 44).
5. Open engine cover and turn fuel cock to "OFF" position. Close engine cover.
6. Remove battery from machine. Service battery (page 62).
7. Cover machine with protective, water-proof covering after machine is cooled off.

NOTE

- **Battery dischages even when it is not in use. A battery may hold charge for a few months, but it is a good practice to charge battery before it goes flat; it will extend the battery life.**
- **Refer to the Operation Manual for the engine, for detailed instructions on preparing the engine for storage.**
- **Do not forget to turn the fuel cock to "ON" position when starting the machine.**

Troubleshooting

- **If any malfunction or abnormal condition is found, immediately stop using the machine and take an appropriate measure according to the Troubleshooting chart below. If the malfunction or abnormal condition is not listed in the chart, or the suggested measure does not solve the problem, consult with your CANYCOM representative.**

- **Some corrective measures listed below require special knowledge and/or equipment. Please contact your CANYCOM representative in such a case.**

Area	Malfunction	Possible Cause	Corrective Measure	Ref.
Engine	Engine does not start, or is difficult to start	Parking brake lever is engaged (safety mechanism is on).	→Disengage parking brake.	Page 24
		Battery is discharged.	→Add battery fluid. →Charge battery. →Replace battery.	Page 62
		Battery cable is disconnected.	→Connect battery cable.	
		Blown fuse.	→Replace fuse.	Page 64
		Bad connection or breakage in the wiring.	→Please contact your CANYCOM representative.	
		Out of fuel.	→Fill fuel.	Page 15
		Air is in fuel.	→Bleed air.	Page 48
		Insufficient or wrong oil.	→Fill or change oil.	Page 42
		Contamination in fuel system.	→Please contact your CANYCOM representative.	
		Other (other than the above).	→Please contact your CANYCOM representative.	
	Engine stalls.	Out of fuel.	→Fill fuel.	Page 15
		Cold engine.	→Warm up the engine.	
		Other (other than the above).	→Please contact your CANYCOM representative.	

Area	Malfunction	Possible Cause	Corrective Measure	Ref.
Engine	Engine stops abruptly.	Out of fuel	→Fill fuel.	Page 15
		Piston seizure due to insufficient or bad oil.	→Please contact your CANYCOM representative.	
		Other (other than the above).	→Please contact your CANYCOM representative.	
	Engine does not stop	Electrical malfunction	→Please contact your CANYCOM representative.	
		Other (other than the above).	→Please contact your CANYCOM representative.	
	Idling is not stable.	Insufficient intake air (clogged air cleaner).	→Clean or replace air cleaner.	Page 44
		Other (other than the above).	→Please contact your CANYCOM representative.	
	Poor power or acceleration	Bad fuel	→Change fuel.	
		Wrong oil (improper viscosity)	→Change to suitable oil.	Page 42
		Accelerator (throttle) is not properly adjusted.	→Please contact your CANYCOM representative.	
		Insufficient intake air (clogged air cleaner).	→Clean or replace air cleaner.	Page 44
		Excessive load	→Reduce load.	
		Loose drive belt.	→Adjust	Page 55
		Other (other than the above).	→Please contact your CANYCOM representative.	
	Irregular noise or vibration from or around the engine		→Please contact your CANYCOM representative.	
	Excessive oil consumption		→Please contact your CANYCOM representative.	

Area	Malfunction	Possible Cause	Corrective Measure	Ref.
Engine	Engine overheats	Insufficient amount of engine oil.	→Fill oil.	Page 42
		Insufficient amount of coolant.	→Fill coolant.	Page 45
		Radiator or cooling fan is clogged or blocked.	→Clean.	
		Other (other than the above).	→Please contact your CANYCOM representative.	
	Excessive fuel consumption	Clogged air cleaner.	→Clean or replace air cleaner.	Page 44
		Other (other than the above).	→Please contact your CANYCOM representative.	
	Black smoke comes out of exhaust	Bad fuel.	→Change fuel.	
		Clogged air cleaner.	→Clean or replace air cleaner.	Page 44
		Other (other than the above).	→Please contact your CANYCOM representative.	
	White or blue smoke comes out of exhaust	Engine oil level is too high.	→Adjust oil level.	
		Other (other than the above).	→Please contact your CANYCOM representative.	
	Accelerator lever is catching	Faulty wire, rod or linkage.	→Please contact your CANYCOM representative.	
Drive Train	Machine does not move (forward, backward, turning) when steering levers are in the corresponding position.	Clutch is not engaged	→Engage clutch.	Page 22
		Parking brake is applied	→Release parking brake.	Page 24
		Excessive load	→Reduce load.	
		Insufficient or deteriorated HST fluid.	→Add or change fluid.	Page 50
		Clogged suction or line filter.	→Replace suction and line filters.	Page 51
		Other (other than the above).	→Please contact your CANYCOM representative.	

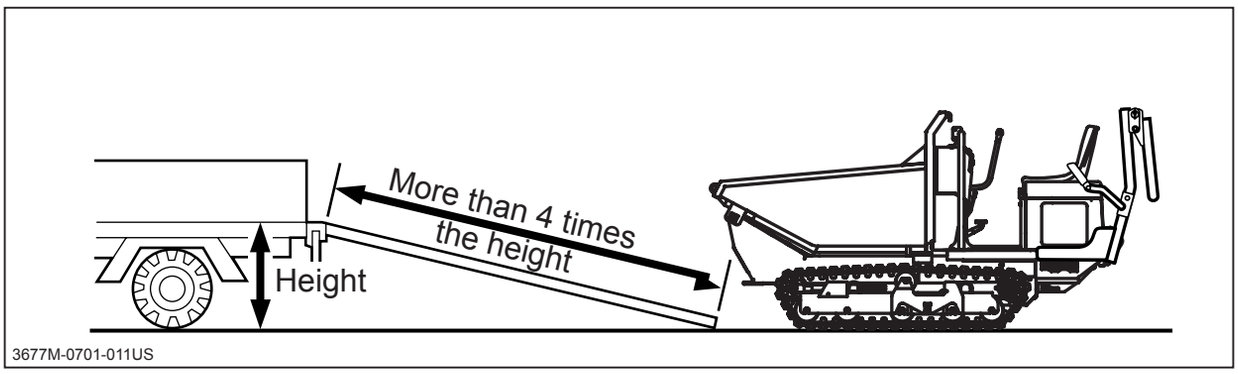
Area	Malfunction	Possible Cause	Corrective Measure	Ref.
Drive Train	Irregular noise or heat is observed at or around the track.		→Please contact your CANYCOM representative.	
Brake	Brake does not work well.	Not properly adjusted.	→Adjust.	Page 56
		Brake is wet with water.	→Apply brake a few times to dry.	
		Other (other than the above).	→Please contact your CANYCOM representative.	
Track	Track does not move smoothly.	Not properly adjusted.	→Adjust.	Page 49
		Other (other than the above).	→Please contact your CANYCOM representative.	
Safety Devices	Lamp does not light.	Blown bulb.	→Replace.	
		Blown fuse.	→Replace.	Page 64
		Other (other than the above).	→Please contact your CANYCOM representative.	
	Oil warning lamp stays on after engine starts.	Insufficient oil.	→Immediately stop engine and check oil level. Add oil as needed.	Page 42
		Other (other than the above).	→Please contact your CANYCOM representative.	
	Charge warning lamp stays on after engine starts.	Problem in charge system.	→Please contact your CANYCOM representative.	
	Horn does not work.	Blown fuse.	→Replace.	Page 64
		Other (other than the above).	→Please contact your CANYCOM representative.	
Hydraulic (Dump and turn) system	Dump or turn does not work.	Insufficient or deteriorated hydraulic fluid.	→Add or change fluid.	Page 50
		Other (other than the above).	→Please contact your CANYCOM representative.	

Hauling

Loading and Unloading

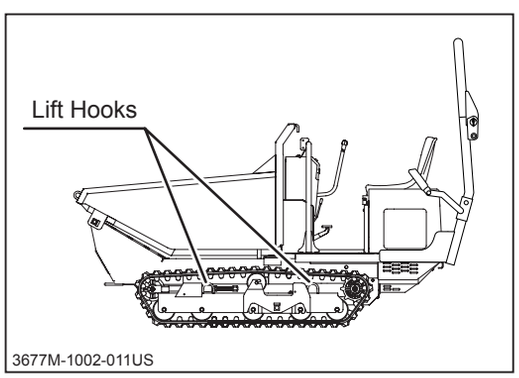
⚠WARNING!

- **Park the transporter (truck) on a level ground. Always use chocks to secure wheels.**
- **Do not allow bystandars to come close to the machine or the transporter when loading or unloading the machine.**
- **Use only the loading ramps with sufficient strength (to withstand the combined weight of the machine and the operator), width (more than 1.2 times the width of the track), and length (more than 4 times the height of the loading deck of the transporter), and have anti-slip ramp surfaces.**
- **Secure the hooks of the loading ramps firmly and flush with the loading deck.**
- **Move slowly forward when loading onto, and move slowly backward when unloading off of the transporter. Pay special care when going over the joint between the loading deck and the ramps; the machine may tip.**
- **Do not turn on the loading ramps. The machine may fall.**
- **Tie down the machine securely. Make sure the machine does not move around on the loading deck.**



Loading to the Transporter

1. Park the transporter. Secure the wheels with chocks.
2. Place the loading ramps. Secure the hooks of the ramps firmly and flush with the loading deck.
3. Drive the machine slowly forward onto the loading deck.
4. Park the machine according to the instructions in **Parking** (Page 28).



5. Tie the machine at lift hooks with rope or tie-down belts and secure it onto the loading deck of the transporter securely.

Unloading from the Transporter

1. Park the transporter. Secure the wheels with chocks.
2. Undo rope or tie-downs that secure the machine.
3. Place the loading ramps. Secure the hooks of the amps firmly and flush with the loading deck.
4. Drive the machine slowly backward from the loading deck to the ground.

Hoisting and Towing

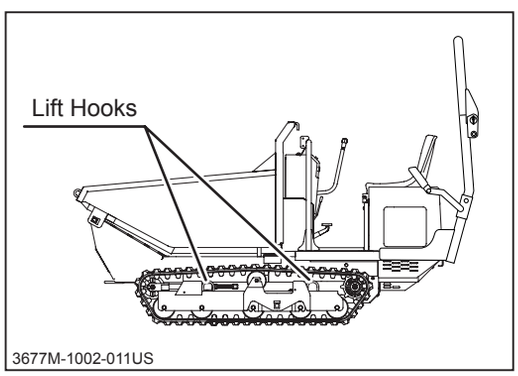
Hoisting

⚠WARNING!

- **Use hoisting sling of sufficient strength. Always use the slings of the same length when more than one is used.**

⚠CAUTION!

- **Always unload the machine before hoisting.**
- **Do not use the wire rope when hoisting. It will damage tracks.**



1. Attach hoisting slings to 4 lift hooks located on the corners of the machine. Hoist the center of the slings.

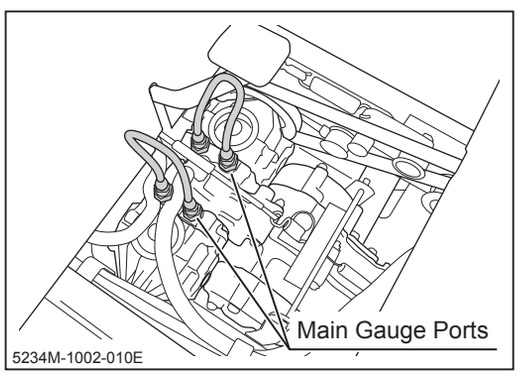
NOTE

- **Combined weight limit of these 4 lift hooks is 965kg (2127lbs). Use all 4 hooks when lifting the machine.**

Towing

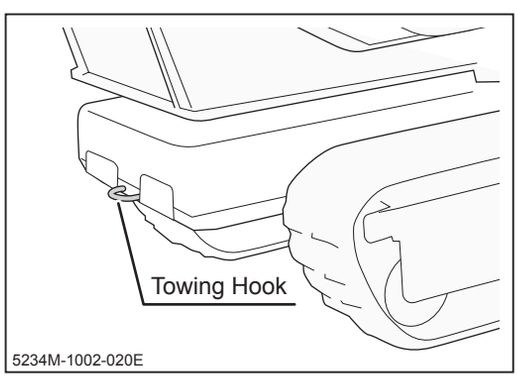
⚠CAUTION!

- **Always unload the machine before towing.**



1. Remove the floor safety panel. (See page 53)

2. Remove the port plugs from main gauge ports. Use hydraulic hoses with 3/4-16 UNF-2B adapters to bypass the main circuit of each HST unit.



3. Disengage the clutch.

4. Hitch the wire rope to the towing hook on the front of the machine. Tow slowly.

NOTE

- **Towing capacity of towing hook is 965kg (2127lbs).**