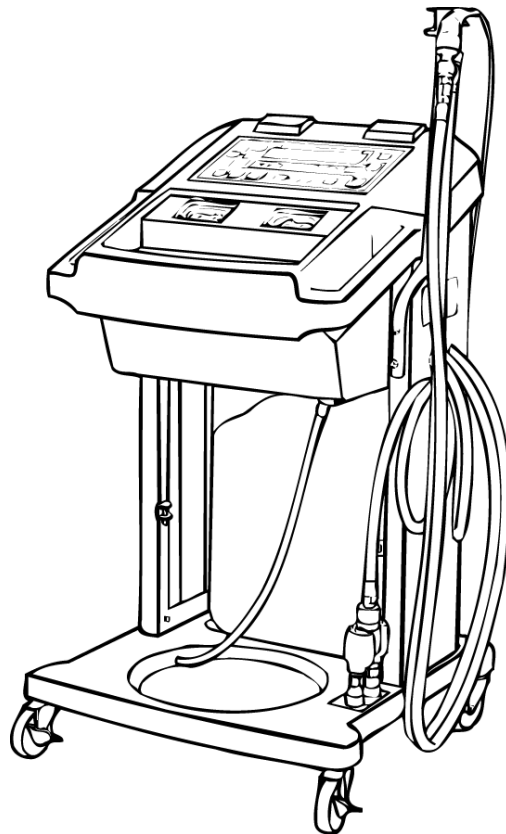


INSTRUCTION

Automatic Transmission Fluid Changer

AFC-9000S(220V) MODEL No.881082



WARNING

Prior to operating this pump, be sure to read this operation manual for safety. After reading the manual, please keep it at hand any time for your quick reference.

YAMADA CORPORATION

- Introduction

This OPERATION MANUAL describes the correct operation procedures and contains notes on usage, so that you can operate this pump effectively without any problems. Do not operate this pump before reading this manual. Be sure to read all of the warnings and cautions. Keep this manual handy for future reference.

If you have any questions on the operation of this pump or if the pump operates improperly, contact your dealer or our office (see back page of this manual for our contact information).

◇ If your manual is damaged or lost, additional copies may be purchased from your dealer, or from Yamada directly.

- Purpose

This machine is a exchangeable machine of the automatic transmission fluid (Hereafter, it is called A.T.F). The clearing work of complex mission oil can be done by full automation by an easy button operation by each mode of a circulation mode, an dipstick(alternate) mode, and the CVT mode. In addition, it is possible to use it by guiding by the voice and displaying the exchange situation with the signal light without the worry of the miss-operation.

-Warnings and Cautions

For safe use of this product, be sure to note the following: In this document, warnings and cautions are indicated by symbols. These symbols are for those who will operate this product and for those who will be nearby, for safe operation and the prevention of personal injury and/or property damage. The following warning and caution symbols are described below.



WARNING :

If you ignore the warning described and operate the product in an improper manner , there is danger of serious bodily injury or death.



CAUTION :

If you ignore the caution described and operate the product in an improper manner, there is danger of personal injury or property damage

Moreover, to show the content of harm and damage, the following picture display is shown with the display of the abovementioned.



It is shown that this display is an act of not doing (prohibited matter). A concrete content of the prohibition is shown sideward of the display.



It is shown that this display is a content to follow without fail. A concrete content of the prohibition is shown sideward of the display.

- Directions

The following warning and notes are very important, and defend, please.



WARNING



- This machine might handle the wasted oil of the high temperature. Please do not note enough, and do not owe the burn.
- There is danger of angry when it touches the skin according to the oil used. Please handle it perusing the handling notes of the oil manufacturer, and carefully.



CAUTION



- This machine is A.T.F. and motor oil exclusive use. The brake fluid other than this, you cannot use for the solution which damages rubber such as gasoline and gas oil, or the liquid whose volatility is high. Not only becoming cause of breakdown of the equipment, there is danger such as ignition.

- Please do not use the power source other than AC220V to this machine. There is danger which causes the injury by the breakdown, and electric shock fire etc of the machine.

- Directly please do not discharge the waste oil which is handled with this machine, in the land and the like. As for processing of the waste oil, following to the law which is applied please process.



- When on stream of this machine, or it keeps, please be sure to lock the caster brake. Without locking, when this machine which you place on the slope starts moving, inverts and pollutes the facility, gives the damage to the vehicle it becomes responsibility of user side.

- The fuselage itself and various nozzles, always please handle the new oil can and the waste oil tank cleanly. When management is bad, the rubbish and the like mixes into the user vehicle which is exchanged, becomes cause of vehicle breakdown.

- Long haul please do not expose this machine, to the direct sunlight. There is a possibility the resin part causing thermal deformation.

- Before doing oil exchange, please read thoroughly the instruction manual of the vehicle, select appropriate exchange method.

- After automatic exchange end if you verify amount of oil with the level gauge and there are over and shorts please be sure to do adjustment.

NOTE

When the temperature of A.T.F. and the motor oil is low, there are times when the sucking with the flexible nozzle is bad. Sufficiently to warm up, after rising oil temperature, please do pulling out.

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- Warnings and Cautions
- Directions
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1. Name of each part
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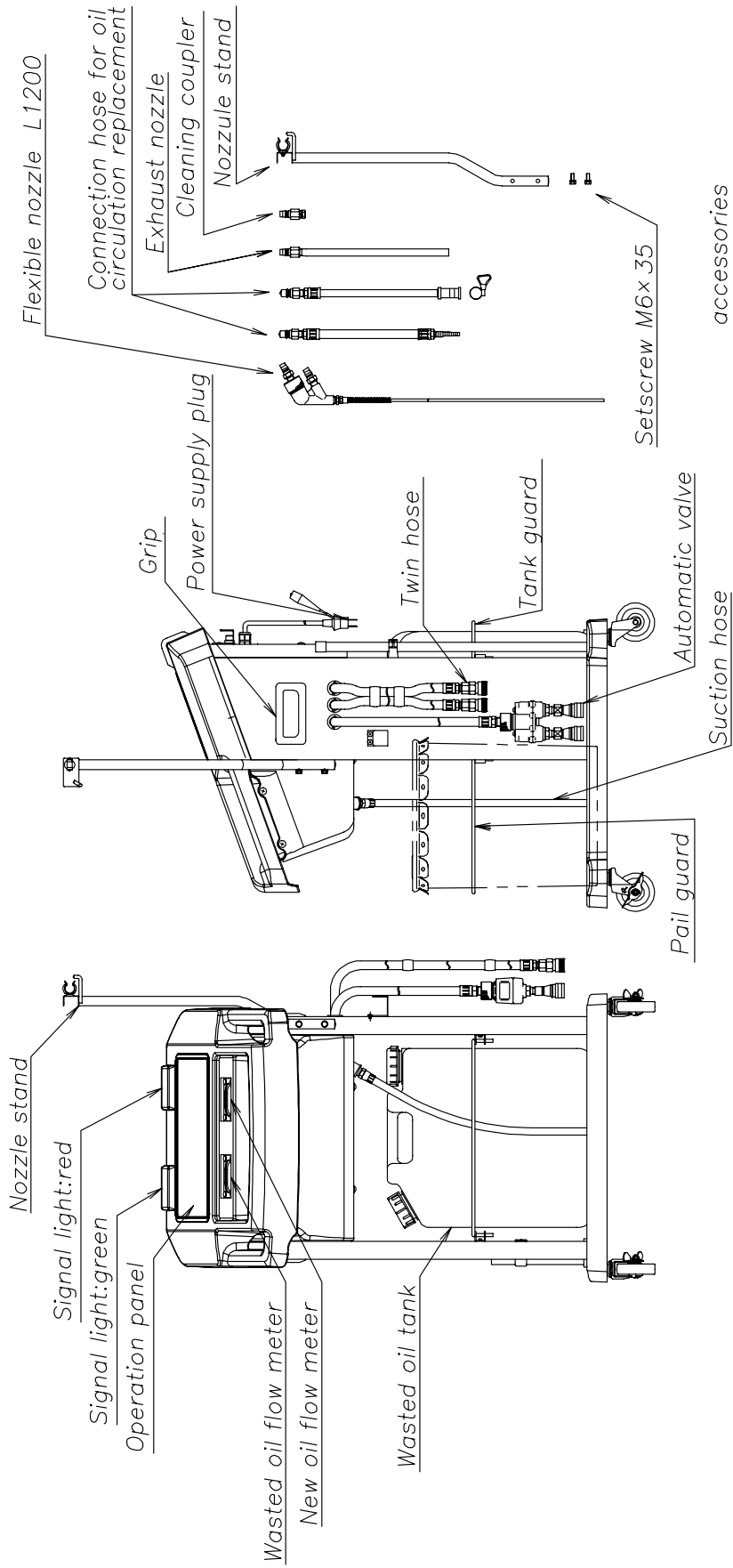
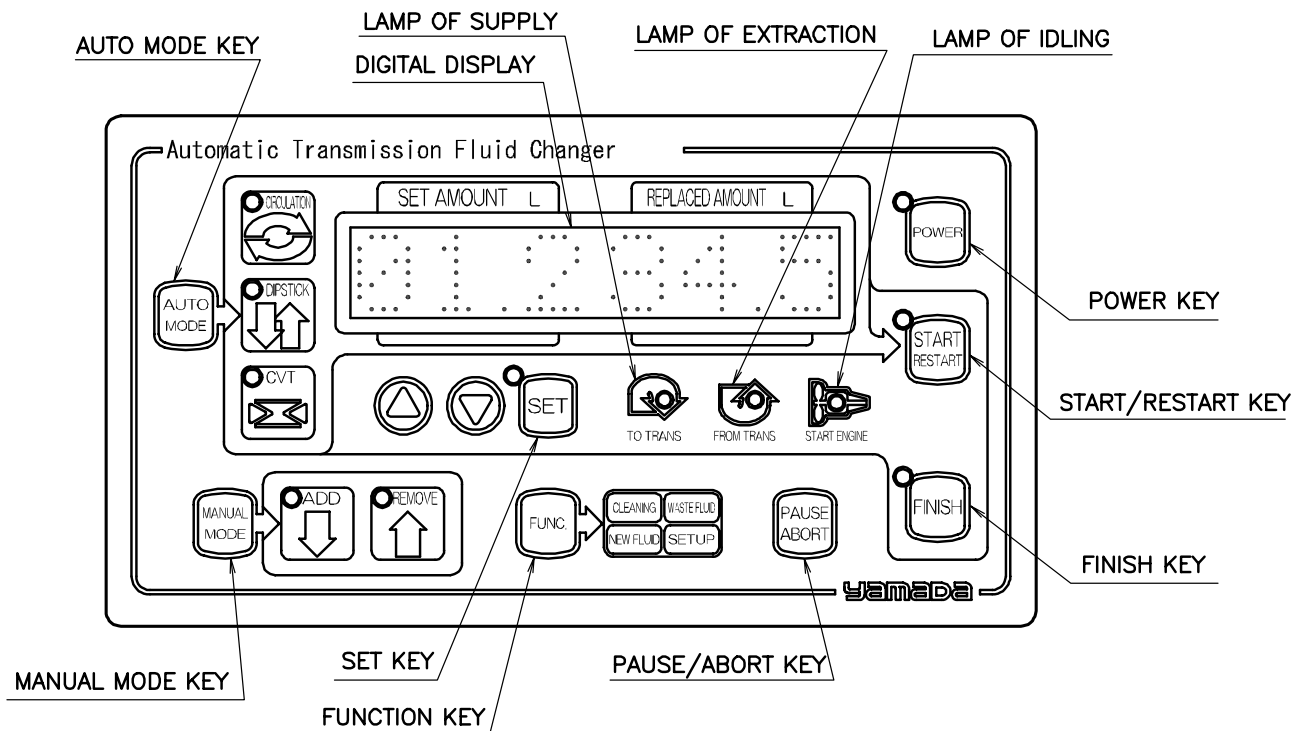


Fig.1-1

1-2. Operation panel



1-3. What is in the package (See Figure 1-1 on page 1.)

Oil changer (this machine), flexible nozzle L1200, connection hose for oil circulation replacement (two), exhaust nozzle, cleaning coupler, nozzle stand and setscrew (M6 × 35, for a nozzle stand) (two)

Operation manual

CAUTION



- When you lift this machine, hold the grips located on both sides of the main unit with two or more persons. Do not tumble or drop this machine.

- Use a lifter to unload the package from a truck.
- Remove the wooden crate, and hold the grips located on both sides to unload this machine from the base.
- Check to see if the machine is neither scratched nor damaged.
- Check to see if all supplied parts are in the package.
- Connect the power supply plug to the 220 V AC outlet. If the machine operates normally, the buzzer sounds and the signal lights light.

2. Preparations Before Oil Replacement

CAUTION



- This machine is exclusively designed for automatic transmission fluid (ATF) and engine oil. Do not use any other solution or highly volatile fluid that damages rubber such as brake fluid, gasoline and light oil with this machine. Or, it may cause the machine to not only malfunction but also catch fire.
- While this machine is operating or when you store it, be sure to lock the caster brakes. Or, the machine located on the inclined plane may start moving, fall down to contaminate the facility or damage the car. In this case, it is you who is responsible for the contamination and/or damage.
- Always handle this machine, a new oil pail, and the wasted oil tank cleanly. If you cannot manage them well, a foreign substance or dust may get mixed in with the user's car whose oil is to be replaced, and it may cause the car to malfunction.

NOTE

If the temperature of the ATF or engine oil is low, the flexible nozzle cannot suck the fluid/oil well. Warm up the machine sufficiently to raise the temperature of the fluid/oil before removing the fluid/oil. The guideline for the ATF or engine oil temperature is approximately 50 to 80°C.

2-1 Setting a new oil pail

CAUTION



- To replace the new oil pail with a new one, check to see again if the oil type you selected at the place where various types of lubricants are stored is correct before setting it.
- When you set a new oil pail, be careful so that any mud or dust cannot be stuck to the suction hose.
- Be sure to attach the pail guard onto the new oil pail. Or, the new oil pail may fall down and the spilt oil may contaminate the facility.

1. Take out the suction hose, and insert it into the new oil pail. (See Fig. 2-1.)
2. Set the new oil pail inside the machine.
3. Check to see if the suction hose is not bent inside the new oil pail.
4. Set the pail guard.

NOTE

- If you attach the optional pail cover onto the pail, you can replenish the machine with new oil from the oil drum or similar container without replacing the oil pail.

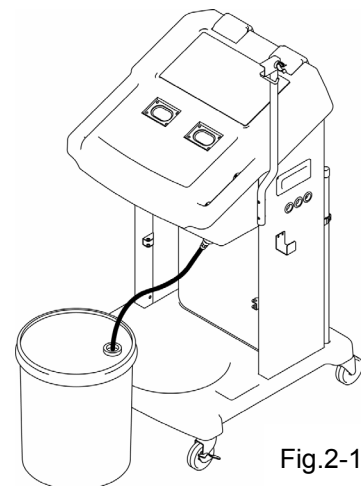



Fig.2-1

2-2 Taking out/Setting the wasted oil tank

CAUTION

-  - Do not exhaust any wasted oil that is handled with this machine to the ground directly. Discard the wasted oil according to the applicable law and regulations.
- Be sure to remove the wasted oil upper limit sensor with hands. If you pull it out forcibly, the connector is damaged and/or the cable is broken.
- When you set the wasted oil tank, be careful so that any mud or dust cannot be stuck to the hose.
- Be sure to attach the tank guard onto the machine. Or a new oil pail may fall down and the spilt oil may contaminate the facility.

1. Remove the tank guard from the rear of the machine, and pull out the hose from the wasted oil tank.

2. Be sure to disconnect the wasted oil upper limit sensor cord from the connector. (See Fig. 2-2.)

(If you take out the tank although the cord is not disconnected, the cord may be broken.)

3. Remove the wasted tank cap, and discard the wasted oil into the regulated wasted oil bath.

4. Set the wasted oil tank onto the machine base, and insert the hose into it.

5. Connect the wasted oil upper limit sensor to the connector.

(When connecting the sensor, face the dowel of the plug located on the edge of the sensor cord toward the front to set the sensor.)

6. Attach the tank guard onto the machine.

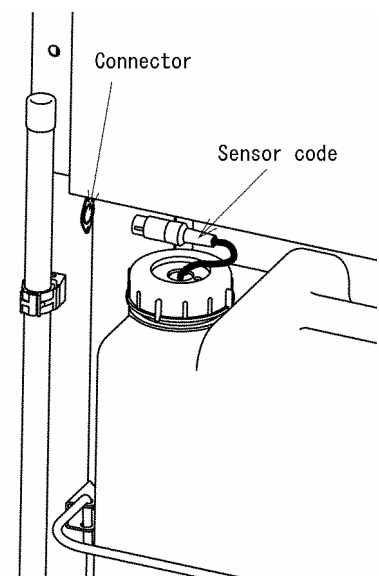



Fig.2-2

NOTE

The later description of the operation ("If the wasted oil tank is totally full while the machine is operating" on page 17) allows you to exhaust the wasted oil without taking out the wasted oil tank.

2-3 Connecting the flexible nozzle

CAUTION

-  When you connect the nozzle and the hose, do not mistake the hose for new oil (red) for that for the wasted oil (black) or vice versa. If you do not connect them correctly, a foreign substance such as dust gets mixed in with the machine, and it may cause the machine to malfunction. (See Fig. 2-3.)

1. Pull the outer ring of the coupler located on the hose toward your side.

2. Insert the connector of the nozzle into the coupler, and replace the ring. The connector is fixed.

3. Pull the hose and the nozzle to check to see if they are not disconnected.

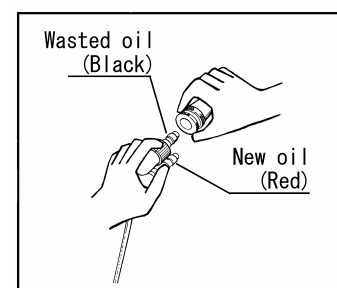



Fig.2-3

2-4 Setting up

CAUTION

-  - While the machine is operating, be sure to lock the caster brakes on the flat place. Or, the machine may start moving depending on the installation place, and it may cause a property damage accident.
- Do not use any power supply other than 220 V AC for the machine. Or it may cause the machine to malfunction and damage it due to electrical shock or fire.
- Do not expose the machine to direct sunlight for a long time. It may cause the resin parts to deform due to heat.

1. Stop the car at a horizontal place, and yank the emergency brake fully to check to see if the braking function operates well.
2. Move the machine next to the car, and lock the caster brakes. (See Fig. 2-4.)
3. Connect the power cable to the 220 V AC outlet, and check that the buzzer sounds.
4. Before oil replacement, be sure to check the amount of oil with the level gauge of the car.

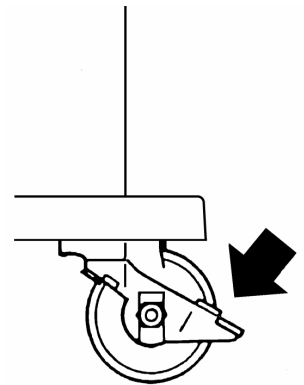


Fig.2-4

3. How to Use

3-1 Precautions

! caution

- ! - Since the oil to be used is regulated depending on the car type such as a 4-wheel drive car, check it with the operating instructions of the car. (If you use any oil other than the designated ATF, it may cause the transmission to malfunction.)
- Some cars may use a nozzle holder. Contact the dealer or our sales office. (The “upright engine” of some cars such as a Honda has the short level gauge, and so the nozzle may be inserted into such a type of car at an angle. In this case, the tip of the nozzle is in contact with the rotating section of the inside and it may damage the rotating section. To replace the ATF of such a type of car, be sure to use the nozzle holder.)
- After operating the machine, be sure to check the oil amount with the level gauge. (After replacement of oil, be sure to check the amount of oil with the level gauge of the car so that the amount of oil can be neither too much nor too little. Note that if the amount of oil is too much or too little, it may damage the transmission.)

3-2 Preparations for operation

! CAUTION

- ! - You are supposed to have to measure the amount of oil after tuning off its engine depending on a car type.
- Insert the level gauge fully to prevent any foreign substance such as dust from getting mixed in with the transmission.

1. Set the shift lever to the position “P”, and idle the engine for ten to fifteen minutes to raise the oil temperature (50 to 80°C). (See Fig. 3-1.)

When you replace the oil of a CVT (Continuously Variable Transmission) type of car, drive it for a while.

2. Idle the engine and move the shift lever from “P” to “L” while stepping on the brake, then to “N”.

3. In this condition, pull out the level gauge. Wipe off the level gauge with a waste cloth, and measure the amount of oil again.

4. When the oil temperature of the transmission is high immediately after you drive the car, check the HOT side of the level gauge. Immediately after the engine rotates, check the COLD side. In either case, when the oil is located between the “LOW” mark and the “FULL” mark, it indicates the normal condition.

The oil check at this point shall be conducted to know the guideline for the regulated amount of oil to be supplied by checking the difference between the supplied oil and the collected oil at replacement. (See Fig. 3-2.)

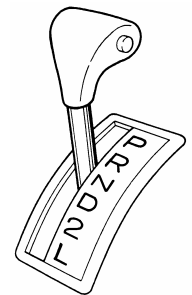


Fig.3-1

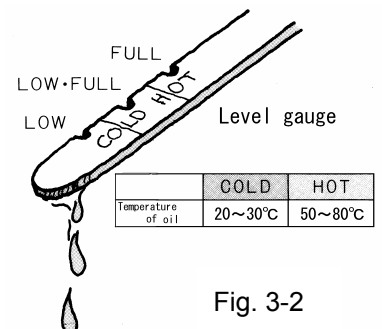


Fig. 3-2

3-3 Inserting the flexible nozzle and notes

Insert the nozzle into the level gauge hole slowly and securely. (See Fig. 3-3.)

NOTE



- Never push the nozzle into the hole forcibly. If the nozzle stops in the middle, pull it back a little and then push it into the hole while turning it slowly.
- Judge how deeply you should insert the nozzle from the length of the oil gauge.
- Stop pushing the nozzle when it hits something.
- If you do not feel the nozzle hit anything, pull out the nozzle by approximately 10 cm, and push it into the hole slowly again.
- If the car does not allow the nozzle to be pulled out, be careful to insert the nozzle into the level gauge hole. Read the following description for such a car.

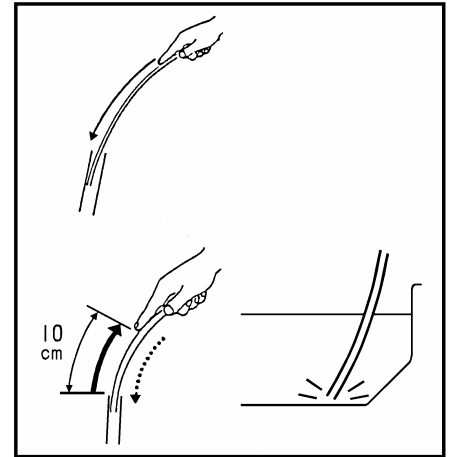


Fig. 3-3

3-4 Car to be cared when inserting a nozzle for oil replacement

Please purchase an optional nozzle holder separately for a car except for some Honda cars.

3.5 How to operate **(The description written in "Italics" explains the condition of the automatic operation.)*

3-5-1 Automatic mode

■ Circulation mode



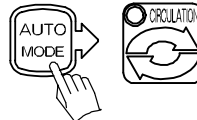
1. Connect the power cable to the AC outlet. (The buzzer sounds for one second.)



2. Press the POWER key.



3. Press the AUTO MODE key once and select "CIRCULATION" mode.



4. Set the amount of oil to be replaced with the ▲ key and/or the ▼ key, and press the SET key.



Insert the nozzle into the level gauge hole securely.

Attach the connection hoses to the oil cooler lines.
When you hold down the SET key (for two seconds), the machine enters "Quick mode".



5. Insert the flexible nozzle into the level gauge hole, and connect the automatic valve to the hoses.



6. Press the START key.



When the machine is set to "クイック," it starts operating from Step 10.



7. *All the wasted oil is removed from the oil pan.*



8. *Supply the car with new oil whose amount is 7 + the checked amount.*



9. Start idling the engine.



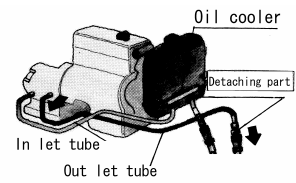
10. *The flow rate of the oil cooler line is checked.*



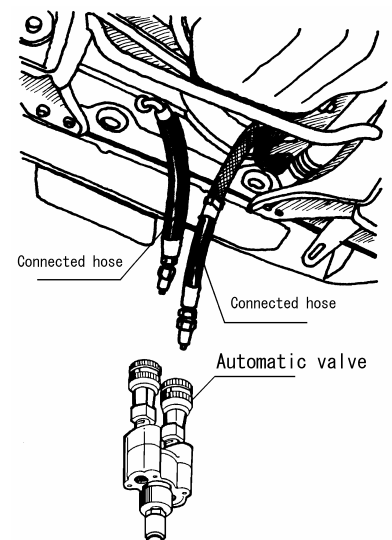
11. *While removing oil from the oil cooler line, the same amount of new oil is supplied the car.*



12. *When the remaining time becomes approximately 30 seconds, the signal light "blue" flashes (lights during operation).*



When the machine is in Quick mode
Digital display: "クイック" appears on the display.
Insert the nozzle into the level gauge hole securely.
Attach the connection hoses to the oil cooler lines.
Start idling the engine.



13. When the amount of the supplied oil and that of the removed oil reach the set amount, the automatic operation finishes.

Stop idling the engine.



14. Check the level gauge, and make fine adjustments of oil replacement if the amount of the replaced oil is too much or too little.

■ Dipstick (Alternate) mode



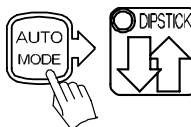
1. Connect the power cable to the AC outlet. (The buzzer sounds for one second.)



2. Press the POWER key.



3. Press the AUTO MODE key twice to select the Dipstick mode.



4. Set the amount of oil to be replaced with the ▲ key and/or the ▼ key, and press the SET key.



Insert the nozzle into the level gauge hole securely.

Start idling the engine.

When you hold down the SET key (for two seconds), the machine enters "Light car mode".

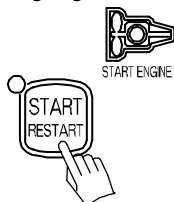
When you are to replace the oil of a light car, the oil may overflow from the oil pan if you supply it with new oil without doing anything. Therefore, remove the oil from the oil pan at first in "Light car mode".



5. Insert the flexible nozzle into the level gauge hole, and start idling the engine.



6. Press the START key.



7. Remove the regulated amount of wasted oil (You can change the amount of wasted oil to be removed for the first time. See "P02: Amount of oil to be removed from a light car for the first time" of Section "Setting" on page 16). (In Light Car mode only)



8. Supply the car with the regulated amount of new oil.



9. Wait for a certain time period.



10. Remove the regulated amount of wasted oil.



11. Repeat operations form Step 8 to 10.



When you replace the wasted oil of a light car with new one
Digital display: "ケイジドウシャ" appears on the screen.
Insert the nozzle into the level gauge securely.
Start idling the engine.

12. The signal light “blue” flashes when the remaining time becomes approximately 30 seconds.



13. Oil replacement finishes when the amount of new oil and that of wasted oil reach the value you set.

Stop idling the engine.



14. Check the level gauge, and make fine adjustments if the replaced oil is too much or too little.

Number of alternate replacement operations and waiting time varying depending on the amount of oil to be replaced you set

Set value	Amount of oil to be replaced at a time	Number of replacements	Waiting time*	Total replacement time**
3 L	600 mL	5 times	10 seconds	Approximately 4 minutes
4 L	800 mL	5 times	10 seconds	Approximately 5 minutes
5 L or more	1000 mL	5 times (When you set “5 L”)	15 seconds	Approximately 6 minutes and 30 seconds or more

* You can change the waiting time. See “P04: waiting time for alternate oil replacement” of Section “Settings” on page 16.

** These values are applicable when the temperature of new ATF is 20°C. (Use these values as the guideline only because the replacement time varies depending on the oil type and the temperature condition.)

■ CVT mode



1. Connect the power cable to the AC outlet. (The buzzer sounds for one second.)



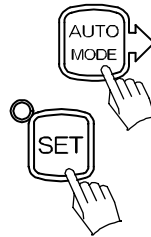
2. Press the POWER key.



3. Press the AUTO MODE key three times to select CVT mode.



4. Press the SET key.



Insert the nozzle into the level gauge hole securely.

When you hold down the SET key (for approximately two seconds), the machine enters “Semi Auto mode.”



5. Insert the flexible nozzle into the level gauge hole.



6. Press the START key.



7. Remove the wasted oil until the oil pan gets empty.

When the machine is in Semi-Auto mode
Digital display: “セミオート” appears on the display.

Insert the nozzle into the level gauge hole securely.

When the machine is in Normal mode, the machine automatically skips to Step 10.

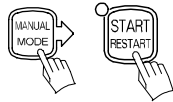


8. The NEW FLUID lamp and the FINISH key flash. (These lamp and key flash only when the machine is in Semi Auto mode.)



9. To finish replacing the oil, press the FINISH key.

To supply the car with new oil whose amount is the same as that of the removed oil, press the MANUAL MODE key, then press the START key.



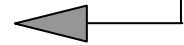
10. Supply the car with new oil whose amount is the same as that of the removed wasted oil.



11. The signal light "blue" flashes when the remaining time becomes approximately 30 seconds.



12. Check the level gauge, and make fine adjustments if the replaced oil is too much or too little.



3-5-2 Manual mode

■ Manual replacement of oil (Setting the amount of oil to be replaced)

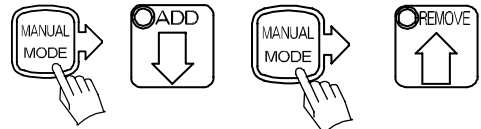
1. Connect the power cable to the AC outlet. (The buzzer sounds for one second.)



2. Press the POWER key.



3. Press the MANUAL MODE key once and select "ADD" or press the MANUAL MODE key twice and select "REMOVE."



4. Set the amount of oil to be replaced with the ▲ key and/or the ▼ key, and press the SET key.

Perform this operation when "0.5" or more is displayed as the amount of oil.



5. Insert the flexible nozzle into the level gauge hole.



6. Press the START key.



7. New oil is supplied to the car (or the wasted oil is removed from the car).



8. The signal light "blue" flashes when the remaining time becomes approximately 30 seconds.



9. Oil replacement finishes when the amount of the supplied oil reaches the value you set.

(If the wasted oil is removed, the operation finishes when the set amount of wasted oil is removed or the all wasted oil is removed from the oil pan.)

■ Manual replacement of oil 2 (manual)

1. Connect the power cable to the AC outlet. (The buzzer sounds for one second.)



2. Press the POWER key.



3. Press the MANUAL MODE key once and select "ADD" or press the MANUAL MODE key twice and select "REMOVE".



4. Press the SET key without setting any amount of oil to be replaced ("---" appears on the digital display).
Perform this operation when the set value is "---."



5. Insert the flexible nozzle into the level gauge hole.



6. Hold down the START button.



7. Only while you are holding down the START key, oil is supplied to the car (or removed from the car).



8. When you release the START key, the machine stops supplying or removing the oil.

(When you hold down the START key again, you can supply the machine with oil (or remove oil from the machine).)

3-5-3 Functions

■ Cleaning

This function returns new oil remaining in the new oil hose or pipe into a new oil pail. This operation eliminates waste of any new oil when you replace new oil with another type of new oil.

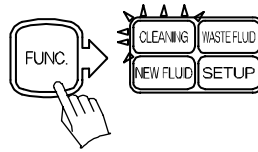
1. Connect the power cable to the AC outlet. (The buzzer sounds for one second.)



2. Press the POWER key.



3. Press the FUNC. key once, and select "CLEANING."



"クリーニング" appears on the digital display.

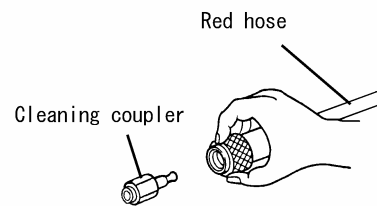


4. Press the SET key.

Connect the machine to the cleaning coupler.



5. Connect the cleaning coupler to the red side of the twin-hose.



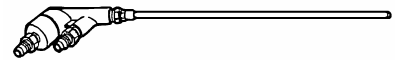
6. Press the START key.



7. Collect new oil remained in the hose or pipe into a new oil pail.



8. The machine stops automatically. Disconnect the cleaning coupler, and then connect the flexible nozzle to the machine.



caution



- When you clean the hose or pipe, be sure to connect the cleaning coupler to the machine. Or a foreign substance or dust may get mixed in with the machine, and it may cause the machine to malfunction.

■ Removing the wasted oil

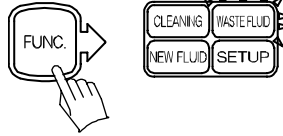
1. Connect the power cable to the AC outlet. (The buzzer sounds for one second.)



2. Press the POWER key.



3. Press the FUNC. Key twice and select "WASTE FLUID."



"ハイシュツ" appears on the digital screen.



4. Press the SET key.



Replace the nozzle with one for the wasted oil.

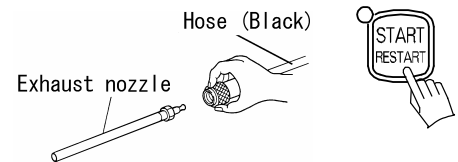
Press the START key to start removing the wasted oil from the car.



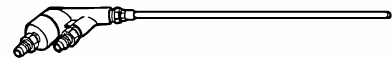
5. Connect the exhaust nozzle to the black side of the twin-hose, and press the START key.



6. *Remove the wasted oil.*



7. When the wasted oil tank gets empty, the machine automatically stops. Disconnect the exhaust nozzle, and connect the flexible nozzle to the machine.



caution



- Do not exhaust the wasted oil to be handled with this machine to the ground directly.
Handle the wasted oil according to the applicable law and/or regulations.

■ Refilling new oil (An optional pail cover is required to use this function.)

1. Connect the power cable to the AC outlet. (The buzzer sounds for one second.)



2. Press the POWER key.



3. Press the FUNC. key three times, and select "NEW FLUID."



"ホキユウ" appears on the digital display.

If you do not attach the pail cover onto the machine, you cannot select this function.



4. Press the SET key.



Replace the nozzle with one for new oil.



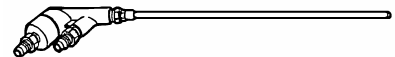
5. Replace the attached hose with the filter hose, and press the START key.



6. Refill a new oil pail with new oil.



7. When a new oil pail is filled with new oil, the machine automatically stops. Disconnect the filter hose from the machine, and connect the flexible nozzle to the machine.



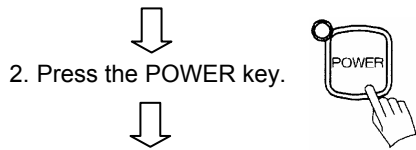
 **caution**



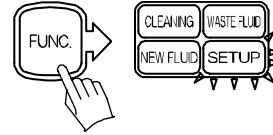
• To refill a new oil pail with new oil, be sure to attach the filter hose to the machine.
Or, a foreign substance or dust gets mixed in with the machine, and it may cause the machine to malfunction.


■ Settings

1. Connect the power cable to the AC outlet. (The buzzer sounds for one second.)



3. Press the FUNC. key three times (or four times) and select the "SETUP."
"セッテイ" appears on the digital display.



- ↓
4. Press the SET key.
- 
- ↓

5. Press the AUTO MODE key to select the desired setting item (P01 to P09).



Change the setting with the ▲ key and/or the ▼ key.

When you press the FINISH key, the machine saves the changed setting, and quits this function mode.



When you press the PAUSE/ABORT key, the machine quits this function mode without saving your change.



P01: Initial set amount ("シヨキチ" is displayed on the digital display, and the initial value is 7.0.)

Set the amount displayed at first when you set the amount of oil to be replaced in Circulation mode or Dipstick mode.

3 to 20 L in increments of 1 L

P02: Amount of oil to be removed from a light car for the first time ("ケイジドウシャ" is displayed on the digital display, and the initial value is 0.2.)

Set the amount of oil to be removed for the first time in Light Car mode of Dipstick mode.

0 to 1.0 L in increments of 0.1 L

P03: Least amount of oil to be removed ("サイシヨウリヨウ" is displayed on the digital display and the initial value is 2.0.)

Set the amount that causes an error, E01.

0 to 10 L in increments of 1L

P04: Waiting time for alternate oil replacement ("タイキジカン" is displayed on the digital display, and the initial setting is "short.")

Set the waiting time in Dipstick mode.

Setting amount	Set value		
	short	middle	long
Less than 5 L	10 seconds	20 seconds	30 seconds
5 L or more	15 seconds	30 seconds	45 seconds

P05: Guide voice ON/OFF (“オンセイ” is displayed on the digital display, and the initial setting is ON.)

Specify whether to output the guide voice or not.

(Attention: The voice is Japanese.)

P06: Error sound ON/OFF (“エラーオンセイ” is displayed on the digital display, and the initial setting is ON.)

Specify whether to output the sound when an error occurs or not.

(Attention: The voice is Japanese.)

P07: Sound volume (“オンセイレベル” is displayed on the digital display, and the initial value is 7.)

Set the volume of the output sound.

1 to 10 (When you turn the volume too high, the sound may get distorted.)

P08: Buzzer volume (“ブザーレベル” is displayed on the digital display, and the initial value is 7.)

Set the buzzer volume.

1 to 10 (When you turn the volume too high, the sound may get distorted.)

P09: Signal light ON/OFF (“シグナルライト” is displayed on the digital display, and the initial setting is ON.)

Specify whether to turn on or off the signal light.

3-5-4 Other functions

■ If a new oil pail gets empty while the machine is operating

1. Automatic operation of the machine stops temporarily. (The buzzer sounds.)

New oil runs out.



2. Replace a new oil pail with another one with following the procedure for setting a new oil pail. (See Section “Setting a new oil pail” on page 3.)



3. Press the START key.



4. The machine restarts the operation temporarily stopped.

■ If the wasted oil tank is totally full while the machine is operating

1. Automatic operation of the machine stops temporarily. (The buzzer sounds.)

The wasted oil tank is totally full.

Exhaust the wasted oil.



2. Take out the wasted oil tank, and remove the wasted oil from the tank with following the procedure for taking out/setting the wasted oil tank.

(See Section "Taking out/Setting the wasted oil tank" on page 3.)



3. Set the wasted oil tank.



4. Press the START key.



5. The machine restarts the operation temporarily stopped.

NOTE

When a new oil pail gets empty or when the wasted oil tank is totally full while the machine is operating, some errors may be observed in the amount of oil to be replaced due to mixing of air in the oil. Be sure to refill new oil and remove the wasted oil.

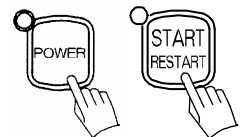
■ If the power cable happens to be disconnected while the machine is operating

1. Connect the power cable to the AC outlet again.

Press the POWER key to restart the operation.



2. Press the POWER key, and the START key in this order. The machine restarts the operation.



■ If you want to stop the operation in mid-flow

Hold down the PAUSE/ABORT key for two or more seconds.



The current operation is interrupted. You cannot restart this interrupted operation.

■ To check the total oil already supplied

When you press the SET key while the power is turned off, you can check the total amount of ATF already supplied.



4. Maintenance and Inspection

4-1 Maintenance

WARNING



- Gasoline is highly volatile fluid. Never use it for cleaning. Or it may catch a fire or explode. Clean the machine with cleaning oil and dry it with air blow.

CAUTION



- Before maintenance or inspection of the machine, be sure to disconnect the power cable from the AC outlet. Or it may cause an electrical shock.
- Since the machine is stained with oil or any other fluid easily, be sure to clean it regularly.
- Do not clean the operation panel with organic solvent such as thinner.
- Periodically clean the filter so that it cannot be clogged.
- When you assemble the filter on the machine, be careful no to remove the filter or packing from the corresponding groove, and tighten them securely.

Procedure for cleaning the filter

1. Clean the filter attached on the edge of the suction hose for new oil. (See Fig. 4-1.)

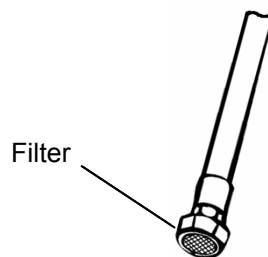


Fig. 4-1

2. The filter for the wasted oil is attached on the base of the flexible nozzle. Remove it in the same manner and clean it. (See Fig. 4-2.)

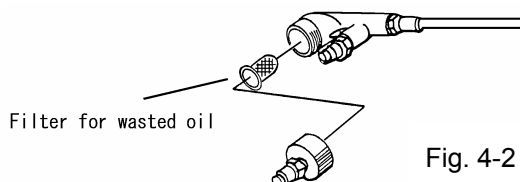


Fig. 4-2

Procedure for replacing the signal light lamp

1. Remove the screws from the signal light cover.
2. Remove the cover as indicated with the arrow marks, and turn the lamps anticlockwise to remove them.
Then, replace them with new lamps. (See Fig. 4-3.)
3. Replace the cover in the reverse procedure to disassembling the cover, and fix it with the screws.

(Lamp specifications: AC100 V, 15 W)

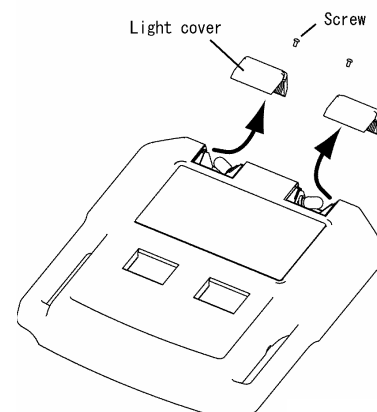


Fig.4-3

4-2 Error Codes

E01 [Oil removal error]

<When this error is supposed to occur>

CVT mode

When automatic oil removal finishes

<Error detecting condition>

The amount of removed oil is 2 L (you can change this amount) or less when the machine finishes removing the wasted oil from the oil pan of a car.

<Why should the machine detect this error?>

Normally, 2 L or more engine oil is contained in an ordinary car.

If the amount of the removed wasted oil is 2 L or less when automatic oil removal finishes, it may indicate that the nozzle is inserted incorrectly. Check the nozzle condition.

<Display and sound>

Digital display: "E01"

Error buzzer: Sounds.

The amount of the removed wasted oil does not reach the regulated value.
Insert the nozzle into the level gauge hole securely.

Signal light, Red: Flashes.

START LED: Flashes

<Causes>

1. The nozzle is not inserted sufficiently.
2. Since the wasted oil filter is clogged with dust or any other thing, oil does not flow.
3. Only 2 L or less oil is contained in the oil pan originally.
4. The nozzle does not reach the oil pan sufficiently due to the shape of the level gauge.

<How to recover this error>

1. Insert the nozzle again so that it can reach the oil surface.
2. Clean the wasted oil filter to remove the dust or any other thing.

When you press the START key, the machine restarts removing the wasted oil.

If the machine can remove the wasted oil again because you insert the nozzle again to make the nozzle reach the oil surface, the machine continues removing the wasted oil.

If there is only 2 L or less oil in the oil pan as described at 3 or if the nozzle does not reach the oil surface although you insert it again, the machine finishes removing the wasted oil, and starts supplying the car with new oil.

E02 [Insufficient flow rate for oil supply] [Insufficient flow rate for oil removal]

<When this error is supposed to occur>

Generally

While the machine is supplying a car with new oil or removing the wasted oil from it

<Error detecting condition>

The flow rate is approximately 200 mL/minute or less.

<Why should the machine detect this error?>

When the flow rate is low, the precision of the flow meter becomes lower and a margin of error may become substantial after replacement of oil.

<Display and sound>

Digital display "E02"

Error buzzer: Sounds.

The flow rate is too low.

Warm the oil.

Signal light, Red: Flashes.

START LED: Flashes.

<Causes>

1. Since the temperature of new oil or the wasted oil is low and its viscosity is high, the flow rate is low.
2. Since the new oil filter or the wasted oil filter is clogged with dust or any other substance, the oil cannot flow easily.

<How to recover this error>

1. Idle the engine sufficiently to raise the oil temperature.

Warm the new oil pail to raise the oil temperature.

2. Clean the filter to remove the dust or any other thing.

When you press the START key, the machine restarts supplying new oil or removing the wasted oil. When the machine confirms that the flow rate is higher than the regulated value (approximately 200 mL/minute), it resumes the operation that had been performed before the error occurred.

If the flow rate does not increase for any other reason, the machine detects the "E02" error again. Contact our Service.

E03 [Oil removal disabled]

<When this error is supposed to occur>

Generally

When the machine starts removing the wasted oil

<Error detecting condition>

No wasted oil is removed for 60 seconds even though the machine starts removing the oil.

<Why should the machine detect this error?>

The machine has to check to see if it can remove the wasted oil (condition of the nozzle and/or oil temperature).

<Display and sound>

Digital display: "E03"

Error buzzer: Sounds.

Insert the nozzle into the level gauge hole securely.

Warm the oil.

Signal light, Red: Flashes.

START LED: Flashes.

<Causes>

1. The nozzle is inserted insufficiently.
2. Since the temperature of the wasted oil is low and its viscosity is high, the machine cannot remove the wasted oil.
3. Since the wasted oil filter is clogged with dust or any other thing, oil cannot flow.

<How to recover this error>

1. Insert the nozzle again so that it can reach the oil surface.
2. Idle the engine sufficiently to raise the oil temperature.
3. Clean the filter to remove the dust or any other thing.

When you press the START key, the machine restarts removing the wasted oil. When the machine confirms removal of the wasted oil, it resumes the operation that had been performed before this error occurred.

If the machine cannot remove the wasted oil for any other reason, the machine detects the E03 error again.

Contact our Service.

- The nozzle may not be able to reach the oil surface due to the shape of the level gauge depending on the car type.

E04 [Oil removal error]

<When this error is supposed to occur>

Dipstick mode

While the machine is removing the wasted oil

<Error detecting condition>

The machine cannot remove the regulated amount of wasted oil (800 mL or 1,000 mL) while it is removing the wasted oil after supplying a car with new oil.

<Why should the machine detect this error?>

The machine confirms that it can remove the regulated amount of wasted oil.

<Display and sound>

Digital display: "E04"

Error buzzer: Sounds.
Insert the nozzle into the level gauge hole securely.

Signal light, Red: Flashes.

START LED: Flashes.

<Causes>

1. Since the nozzle was inserted insufficiently due to the shape of the level gauge, the machine could not remove the wasted oil whose amount was the same as that of the supplied new oil.
2. After the nozzle was inserted, its insertion condition became insufficient because its position was shifted.
3. Since the wasted oil filter is clogged with dust or any other thing, oil cannot flow.

<How to recover this error>

1. Insert the nozzle so that it can reach the oil surface.
2. Clean the filter to remove the dust or any other thing.

When you press the START key, the machine restarts removing the wasted oil. When the machine confirms removal of the wasted oil, it resumes the operation that had been performed before the error occurred.

If the machine cannot remove the wasted oil for any other reason, it detects the E03 error again. Contact our Service.

- The nozzle may not be able to reach the oil surface due to the shape of the level gauge depending on the car type.

E05 [Setting error]

<When this error is supposed to occur>

Circulation mode

After the wasted oil is removed or after new oil is supplied

<Error detecting condition>

When the set value \leq the amount of the wasted oil removed from the oil pan of a car

When the set value \leq the amount of new oil supplied to a car

<Why should the machine detect this error?>

Check to see if the set value has no problem with comparing it with the amount of oil contained in the oil pan of a car.

<Display and sound>

Digital display:	“E05”
Error buzzer:	Sounds. Change the set value.
Signal light, Red:	Flashes.
START LED:	Turns off.

<Causes>

When the machine finishes removing the wasted oil, the amount of the wasted oil removed from a car exceeds the set value.

Example: When 7.0 L is set, the amount of the wasted oil actually removed from a car is 7.8 L (that is, more than 7.0 L) and exceeds the set value.

As a result of supply to a car with new oil whose amount is “the amount of the wasted oil removed from a car” + “the amount of extra new oil for checking the same amount of oil replacement, 0.2 L” after removal of the wasted oil, the amount of the supplied new oil exceeds the set value.

Example: Although 7.0 L is set, the amount of the removed wasted oil is 6.9 L, and the total of the amount of the supplied new oil 6.9 L + 0.2 L, that is 7.1 L exceeds the set value.

<How to recover this error>

Use the ▲ key to set the value again.

Press the SET key.

When you press the START key, the machine starts supplying new oil. (When the machine finishes removing the wasted oil)

When you press the START key, the machine starts controlling the same amount of oil replacement. (When the machine finishes supplying new oil)

E07 [Insufficient flow rate for oil removal]

<When this error is supposed to occur>

Circulation mode

Same amount of oil replacement check

<Error detecting condition>

The flow rate is approximately 200 mL/minute or less.

<Why should the machine detect this error?>

When the flow rate is low, the precision of the flow meter becomes lower, and a margin of error may become substantial after oil replacement.

<Display and sound>

Digital display: "E07"

Error buzzer: Sounds.

Warm the oil.

Check the connection of the coupler.

Signal light, Red: Flashes.

START LED: Flashes.

<Causes>

1. Since the temperature of the wasted oil is low and its viscosity is high, the flow rate is low.
2. Since the automatic valve filter is clogged with dust or any other thing, the oil cannot flow easily.
3. Since the automatic valve and the connection hose for circulating oil are not set correctly, oil leaks.

<How to recover this error>

1. Idle the engine sufficiently to raise the oil temperature.
2. Clean the filter to remove the dust or any other thing.
3. Set the automatic valve and the connection hose for circulating oil correctly again.

When you press the START key, the machine restarts removing the wasted oil. When the machine confirms that the flow rate is more than the regulated value (approximately 200 mL/minute), it resumes the operation that had been performed before the error occurred.

If the flow rate does not increase for any other reason, the machine detects the E07 error again. Contact our Service.

E08 [Oil removal disabled]

<When this error is supposed to occur>

Circulation mode

When the machine starts controlling the same amount of oil replacement

<Error detecting condition>

When no wasted oil flows for 60 seconds even though the machine starts controlling the same amount of oil replacement.

<Why should the machine detect this error?>

The machine has to check to see if the wasted oil can be removed.

<Display and sound>

Digital display: "E08"

Error buzzer: Sounds.

Start idling the engine.

Check the connection of the coupler.

Signal light, Red: Flashes.

START LED: Flashes.

<Causes>

1. 60 seconds has passed without your idling the engine.
2. Since the filter is clogged with dust or any other thing, no oil flows.
3. Since the automatic valve and the connection hose for circulating oil are not set correctly, the wasted oil does not flow.

<How to recover this error>

1. Start idling the engine.
2. Clean the filter to remove the dust or any other thing.
3. Set the automatic valve and the connection hose for circulating oil correctly again.

When you press the START key, the machine restarts removing the wasted oil. When the machine confirms removal of the wasted oil, it resumes the operation that had been performed before this error occurred.

If the machine cannot remove the wasted oil for any other reason, it detects this E08 error again. Contact our Service.

CAUTION



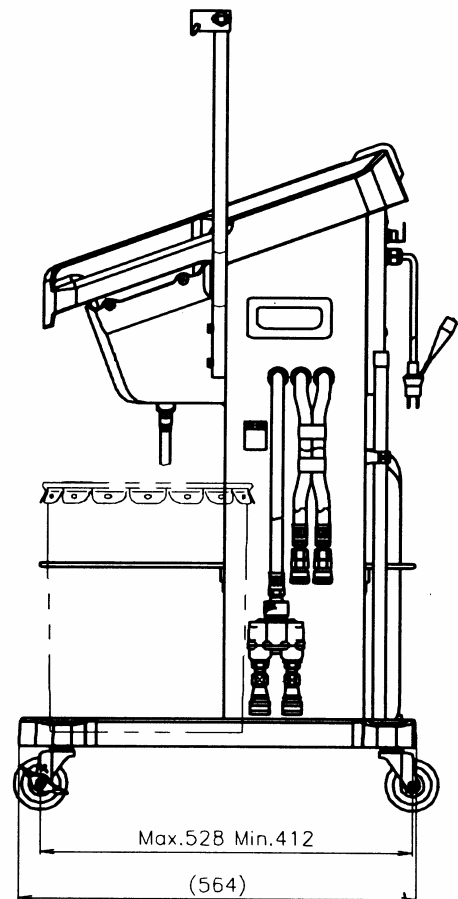
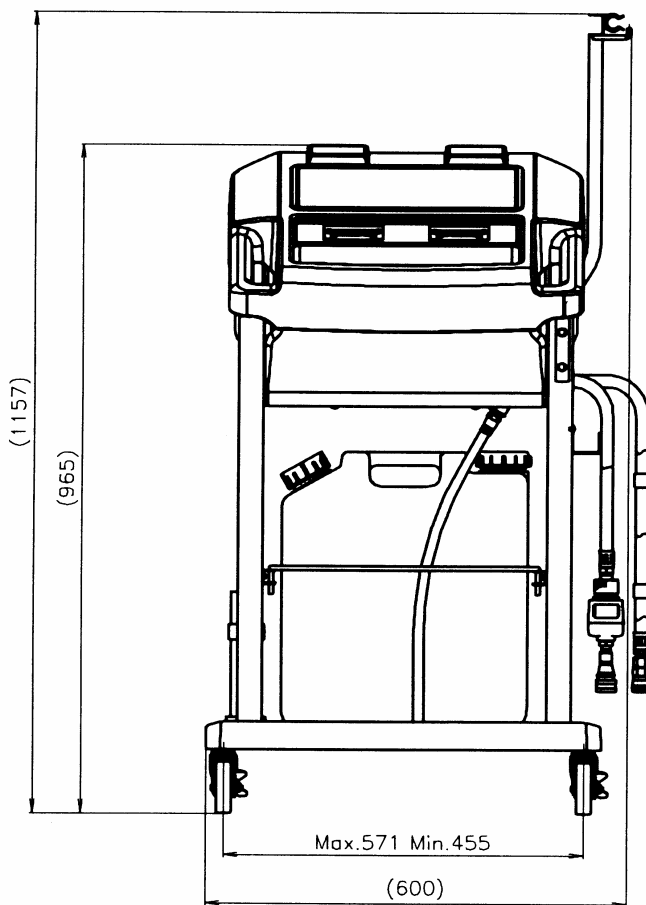
- When you press the START key after removing the cause of the error, the machine can basically restart the operation from a point where the error occurred.
- If an error occurs while the machine is operating, a margin of error of the replaced oil may be substantial.

4-3 Troubleshooting

Error condition	Cause	Corrective action
The machine cannot be turned on or you cannot operate the machine.	1. The plug of the power cable is not connected to the AC outlet correctly.	Connect the plug of the power cable to the AC outlet securely (AC220 V)
	2. AC 220V power is not supplied to the power supply.	Check the power supply. (AC220V)
	3. The fuse blows out.	Replace the blown fuse with a new one (250V 3 A).
	4. The plug of the power cable was disconnected from the AC outlet during the previous oil replacement.	To continue the operation, press the START key to restart it. To abort the operation, hold down the CANCEL key for two seconds.
	5. The control unit malfunctions.	Contact our sales office
The speaker or buzzer does not output any sound.	1. The speaker or buzzer is not set to output any sound.	Change the setting.
	2. The speaker/buzzer malfunctions.	Contact our sales office.
	3. The control unit malfunctions.	Contact our sales office.
The signal light does not light.	1. The signal light is not set to light.	Change the setting.
	2. The lamp is burnt out.	Replace the lamp with a new one (AC 100 V, 15 W).
	3. The control unit malfunctions.	Contact our sales office.
The machine removes the wasted oil too slowly or does not remove the wasted oil at all.	1. The filter for the wasted oil is clogged.	Clean the filter.
	2. Since the oil temperature is low and its viscosity is high, the flow rate is low.	Start the engine of the car, and idle it for five to ten minutes to raise the oil temperature sufficiently (50 to 80°C)
	3. Oil leaks. Air gets mixed in with oil.	The filter cap is not attached correctly. Contact our sales office.
	4. The flexible nozzle is not inserted sufficiently.	Insert the flexible nozzle into the bottom of the oil pan securely.
	5. The coupler is not attached onto the wasted oil hose (twin-hose, black) correctly.	Attach the coupler onto the wasted oil hose (twin-hose, black) securely.
	6. The wasted oil tank is full.	Remove the wasted oil.
	7. The upper limit sensor of the wasted tank is not connected to the connector correctly.	Connect the upper limit sensor to the connector correctly.
	8. The pump, electromagnetic valve or control unit malfunctions.	Contact our sales office.
The machine supplies new oil too slowly, or does not supply any new oil.	1. The filter for new oil is clogged.	Clean the filter.
	2. Since the oil temperature is low and its viscosity is high, the flow rate is low.	Raise the oil temperature.
	3. Oil leaks. Air gets mixed in with oil.	The filter cap is not attached correctly. Contact our sales office.
	4. The new oil pail is empty.	Replace the new oil pail with a new one.
	5. The coupler is not attached onto the new oil hose (twin-hose, red) correctly.	Attach the coupler onto the new oil hose (twin-hose, red) securely.
	6. The pump, electromagnetic valve or control unit malfunctions.	Contact our sales office.
The machine exhausts the wasted oil too slowly or does not exhaust the wasted oil at all.	1. The nozzle for removing the oil is not attached onto the wasted oil hose (twin-hose, black) correctly.	Attach the nozzle for exhausting the oil onto the wasted oil hose (twin-hose, black) securely.
	2. The wasted oil tank is empty.	_____
	3. The pump, electromagnetic valve or control unit malfunctions.	Contact our sales office.

Error condition	Cause	Corrective action
The machine refills new oil too slowly or does not refill any oil.	1. The refill nozzle/filter adapter is not attached onto the new oil hose (twin-hose, red) correctly.	Attach the refill nozzle/filter adapter onto the new oil hose (twin-hose, red) securely.
	2. Since the oil temperature is low and its viscosity is high, the flow rate is low	Raise the oil temperature.
	3. The source for new oil is empty.	Refill the new oil source with oil.
	4. The upper limit sensor of the new oil pail is not attached onto the connector correctly.	Attach the upper limit sensor onto the connector correctly.
	5. The pump, electromagnetic valve or control unit malfunctions.	Contact our sales office

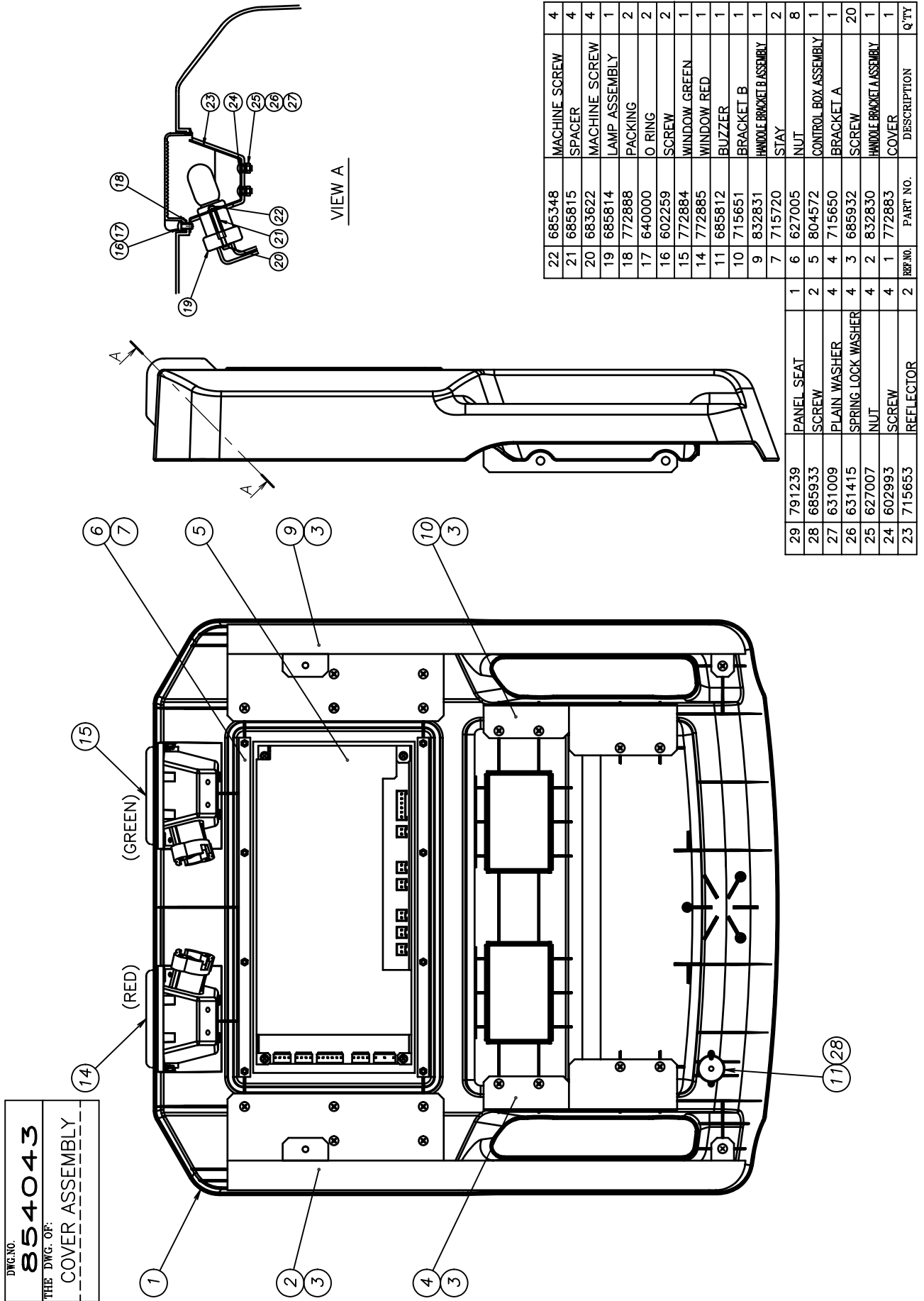
5. Main Dimensions



6. Specifications

Product name	Automatic transmission fluid changer		
Model name	AFC-9000S(220V)		
Serial number	881082		
Specifications	Functions	1.Circulation mode 2.Dipstick mode 3.CVT mode 4.Manual operations Supply of new oil Removal of the wasted oil 5.Functions Cleaning Exhausting of the wasted oil Refilling of new oil (When an optional cover for a new oil pail is attached) Setting	
		Fixed quantity method: measurement of the flow rate (pulse counting method)	
		Fluid level control: Oil sensor When the wasted oil tank is full: Warning LED indication (when the wasted oil is exhausted) and the buzzer When new oil is refilled: Warning LED indication (when new oil is refilled) and the buzzer	
		Installation: Portable type	
	Performance	Amount of supplied new oil: ATF 2.2 L/minute, Engine oil 0.8L/minute (Nozzle \varnothing 4.5 \times \varnothing 6 \times L 1200) Oil temperature: 20 °C	
		Amount of removed wasted oil: ATF 1.4 L/minute, Engine oil 0.5 L/minute (Nozzle \varnothing 4.5 \times \varnothing 6 \times L 1200) Oil temperature: 50 °C	
		Amount of exhausted wasted oil: ATF 3.0 L/minute, Engine oil 1.0 L/minute (Nozzle \varnothing 10 \times \varnothing 14 \times L 300) Oil temperature: 20 °C	
	Power supply	AC220V \pm 20V 50 Hz	
	Pump	Trochoid pump Two Discharge rate (when the pump operates independently): 3.7 L/minute (50 Hz) 0.5 MPa Equipped with the relief valve	
		Motor: type: capacitor type, Class E insulation, Rating: constant Power voltage: 100 V AC, 50 Hz	
Tank	Wasted oil: Dedicated tank 18 L New oil: commercially available 20-L pail, 4-L can, or other resinous container, and so on		
Hose	New oil/wasted oil: Twin-hose	2 m (\varnothing 9.5 \times \varnothing 17)	
	Wasted oil hose (Automatic valve)	2 m (\varnothing 9.5 \times \varnothing 17)	
Use temperature range	0 to 40 °C (Operating environment temperature)		
Dimension	H 1157 \times W 600 \times D 564		
Mass	Approximately 49 kg (when the wasted tank is empty and no new oil can is set)		
Accessories	Flexible nozzle \varnothing 4.5 \times \varnothing 6 \times 1200 mm	One	
	Wasted oil exhaust nozzle \varnothing 10 \times \varnothing 14 \times 300 mm	One	
	Connection hose for circulating oil	Two types, one each (total two hoses)	
	Cleaning coupler	One	
	Nozzle stand	One	
	Screw M4 \times L8	Two	

7-2. Cover assembly(854043)

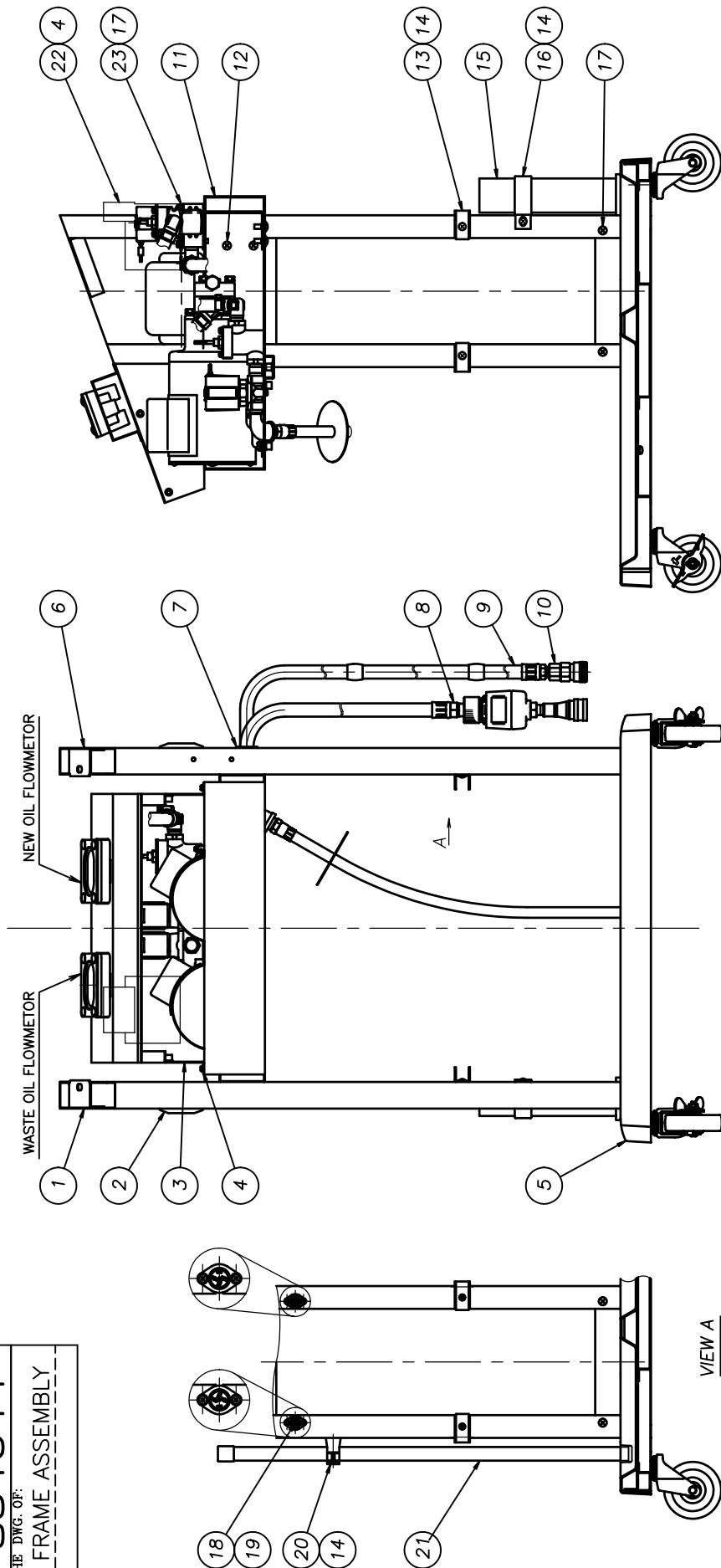


REP.NO.	PART NO.	DESCRIPTION	Q'TY
29	791239	PANEL SEAT	1
28	685933	SCREW	2
27	631009	PLAIN WASHER	4
26	631415	SPRING LOCK WASHER	4
25	627007	NUT	4
24	602993	SCREW	4
23	715653	REFLECTOR	2
22	685348	MACHINE SCREW	4
21	685815	SPACER	4
20	685622	MACHINE SCREW	4
19	685814	LAMP ASSEMBLY	1
18	772888	PACKING	2
17	640000	O RING	2
16	602259	SCREW	2
15	772884	WINDOW GREEN	1
14	772885	WINDOW RED	1
11	685812	BUZZER	1
10	715651	BRACKET B	1
9	832831	HANDLE BRACKET ASSEMBLY	1
7	715720	STAY	2
6	627005	NUT	8
5	804572	CONTROL BOX ASSEMBLY	1
4	715650	BRACKET A	1
3	685932	SCREW	20
2	832830	HANDLE BRACKET ASSEMBLY	1
1	772883	COVER	1

DWG. NO. **854043**
 THE DWG. OF:
 COVER ASSEMBLY

7-3. Frame assembly(854044)

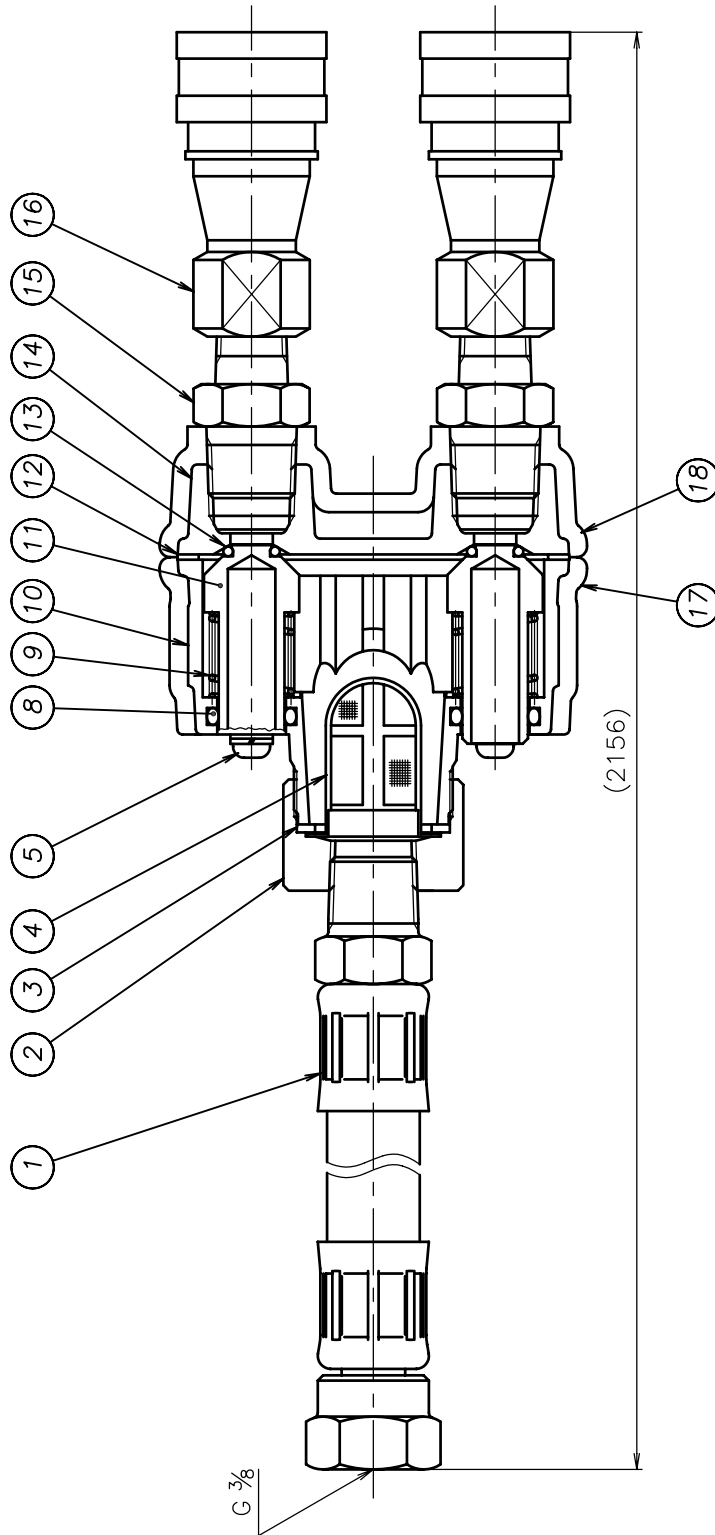
DWG. NO. **854044**
 THE DWG. OF: **FRAME ASSEMBLY**



QTY	DESCRIPTION	PART NO.	REF. NO.
1	DRAIN	804517	1
1	BAND	685190	1
4	SCREW	602235	19
1	CONNECTOR ASSEMBLY	685819	18
6	SCREW	684383	17
1	HOSE BAND	685818	16
1	NOZZLE HOLDER ASSEMBLY	804516	15
3	SCREW	684385	14
4	HOLDER	715654	13
8	MACHINE SCREW	685817	12
1	PIPING ASSEMBLY	804515	11
1	TRANSFORMER	685976	22
1	BRACKET	715782	23
2	SOCKET	680744	10
1	TWIN HOSE	695813	9
1	HOSE ASSEMBLY	803619	8
3	OPEN LOCK BUSHING	684256	7
1	SIDE FRAME ASSEMBLY	832834	6
1	BASE ASSEMBLY	804514	5
8	MACHINE SCREW	684601	4
1	BRACKET ASSEMBLY	832833	3
2	HANDLE	685816	2
1	SIDE FRAME LASSEMBLY	832832	1

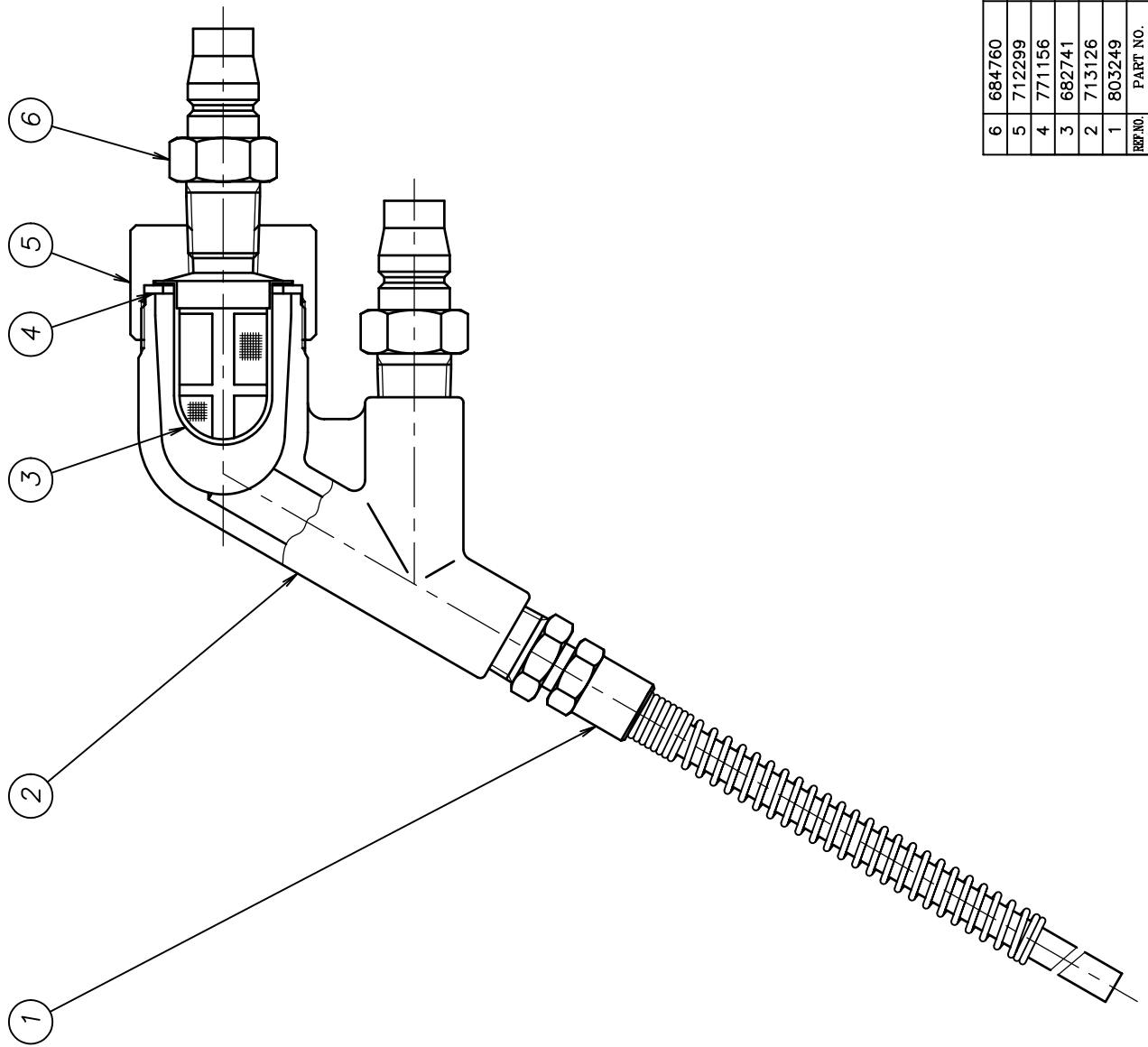
7-4. Hose assembly(803619)

DWG. NO. (図番)	803619
THE DWG. OF: (名番)	HOSE ASSEMBLY



REP. NO.	PART. NO.	DESCRIPTION	Q'TY
18	772033	COVER	1
17	772032	COVER	1
16	682410	COUPLER	2
15	705326	NIPPLE	2
14	713135	CAP	1
13	640002	O RING	2
12	772031	GASKET	1
11	713134	PISTON	2
10	713133	BODY	1
9	683439	SPRING	2
8	640012	O RING	2
7			
6			
5	683445	SCREW	4
4	682741	FILTER	1
3	771156	PACKING	1
2	712110	CAP	1
1	695536	HOSE	1

7-5. Nozzle body assembly(804132)

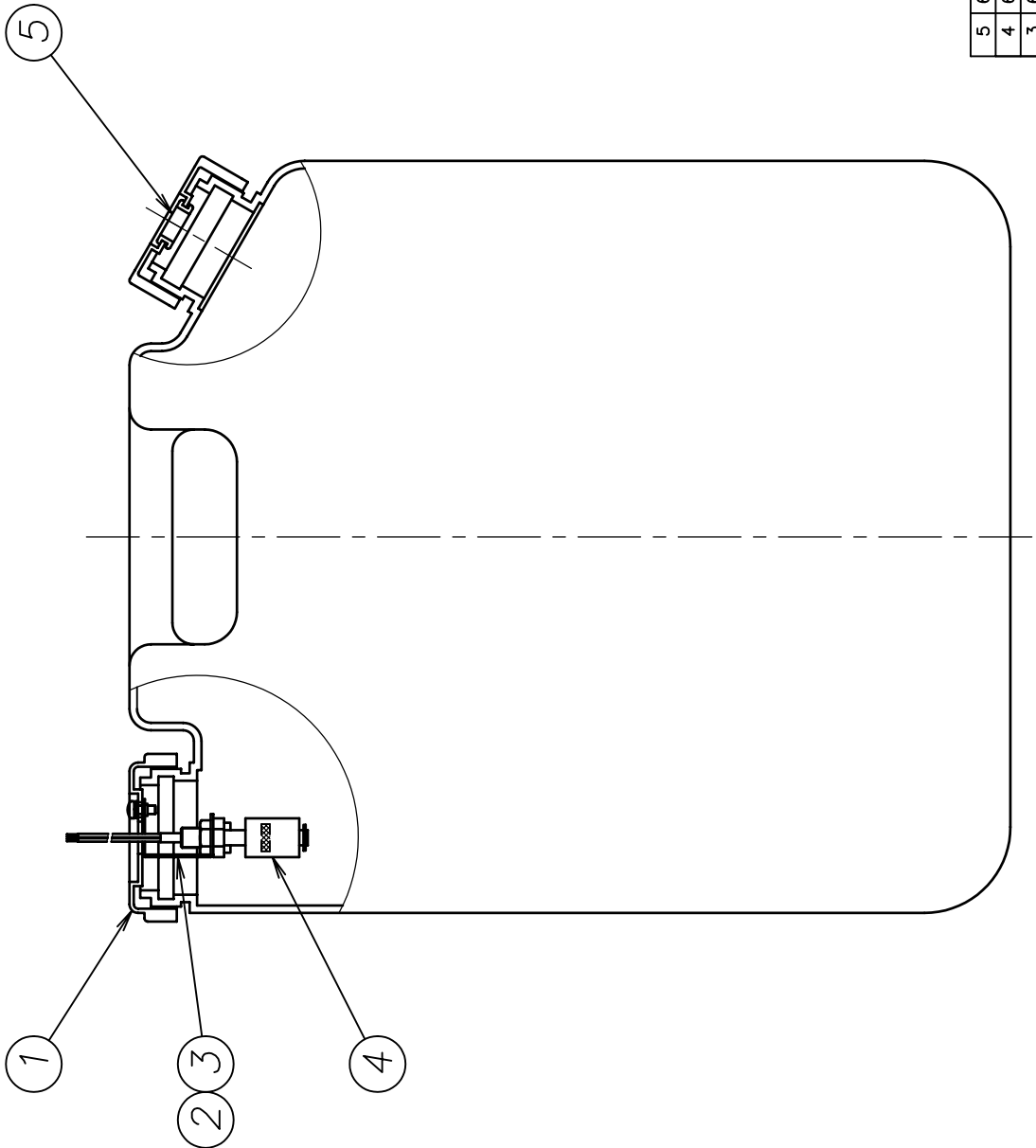


DWG. NO.	804132
THE DWG. OF:	NOZZLE ASSEMBLY

REF. NO.	PART NO.	DESCRIPTION	Q'TY
6	684760	COUPLER	2
5	712299	CAP	1
4	771156	PACKING	1
3	682741	FILTER	1
2	713126	NOZZLE BODY	1
1	803249	NOZZLE ASSEMBLY	1

7-6. Wasted oil tank(804512)

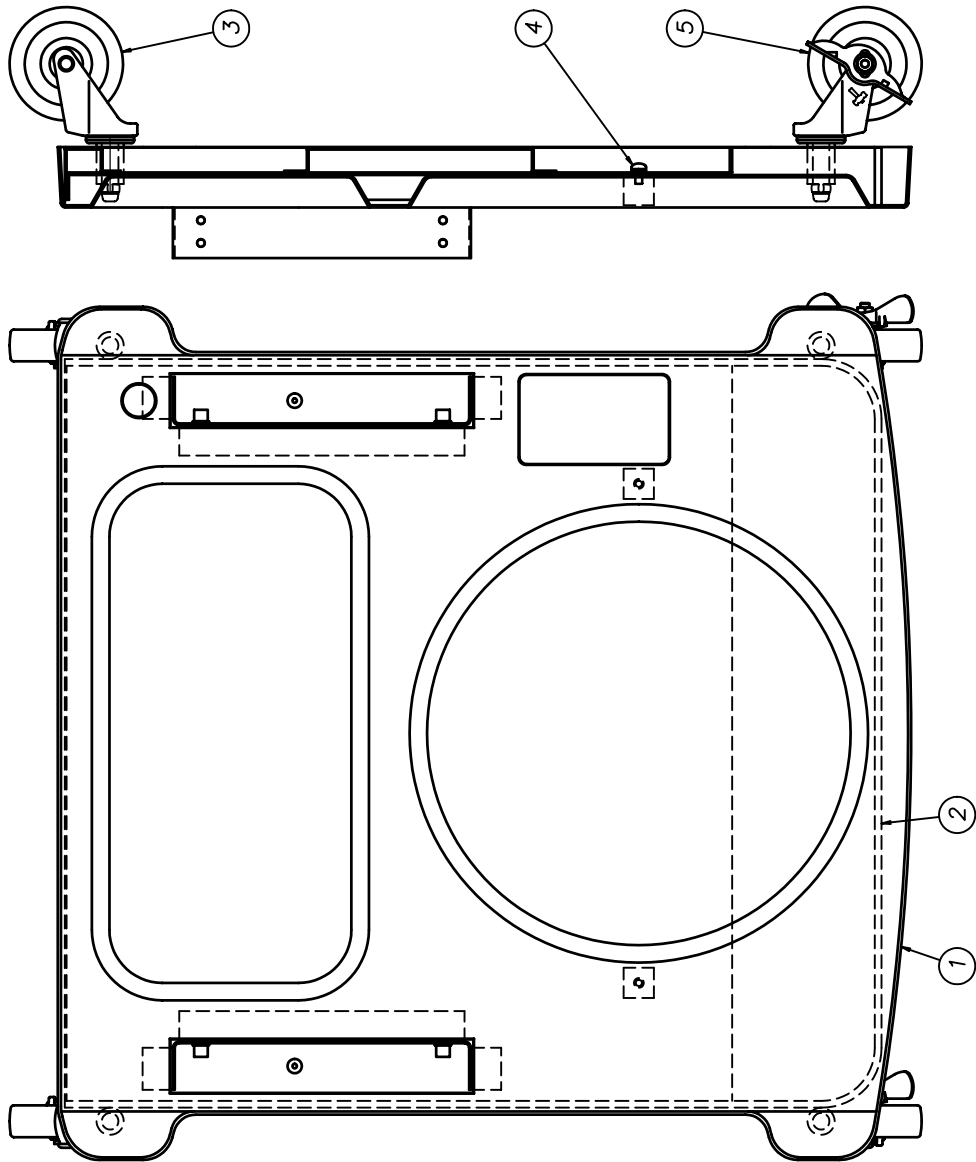
DWG. NO. (図番)
804512
 THE DWG. OF: (名番)
 WASTED OIL TANK



REF. NO.	PART NO.	DESCRIPTION	Q'TY
5	685823	GROMMET	1
4	685822	OVER FLOW SENSOR ASSEMBLY	1
3	684160	MACHINE SCREW	1
2	715657	HOLDER	1
1	715656	TANK	1

7-7. Base assembly(804514)

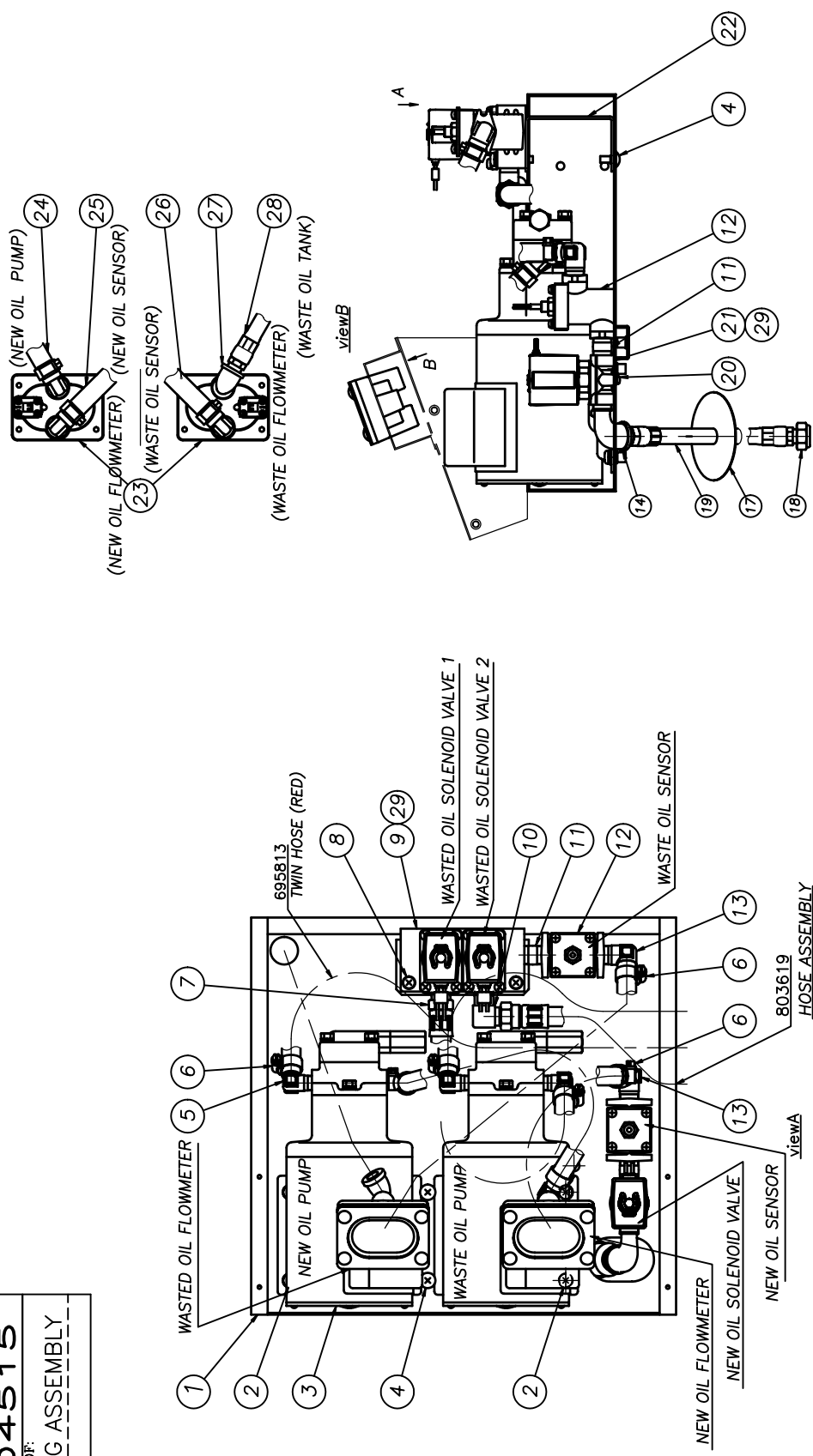
DWG. NO. (図番)
804514
 THE DWG. OF: (名番)
 BASE ASSEMBLY



REF. NO.	PART NO.	DESCRIPTION	Q'TY
5	685836	CASTER	2
4	683347	MACHINE SCREW	2
3	685835	CASTER	2
2	832837	BASE ASSEMBLY	1
1	832836	BASE COVER ASSEMBLY	1

7-8. Piping assembly(804515)

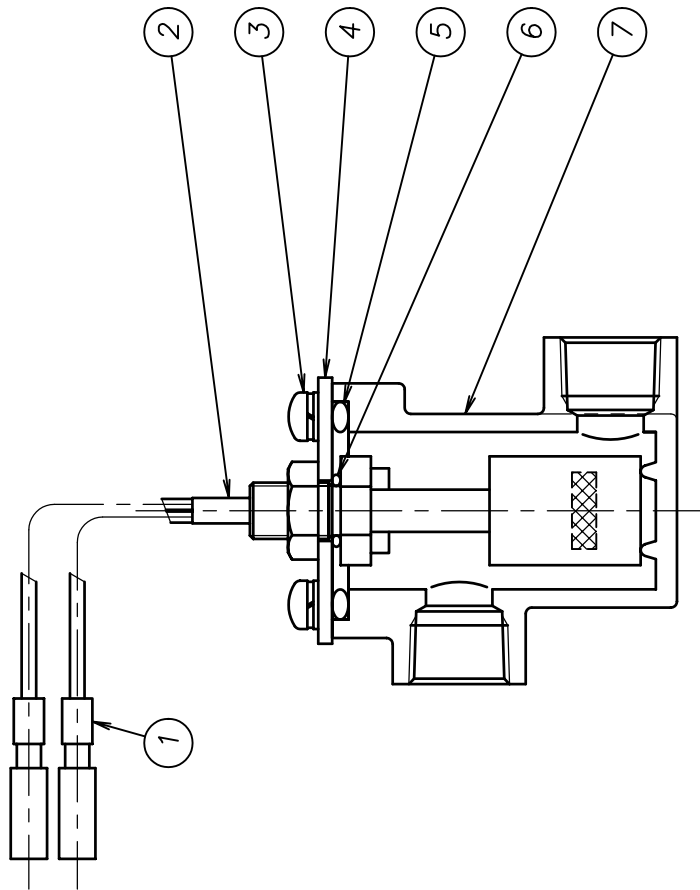
DWG. NO. **804515**
 THE DWG. OF: **PIPING ASSEMBLY**



REP. NO.	QTY	PART NO.	DESCRIPTION
21	1	680617	ELBOW
20	2	685827	SOLENOID VALVE
19	1	683625	MACHINE SCREW
18	1	695814	HOSE
17	1	684259	HOSE BAND
16	5	685826	UNION
15	4	684383	SCREW
14	1	634032	ELBOW
13	2	685828	UNION
12	2	804518	OIL SENSOR ASSEMBLY
11	2	634803	NIPPLE
10	1	680617	ELBOW
9	2	685827	SOLENOID VALVE
8	1	683625	MACHINE SCREW
7	1	695814	HOSE
6	1	684259	HOSE BAND
5	5	685826	UNION
4	4	684383	SCREW
3	1	685192	PUMP
2	2	685817	MACHINE SCREW
1	1	715658	PUMP BASE
29	6	685482	TERMINAL
28	1	695815	HOSE
27	1	634031	ELBOW
26	1	685832	HOSE
25	1	685831	HOSE
24	1	685830	HOSE
23	2	804135	FLOWMETER
22	1	715659	BRACKET

7-9. Oil sensor assembly(804518)

DWG. NO.	804518
THE DWG. OF:	OIL SENSOR ASSEMBLY



REF. NO.	PART NO.	DESCRIPTION	Q'TY
7	715700	SENSOR CASE C	1
6	640005	O RING	1
5	640029	O RING	1
4	712305	SENSOR COVER	1
3	684160	MACHINE SCREW	4
2	685589	FLOAT SWITCH	1
1	685482	TERMINAL	2

8. Option attachment



pail caver(804533)



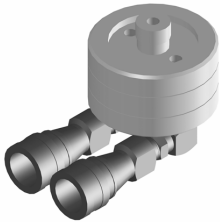
nozzle adapter(771782)



direct adapter(804532)



Light car nozzle(685255)



Cleaning kit(SP-3246)

Dustproof cover (772911)

9. Limited Warranty

1. Warranty period

This warranty will be valid for a period of 12 months after the date of purchase.

2. Warranty

If, during the warranty period, any of the material of the genuine parts of this product or the workmanship of this product is found defective, and is so verified by our company, the servicing cost will be fully born by our company.

3. Exclusion

Even during the warranty period, this warranty does not cover the following:

- (1) Malfunction arising from use of parts other than manufacturer-specified genuine parts
- (2) Malfunction arising from misuse or operating errors, or lack of storage or maintenance care
- (3) Malfunction arising from use with a fluid that may cause corrosion, inflation or dissolution of the component parts of the product
- (4) Irregularity arising from repair made by other than by our firm, our regional office, dealer or authorized service personnel
- (5) Malfunction arising from modification of the product by other than authorized service personnel
- (6) Wear-out of articles of consumable part such as diaphragm in valve, tube.
- (7) Malfunction and/or damage due to transportation, moving or such as fall of the product after purchase.
- (8) Malfunction and/or damage due to fire, earthquake, flood or other inevitability.
- (9) Malfunction arising from use of compressed air that contains impurities or excessive moisture, or use of gases or fluids other than the specified compressed air.

4. Parts

Parts for this product will be kept available for 5 years after discontinuation of production. Once 5 years have elapsed after close of production, availability of parts for this product cannot be guaranteed.

YAMADA AMERICA, INC

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