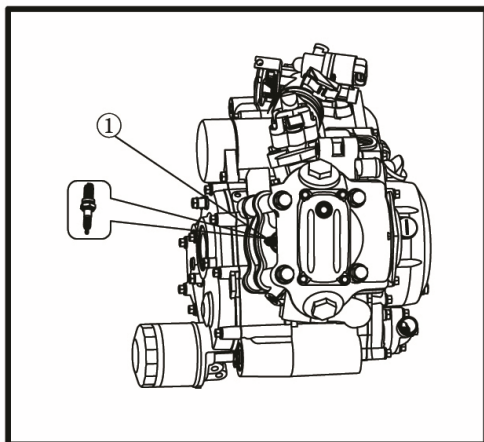


MAINTENANCE AND ADJUSTMENT OF THE UTV

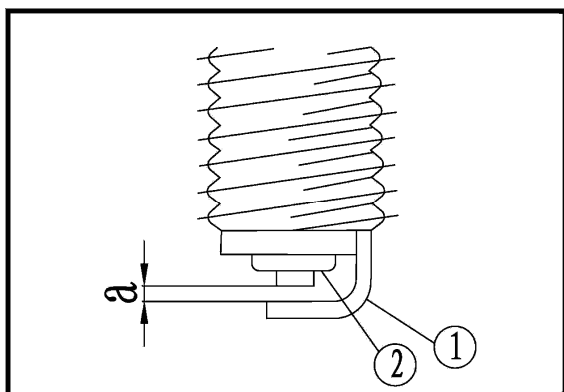


CHECKING THE SPARK PLUG

1. Dismount the seat and engine cover board.
2. Remove:
 - pull out the spark plug cap ①
3. Check:
 - spark plug typeIncorrect → Replace.

Standard spark plug

DR8EA/NGK



4. Check:
 - electrode ①
 - To check if it is burned blunt or much carbon is there, then check the pole clearance by thickness gauge. It is qualified if the pole clearance is between 0.8 to 0.9mm. Otherwise it should be adjusted.
 - Wear/damage → Replace.
 - insulator ②
 - Abnormal color → Replace.
 - Normal color is a medium-to-light tan color.
5. Clean the spark plug with a spark plug cleaner or wire brush.
6. Install:
 - spark plug

17.5 Nm(1.75 m·kgf, 12.7 ft·lbs)

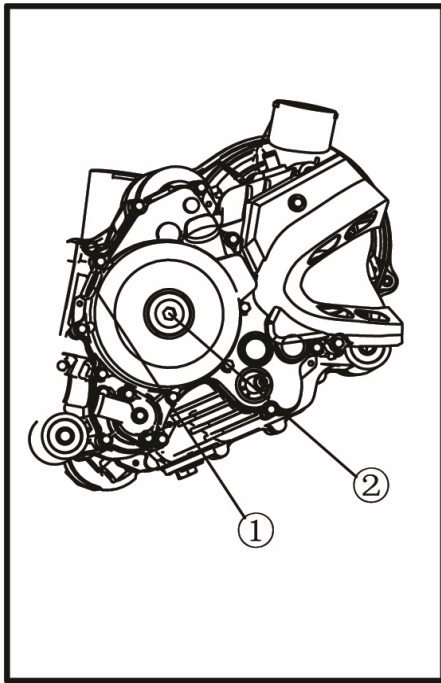
- Then hook up the spark plug cap.

NOTE:

Before installing a spark plug, clean the gasket surface and plug surface.

7. Install:
 - engine cover board
 - passenger seat
 - driver seat

MAINTENANCE AND ADJUSTMENT OF THE UTV



CHECKING THE IGNITION TIMING

NOTE:

before checking the ignition timing, adjust the engine's racing speed and throttle cable.

1. Remove:

- driver seat
- passenger seat
- engine cover board

Refer to "SEATS" in chapter 5.

2. Attach:

- Engine tachometer ③
(to the spark plug lead)

3. Remove:

Refer to remove manual starting mechanism ②、

① name

4. Check:

- Engine tachometer

a. warm up the engine at specified speed

Engine speed
1,400 ~ 1,500 r/min

b. Visually check the stationary pointer ① to verify it is within the required firing range indicated on the flywheel.

Incorrect firing range → Check the pulser coil assembly.

c. Install the timing plug.

5. Install:

- Engine manual starting mechanism

7 Nm (0.7 m · kg, 5.1 ft · lb)

6. Install:

- manual starting mechanism cover

10 Nm (1.0 m · kg, 7.2 ft · lb)

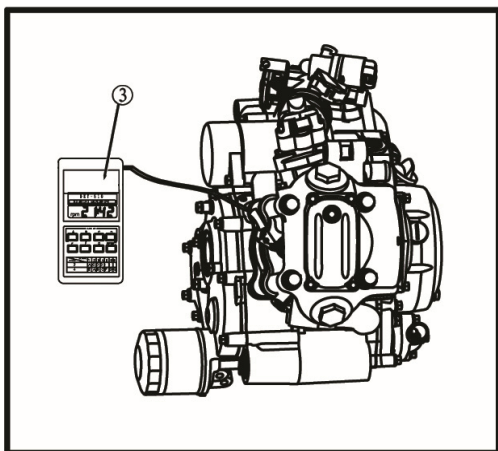
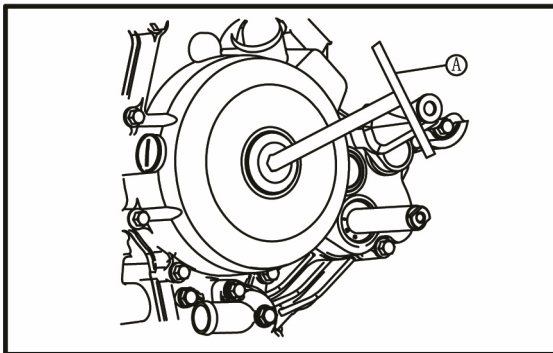
7. Detach:

- timing light

8. Install:

- engine cover board
- passenger seat
- driver seat

Refer to "SEATS" in chapter 5.

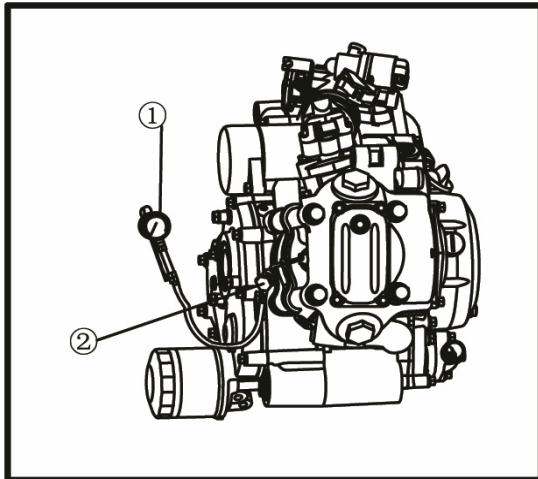


MAINTENANCE AND ADJUSTMENT OF THE UTV

MEASURING THE COMPRESSION PRESSURE

NOTE:

Insufficient compression pressure will result in a loss of performance.



1. Start the engine and let it warm up for several minutes.
2. Stop the engine and remove the spark plug.
3. Assemble the compression pressure meter ① and joint utensil ② on the hole of the spark plug
4. check valve clearance
Out of specification → Adjust. Refer to “ADJUSTING THE VALVE CLEARANCE”
standard value

standard compression pressure data
1200Kpa (12kg/c)-1000r/min

5. read the highest data on the compression pressure meter
 - Above the maximum pressure:
Check the cylinder head, valve surfaces, and piston crown for carbon deposits.
 - Below the minimum pressure:
Check the accumulation carbon in the firebox of the cylinder head and accumulation carbon on the piston head.
 - Refer to the table below.

Compression pressure(with oil introduced into cylinder)	
Reading	Diagnosis
Higher than without oil	Worn or damaged pistons
Same as without oil	Defective ring(s), valves, cylinder head gasket or piston is possible.

<p>Compression pressure (at sea level) Standard: 1,324Kpa (13.24 kg/cm², 188.31Psi) Minimum: 1,150Kpa (11.5 kg/cm², 163.57Psi) Maximum: 1,480Kpa (14.8 kg/cm², 210.50Psi)</p>
--

- Crank over the engine with the electric starter (be

MAINTENANCE AND ADJUSTMENT OF THE UTV

sure the battery is fully charged) with the throttle wide-open until the compression reading on the gauge stabilizes.

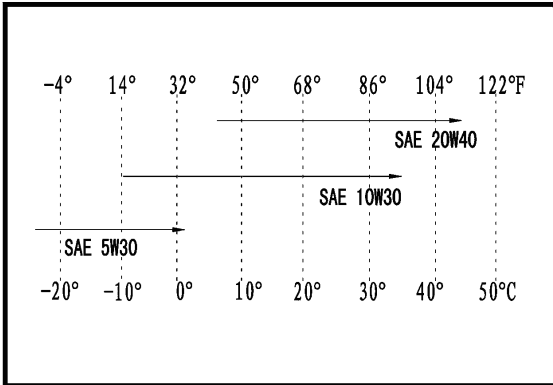
NOTE:

When cranking the engine, ground the spark plug lead to prevent sparking.

4. Install:

- spark plug

18 Nm-20Nm (1.8 m · kg, 13 ft · lb)



CHECKING THE ENGINE OIL LEVEL

1. Place the vehicle on a level surface

2. Check:

- engine oil level

Oil level should be between the ② engine oil mirror maximum and minimum marks.

Oil level low → Add oil to the proper level.

Recommended oil
Follow the left chart.

NOTE:

Recommended oil classification:

API Service "SE", "SF", "SG" type or equivalent (e.g. "SF-SE-CC", "SF-SE-SD" etc.)

NOTE:

Do not allow foreign material to enter the crankcase.

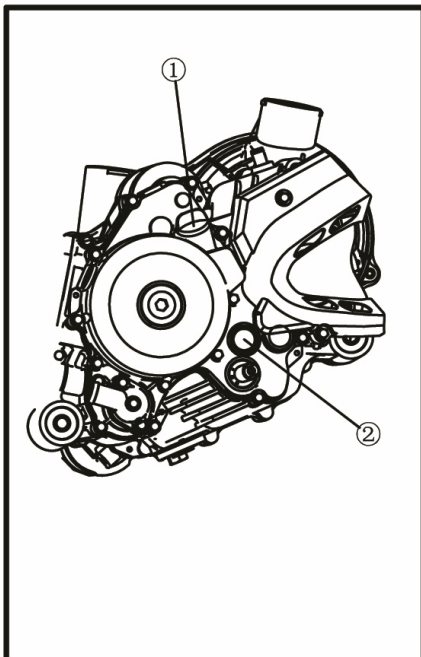
3. Stop the engine and check the oil level again

NOTE:

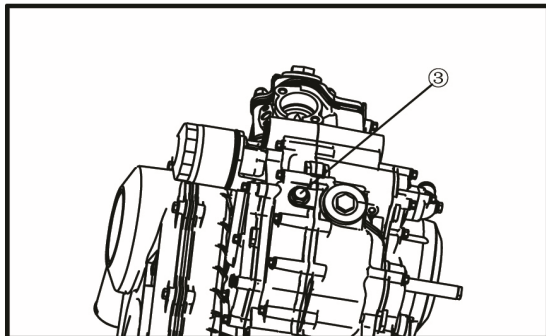
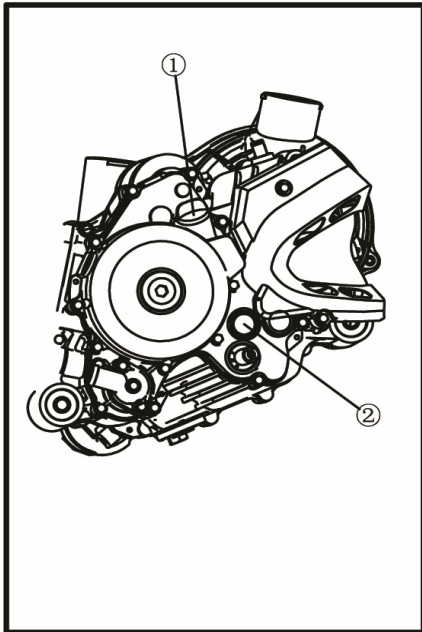
Wait a few minutes until the oil settles before checking the oil level.

NOTE:

Never remove the dipstick just after high speed operation because the heated oil could spurt out. Wait until the oil cools down before removing the dipstick.



MAINTENANCE AND ADJUSTMENT OF THE UTV



CHANGING THE ENGINE OIL

Place the vehicle on a level surface.

1. Start the engine and let it warm up for several minutes.
2. Stop the engine and place an oil pan under the engine.
3. Remove:

dismount the following parts step by stem

- ① oil gauge
 - ③ oil-draining blind nut
4. If you need to change the oil filter core, please follow the steps below exactly (Generally change the oil and core after run in-time.)
 - Take out the oil gauge and oil-draining blind nut, drain the oil.
 - Lubricate the O-ring of the new oil filter cartridge with a thin coat of lithium-soap-based grease.
 - Tighten the new oil filter cartridge to specification with an oil filter wrench.

Oil filter cartridge

17 Nm (1.7 m · kg)

5. Install:

- oil gauge ①
- oil-draining blind nut ③

6. conditions

- Change for new oil filter before impouring oil to crankcase, and make sure it is in good working condition before assembling.
- make sure that the oil reach regular level when the vehicle is placed on flat ground.

Oil level of gearbox

Periodic oil change

The oil capacity after the engine is disassembled and reassembled.

1.5L

The oil should be put into the engine for after all the oil is drawn out

1.5L

MAINTENANCE AND ADJUSTMENT OF THE UTV

7. Install:

- engine oil filler plug

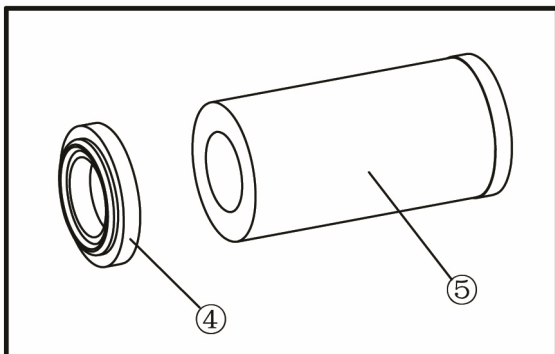
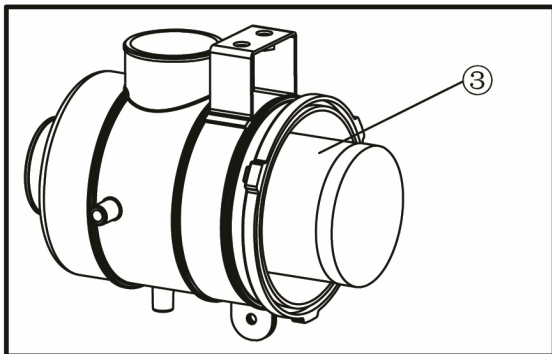
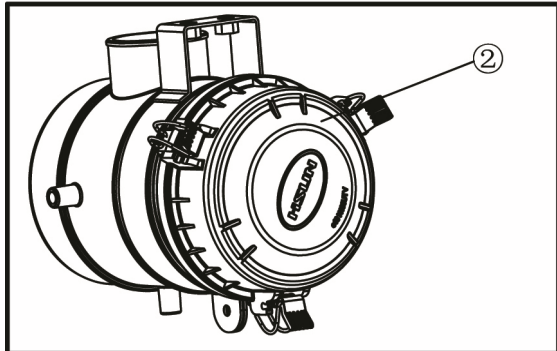
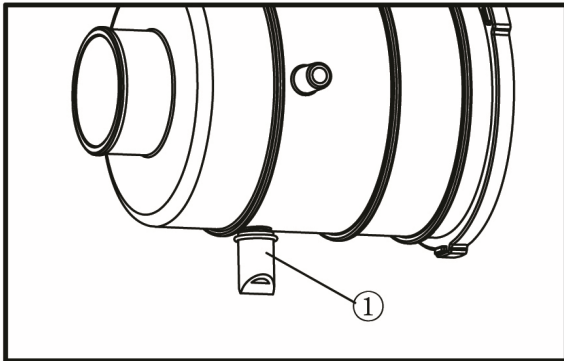
8. Warm up the engine for a few minutes, and then stop the engine.

9. Check:

- engine (for engine oil leaks)
- refer to Chapter 4 check the level of engine oil

10. Check:

- engine oil pressure



CHASSIS

CLEANING THE AIR FILTER

NOTE:

There is a check hose ① at the bottom of the air filter case. If dust and/or water collect in this hose, clean the air filter element and air filter case.

1. Remove:

- air filter case cover ②
- air filter element assembly ③
- air filter element cap ④
- air filter element ⑤

NOTE:

Never operate the engine with the air filter element removed. This will allow unfiltered air to enter, causing rapid wear and possible engine damage. Additionally, operation without the filter element will affect carburetor tuning with subsequent poor performance and possible engine overheating.

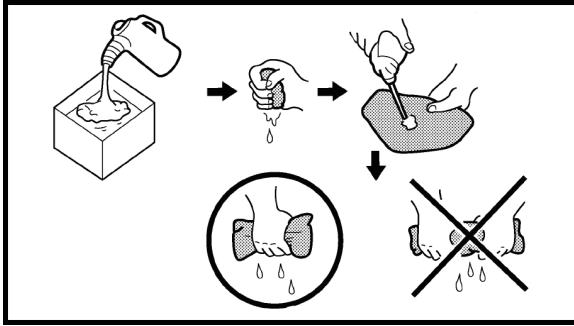
2. Check:

- air filter element
- Damaged → Replace.

3. Clean:

- air filter element
- a. Wash the element gently, but thoroughly in solvent.

MAINTENANCE AND ADJUSTMENT OF THE UTV



WARNING:

Use a cleaning solvent which is designed to clean parts only. Never use gasoline or low flash point solvents as they may cause a fire or explosion.

b. squeeze the excess solvent out of the element and let it dry.

NOTE:

Do not twist or wring out the element. This could damage the foam material.

c. Squeeze out the excess oil.

NOTE:

The element should be wet but not dripping.

4. Install:

- air filter element
- air filter case cover

NOTE:

To prevent air leaks make sure that the sealing surface of the element matches the sealing surface of the case.

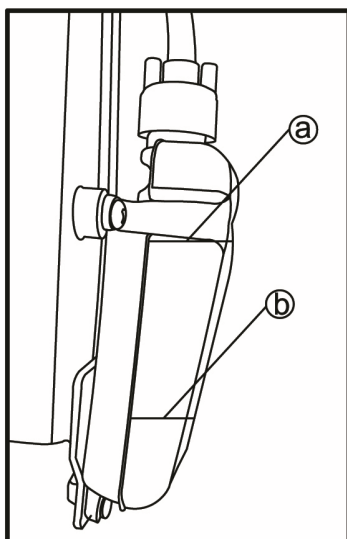
CHECKING THE COOLANT LEVEL

1. Place the vehicle on a level surface.
2. Remove front faceplate
3. Check:
 - start the engine, warm it up for several minutes, and then turn it off.
 - coolant level

NOTE:

Before checking the coolant level, wait a few minutes until the coolant has settled.

MAINTENANCE AND ADJUSTMENT OF THE UTV



- coolant level

The coolant level should be between the minimum level mark ① and maximum level mark ②. Below the minimum level mark →

Add the recommended coolant to the proper level.

CHANGING THE COOLANT

1. Remove:

Front faceplate

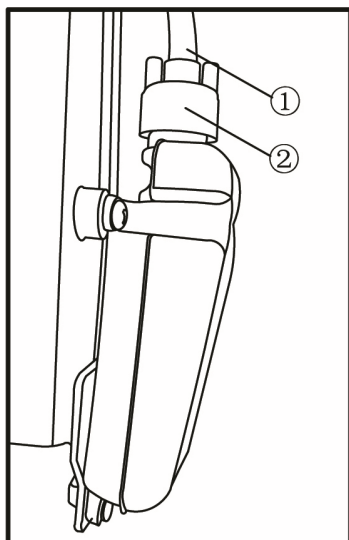
- Disconnect coolant reservoir hose ① ;
- coolant reservoir cap ② ;
- Adding water instead of coolant lowers the antifreeze content of the coolant. If water is used instead of coolant, check and if necessary, correct the antifreeze concentration of the coolant;
- Use only distilled water. However, soft water may be used if distilled water is not available.

2. Drain:

- coolant
(from the coolant reservoir)

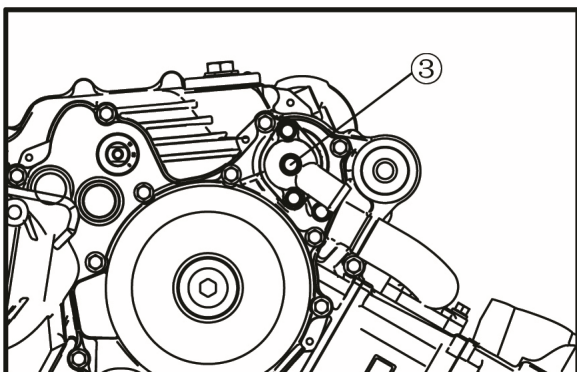
3. Connect:

- coolant reservoir hose

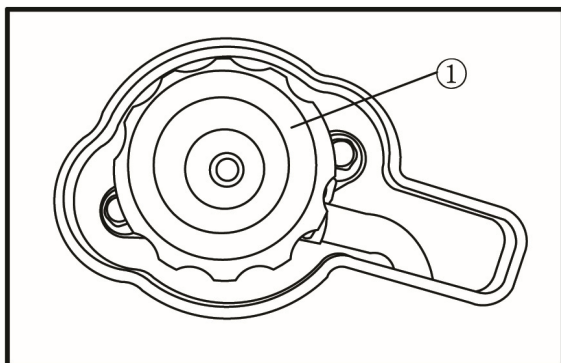


4. Remove:

- coolant drain bolt (water pump) ③ (along with the copper washer)



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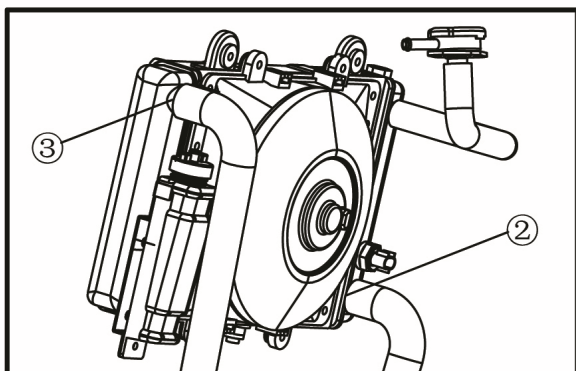


5. Remove:
- radiator cap ①

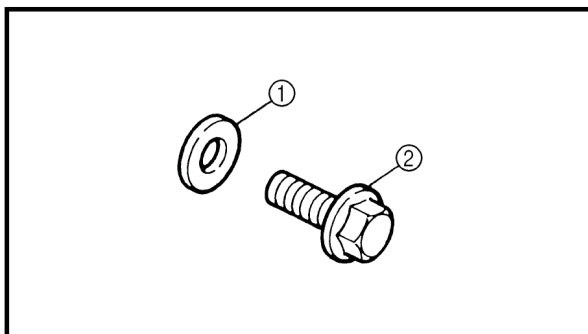
WARNING:

A hot radiator is under pressure. Therefore, do not remove the radiator cap when the engine is hot. Scalding hot fluid and steam may be blown out, which could cause serious injury. When the engine has cooled, open the radiator cap as follows: Place a thick rag or a towel over the radiator cap and slowly turn the radiator cap counterclockwise toward the detent to allow any residual pressure to escape.

When the hissing sound has stopped, turn the radiator cap counterclockwise while pressing down on it and then remove it.



6. Drain:
- coolant
7. Disconnect:
- coolant outlet hose ②
 - water pump inlet hose ③
8. Drain:
- coolant

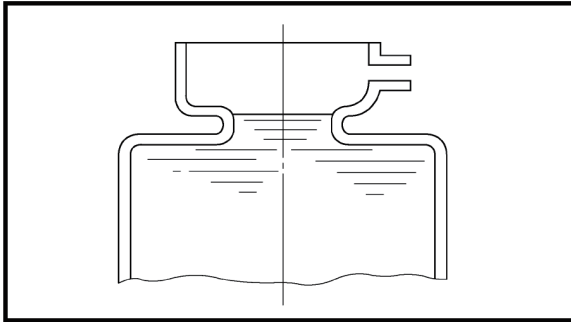
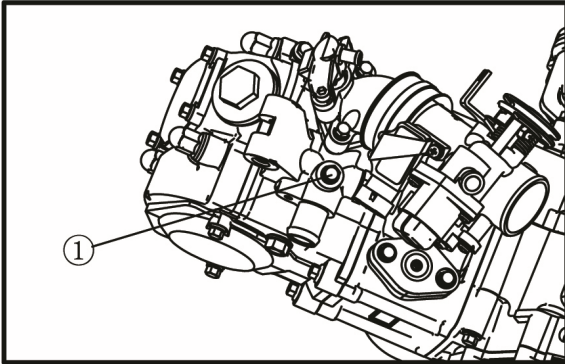


9. Check:
- copper washer ①
 - coolant drain bolt ②
- Damage → Replace.
10. Install:
- coolant drain bolt (water pump) T R.

10 Nm (1.0 m · kg, 7.2 ft · lb)

11. Connect:
- water pump inlet hose
 - coolant outlet hose

MAINTENANCE AND ADJUSTMENT OF THE UTV



12. Remove:

- air bleed bolt ①

13. Fill cooling

(with the specified amount of the recommended coolant)

Recommended antifreeze

High-quality ethylene glycol antifreeze containing corrosion inhibitors for aluminum engines

Mixing ratio

1 : 1 (antifreeze : water)

Quantity total amount

1.32 L

Coolant reservoir capacity

0.627 L

NOTE:

The specified amount of coolant is a standard amount. Fill the cooling system with coolant until coolant comes out of the hole for the air bleed bolt.

Coolant is potentially harmful and should be handled with special care.

WARNING:

- *If coolant splashes in your eyes, thoroughly wash them with water and consult a doctor;*
 - *If coolant splashes on your clothes, quickly wash it away with water and then with soap and water;*
 - *If coolant is swallowed, induce vomiting and get immediate medical attention;*
 - *If coolant comes into contact with painted surfaces, immediately wash them with water;*
 - *Do not mix different types of antifreeze.*
-

MAINTENANCE AND ADJUSTMENT OF THE UTV

NOTE:

Adding water instead of coolant lowers the antifreeze content of the coolant. If water is used instead of coolant, check, and if necessary, correct the antifreeze concentration of the coolant. Use only distilled water. However, soft water may be used if distilled water is not available.

14. Install:

- air bleed bolt

9 Nm (0.9 m · kg, 6.5 ft · lb)

- radiator cap;
- Fill coolant reservoir;
- Install coolant reservoir cap;
- Start the engine, warm it up for several minutes, and then turn it off.
- Check:
coolant level

Refer to “THE COOLANT” in chapter 4.

NOTE:

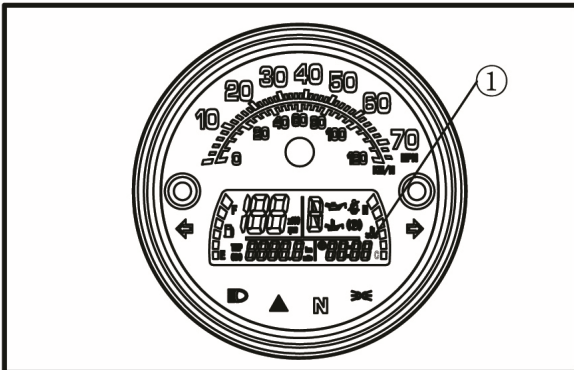
Before checking the coolant level, wait a few minutes until the coolant has settled.

- Close the hood.
- Install driver seat

Refer to “SEATS,” in chapter 5.

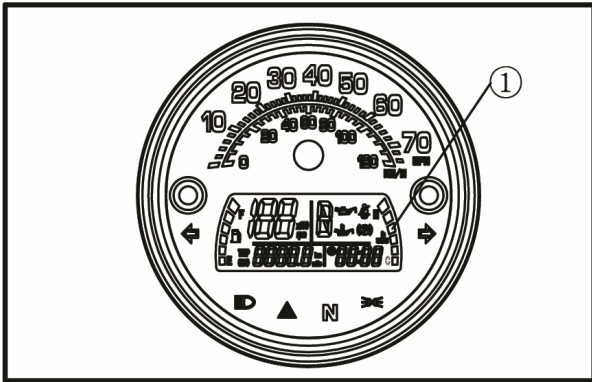
CHECKING THE COOLANT TEMPERATURE WARNING LIGHT

Coolant temperature indicator light ①

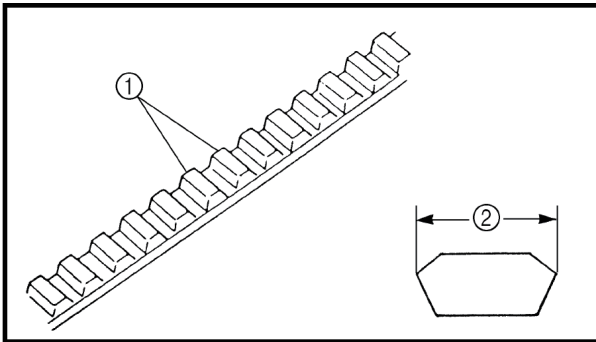


MAINTENANCE AND ADJUSTMENT OF THE UTV

Coolant temperature warning light checking method



The coolant signal light contains 6 segments. The first segment means 60°C, the second means 70°C, the third means 80°C, the fourth means 90°C, the fifth means 100°C and sixth means 110°C. If the sixth segment is light, the cooling system would be examined because the temperature of water is too high.



CHECKING THE V-BELT

1. Remove:

- driver seat
- passenger seat
- engine cover board
- fuel tank
- drive belt cover
- Check:

a. V-belt ①

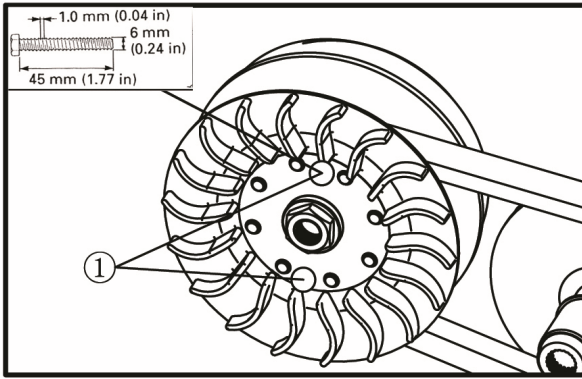
Cracks/wear/scaling/chipping → Replace.

Oil/ grease → Check primary sheave and secondary sheave.

b. V-belt width ②

Out of specification → Replace.

MAINTENANCE AND ADJUSTMENT OF THE UTV



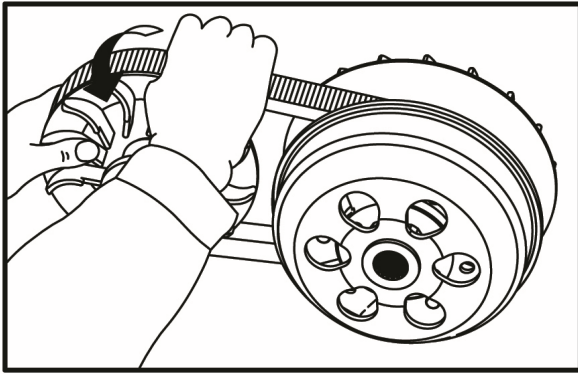
V-belt width: 23.6 mm

<Limit:> 21. mm

- Replace V-belt:
Install the bolts ① into the secondary fixed sheave hold.

NOTE:

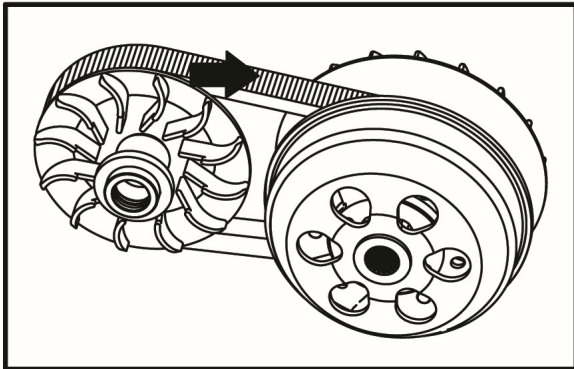
Tightening the bolts ① will push the secondary sliding sheave away, causing the gap between the secondary fixed and sliding sheaves to widen.



- Remove the V-belt ① from the primary sheave and secondary sheave.
- Install the V-belt.

NOTE:

Install the V-belt so that its arrow faces the direction shown in the illustration.

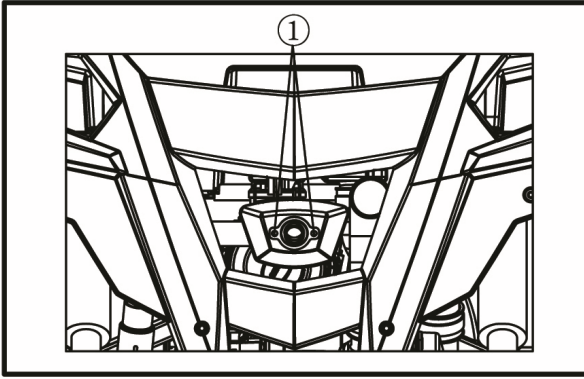


- Remove the bolts.
2. Install:
- drive belt cover
 - driver seat

CLEANING THE SPARK ARRESTER

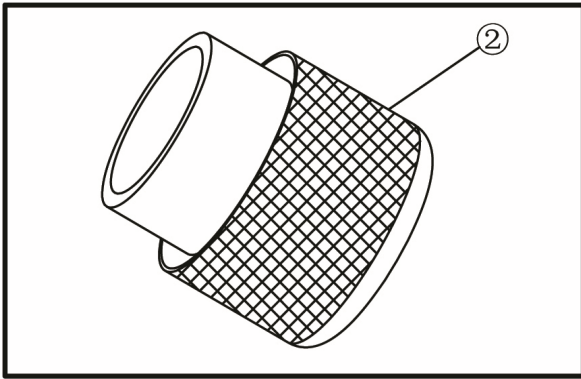
1. Clean:
- Tap the tailpipe lightly with a soft-face hammer or suitable tool, then use a wire brush to remove any carbon deposits from the spark arrester portion of the tailpipe and the inner contact surfaces of the muffler
2. Spark arrester

MAINTENANCE AND ADJUSTMENT OF THE UTV



WARNING:

- Select a well-ventilated area free of combustible materials.
- Always let the exhaust system cool before performing this operation.
- Do not start the engine when removing the tailpipe from the muffler.

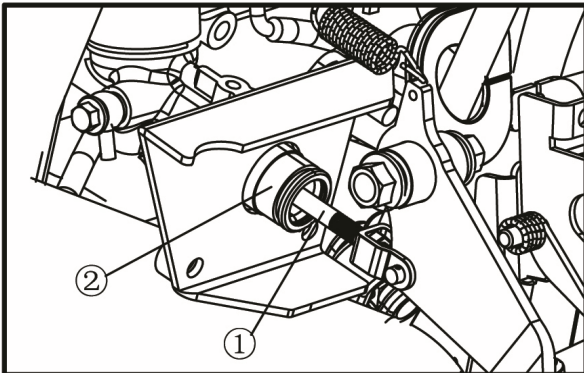


3. Remove:

- Remove the bolts ①.
- Remove the tailpipe ② by pulling it out of the muffler.

4. Install:

- Insert the tailpipe ② into the muffler and align the bolt holes.
- Insert the bolt 1 and tighten it.
- Start the engine and rev it up approximately twenty times while momentarily creating exhaust system back pressure by blocking the end of the muffler with a shop towel.
- Stop the engine and allow the exhaust pipe to cool.



ADJUSTING THE BRAKE PEDAL

1. Check:

- brake pedal free play a Out of specification
→ adjust.

NOTE:

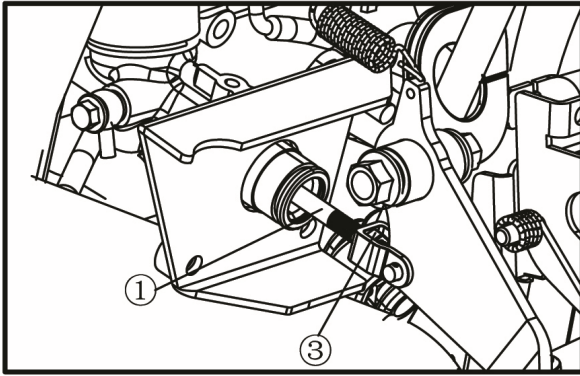
The end of the brake rod ① should lightly contact the brake master cylinder ②

**Brake pedal free play
0 mm (0.0 in)**

3. Adjust:

- brake pedal free play
- a. Loosen the locknut ③

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b. Turn brake rod ① in or out until the correct free play is obtained.

Turning in	Free play is increased.
Turning out	Free play is decreased.

c. Tighten the locknut to specification.

Locknut 17 Nm (1.7 m · kg, 12 ft · lb)

NOTE:

Make sure that there is no brake drag on the front or rear wheels.

CHECKING THE BRAKE FLUID LEVEL

1. Place the vehicle on a level surface.

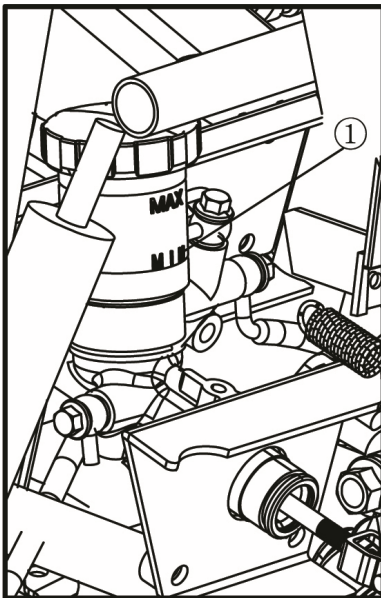
NOTE:

When checking the brake fluid level, make sure that the top of the brake fluid reservoir top is horizontal.

2. Lift the hood up.

3. Check:

- brake fluid level Fluid level is under “MIN” ① line → Fill up.



NOTE:

Brake fluid may erode painted surfaces or plastic parts. Always clean up spilled fluid immediately.

WARNING:

- Use only the designed quality brake fluid: otherwise, the rubber seals may deteriorate, causing leakage and poor brake performance.
 - Refill with the same type of brake fluid: mixing fluids may result in a harmful chemical reaction and lead to poor performance.
- Be careful that water does not enter the master**

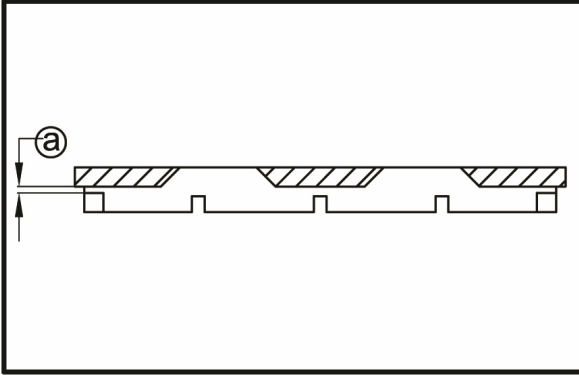
MAINTENANCE AND ADJUSTMENT OF THE UTV

cylinder when refilling. Water will significantly lower the boiling point of the fluid and may result in a vapor lock.

4. Close the hood.

CHECKING THE FRONT BRAKE PADS

1. Remove:
 - front wheels
2. Check:
 - brake pads Wear indicator groove **@** almost disappearedReplace the brake pads as a set.
Refer to "FRONT AND REAR BRAKES" in chapter 5.

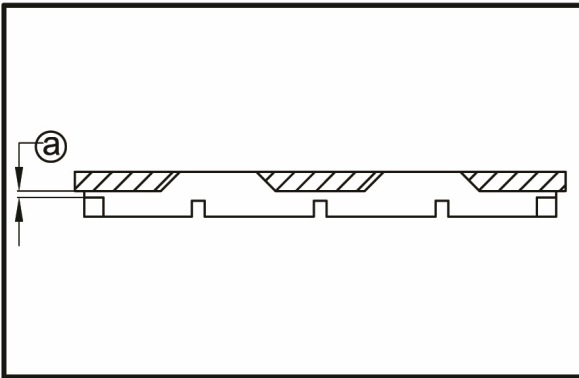


Brake pad wear limit **@
1.5 mm (0.06 in)**

3. Operate the brake pedal.
4. Install:
 - front wheels

CHECKING THE REAR BRAKE PADS

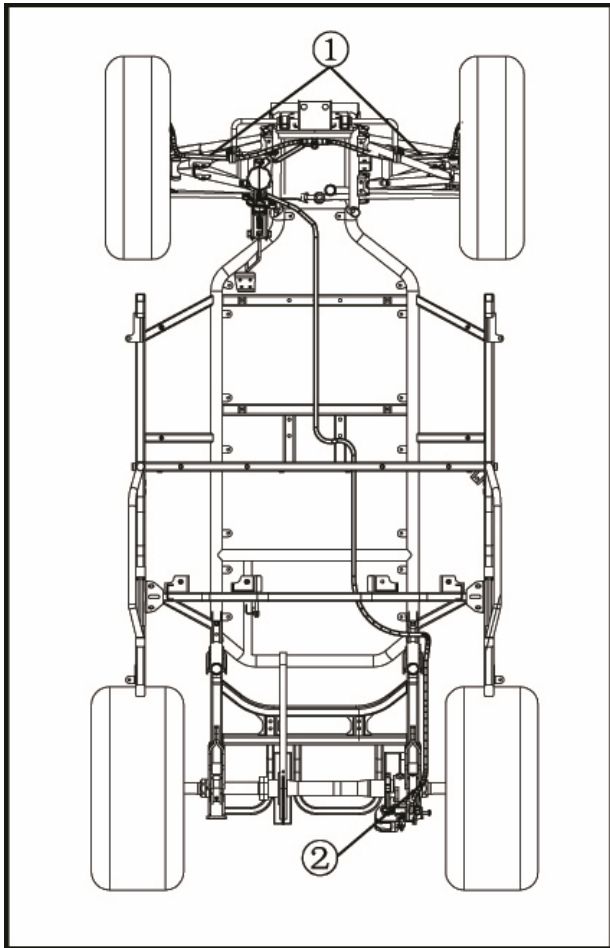
1. Check:
 - brake padsWear indicator groove **@** almost disappeared
Replace the brake pads as a set.
Refer to "FRONT AND REAR BRAKES" in chapter 5.



Brake pad wear limit **@
1.5 mm (0.06 in)**

3. Operate the brake pedal.

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CHECKING THE BRAKE HOSES AND BRAKE PIPES

1. Remove:
 - frame toe-board
2. Check:
 - front brake hoses ①
 - rear brake hoses ②

Cracks/wear/damage → Replace.

Fluid leakage → Replace all damaged parts.

Refer to “FRONT AND REAR BRAKES” in chapter 5.

NOTE:

Hold the vehicle in an upright position and apply the brake pedal.

4. Install driver seat

BLEEDING THE HYDRAULIC BRAKE SYSTEM

WARNING:

Bleed the brake system if:

- *The system has been disassembled.*
- *A brake hose or brake pipe have been loosened or removed.*
- *The brake fluid has been very low.*

The brake operation has been faulty. A loss of braking performance may occur if the brake system is not properly bled.

1. Bleed:
 - brake system
- a. Add the proper brake fluid to the reservoir.
- b. Install the diaphragm. Be careful not to spill any fluid or allow the reservoir to overflow.
- c. Remove the cover of the brake oil pump ③ add the moderate brake liquid.

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- d. Place the other end of the hose into a container.
- e. Slowly apply the brake pedal several times.
- f. Push down on the pedal and hold it.
- g. Loosen the bleed screw and allow the pedal to travel towards its limit.
- h. Tighten the bleed screw when the pedal limit has been reached, then release the pedal.
- i. Repeat steps (e) to (h) until all the air bubbles have disappeared from the fluid.
- j. Tighten the bleed screw.

Front brake caliper bleed screw

6 Nm (0.6 m · kg, 4.3 ft · lb)

Rear brake caliper bleed screw

5 Nm (0.5 m · kg, 3.6 ft · lb)

NOTE:

If bleeding is difficult, it may be necessary to let the brake fluid settle for a few hours.

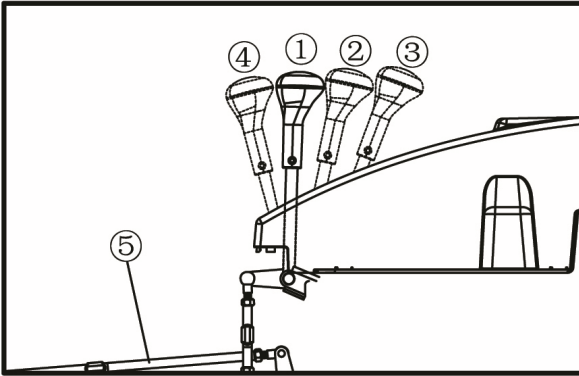
Repeat the bleeding procedure when the tiny bubbles in the system have disappeared.

- k. Add brake fluid to the proper level.

WARNING:

Check the operation of the brake after bleeding the brake system.

MAINTENANCE AND ADJUSTMENT OF THE UTV



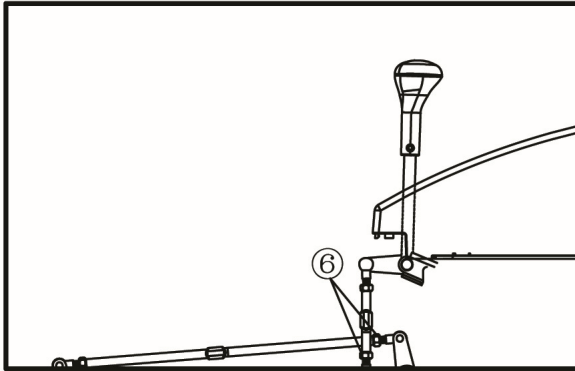
ADJUSTING THE SELECT LEVER SHIFT ROD

- ① Neutral
- ② High
- ③ Low
- ④ Reverse
- ⑤ Select lever shift rod

WARNING:

Before shifting, you must stop the vehicle and take your foot off the accelerator pedal.

Otherwise, the transmission may be damaged.



1. Adjust:

- Select lever shift rod

a. Make sure the select lever is in NEUTRAL.

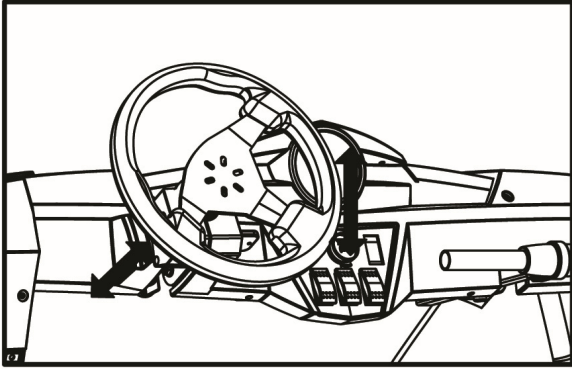
b. Loosen both locknuts ⑥.

WARNING:

The select lever shift rod locknut (select lever side) has left-handed threads. To loosen the locknut, turn it clockwise.

c. Tighten the locknuts ⑥.

MAINTENANCE AND ADJUSTMENT OF THE UTV



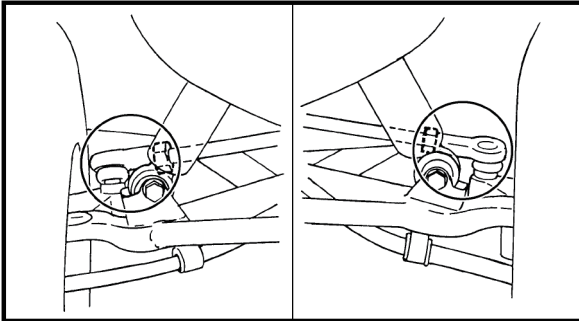
CHECKING THE STEERING SYSTEM

1. place the vehicle on the flat ground .

- Check:

Clamp seat of steering vertical column and sliding bearing on the lower end of steering vertical column, upper & lower and front & rear moving steering bar .If the clearance is too large, replace the sliding bearing.

Refer to section "Steering system" of chapter 5.



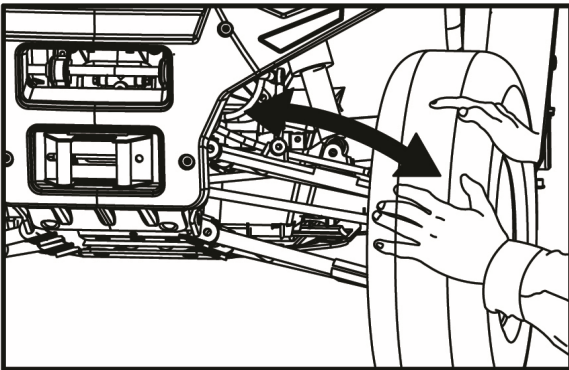
- Check:

tie-rod ends

Ball pin unit of steering tension rod.

Rotate the steering bar leftward and / or rightward, Then rotate from left to right lightly . If the ball pin unit of steering tension rod have any vertical clearance , replace it .

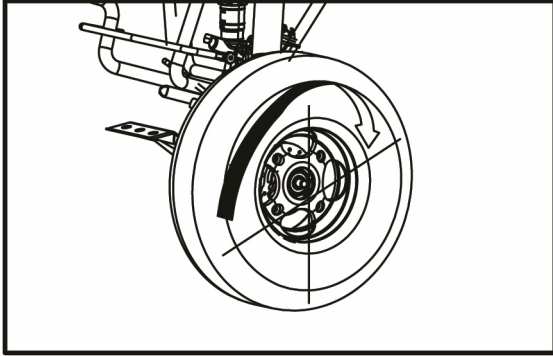
Refer to section "Steering system" of chapter 5.



- Check:

Ball joints and/or wheel bearings Move the wheels laterally back and forth. Excessive free play → Replace the front arms (upper and lower) and/or wheel bearings.

MAINTENANCE AND ADJUSTMENT OF THE UTV



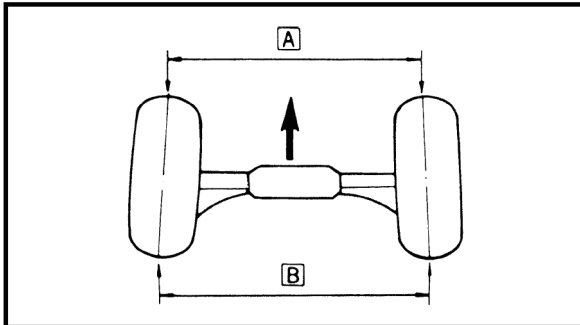
ADJUSTING THE TOE-IN

1. Place the vehicle on a level surface.
2. Measure:
 - toe-inOut of specification → Adjust.

Toe-in 8~ 18 mm (0.00 ~ 0.39 in) (with tires touching the ground)
--

NOTE:

Before measuring the toe-in, make sure that the tire pressure is correct.



- a. Mark both front tire tread centers.
- b. Lift the front end of UTV to keep the front wheel from force.
- c. Fasten the steering forward. Measure the width between two marks.
- d. Rotate the front tires 180° until the marks are exactly opposite one another.
- e. Measure distance B between the marks.
- f. Calculate the toe-in using the formula given below.

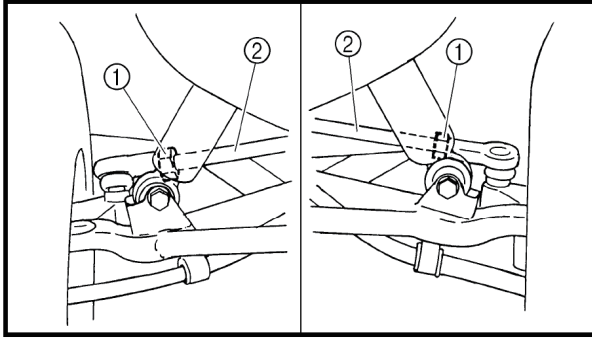
$$\text{Toe-in} = B - A$$

- g. If the toe-in is incorrect, adjust it.
3. Adjust toe-in

WARNING:

Make sure that left / right tension rods have turned the same turns. Otherwise the UTV will still go left and right even though. Operate the UTV to go forward straightly with steering bar, easily causing to getting out of control and accident. After adjusting the toe-in correctly drive the UTV to move forward a span of distance by fastening the steering bar so as to

MAINTENANCE AND ADJUSTMENT OF THE UTV



make , sure if the Steering bar is pormal , if not , adjust the tension rod left or right within the specification .

- Mark both tie-rods ends. This reference point will be needed during adjustment.
- Loosen the locknut (tie-rod end) ① on each tie-rod.
- The same number of turns should be given to both the right and left tie-rods ② until the specified toe-in is obtained. This is to keep the length of the rods the same.
- Tighten the rod end locknut on each tie-rod.

Locknut (rod end)
40 Nm (4.0 m · kg, 29 ft · lb)

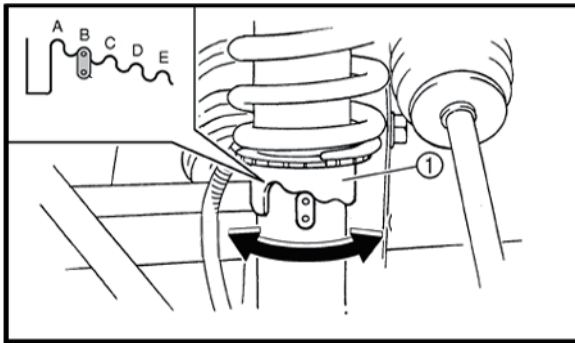
ADJUSTING THE FRONT AND REAR SHOCK ABSORBERS

WARNING :

Always adjust both shock absorber spring preload to the same setting. Uneven adjustment can cause poor handling and loss of stability.

NOTE:

The spring preload of the shock absorbers can be adjusted to suit the operator's preference, weight, and the operating conditions.



- Adjust:

- spring preload Turn the adjuster ① to increase or decrease the spring preload.

Standard position: B
Minimum (Soft) position: A
Maximum (Hard) position: E

MAINTENANCE AND ADJUSTMENT OF THE UTV

CHECKING THE TIRES

WARNING:

• **TIRE CHARACTERISTICS**

Tyre characteristics influence the handling of vehicle's. If other tire combinations are used, they can adversely affect your vehicle's handling characteristics and are therefore not recommended.

	Size
Front	22×7-5
Rear	22×10-8

• **TIRE PRESSURE**

a. **Recommended tire cold pressure**

Front 49Kpa (0.49 kgf/cm², 7 psi)

Rear 49KPa (0.49 kgf/cm², 7 psi)

when seating the tire beads. Higher pressure may cause the tire to burst.

Inflate the tires slowly and carefully.

Fast inflation could cause the tire to burst.

• **MAXIMUM LOADING LIMIT**

a. **Vehicle loading limit (total weight of cargo, operator, passenger and accessories):226kg**

b. **Cargo bed: 50kg**

c. **Trailer hitch:**

Pulling load (total weight of trailer and cargo):

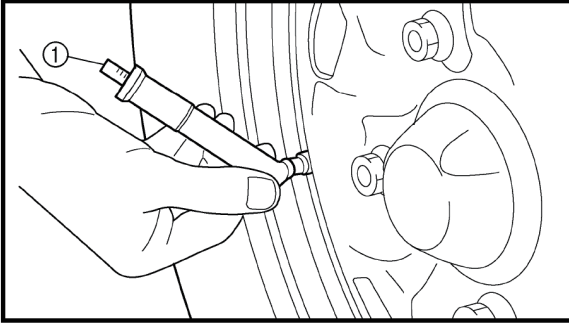
N/A

Be extra careful of the vehicle balance and stability when towing a trailer.

MAINTENANCE AND ADJUSTMENT OF THE UTV

1. Measure:

- Tire pressure (cold tire pressure) out of → specification Adjust.



NOTE:

- The tire pressure gauge ① is included as standard equipment.
- If dust or the like is stuck to this gauge, it will not provide the correct readings. Therefore, take two measurements of the tire's pressure and use the second reading.

WARNING:

Uneven or improper tire pressure may adversely affect the handling of this vehicle and may cause loss of control.

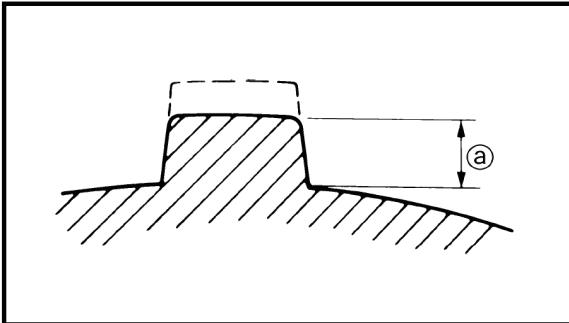
- *Maintain proper tire pressures.*
- *Set tire pressures when the tires are cold.*
- *Tire pressures must be equal in both front tires and equal in both rear tires.*

2. Check:

- tire surfaces

Wear/damage@ → Replace.

Tire wear limit @
Front and rear: 3.0 mm (0.12 in)

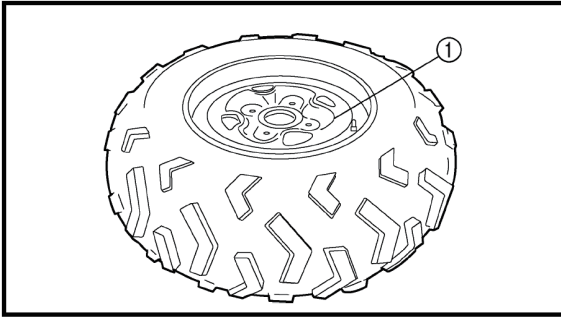


WARNING:

It is dangerous to ride with a worn-out tire.

When tire wear is out of specification, replace the tire immediately.

MAINTENANCE AND ADJUSTMENT OF THE UTV



CHECKING THE WHEELS

1. Check:

- Wheels ① Damage/bends → Replace.

NOTE:

Always balance the wheel when a tire or wheel has been changed or replaced.

WARNING:

- *Never attempt even small repairs to the wheel.*
 - *Ride conservatively after installing a tire to allow it to seat itself properly on the rim.*
-

CHECKING AND LUBRICATING THE CABLES

WARNING:

A damaged cable sheath may cause corrosion and interfere with the cable movement. An unsafe condition may result so replace a damaged cable as soon as possible.

1. Check:

- cable sheath Damage → Replace.
- cable operation Unsmooth operation → Lubricate or replace.

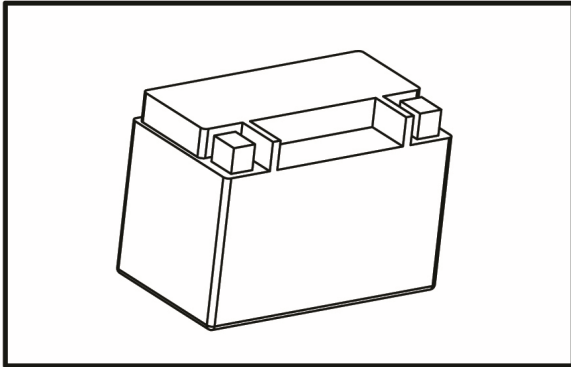
NOTE:

Hold the cable end up and apply several drops of lubricant to the cable.

2. Apply:

- lithium-soap-based grease (onto end of the cable)

MAINTENANCE AND ADJUSTMENT OF THE UTV



ELECTRICAL CHECKING AND CHARGING THE BATTERY

WARNING:

Batteries generate explosive hydrogen gas and contain electrolyte which is made of poisonous and highly caustic sulfuric acid.

Therefore, always follow these preventive measures:

- *Wear protective eye gear when handling or working near batteries;*
- *Charge batteries in a well-ventilated area;*
- *Keep batteries away from fire, sparks or open flames (e.g., welding equipment, lighted cigarettes);*
- *Do not smoke when charging or handling batteries;*
- *Keep batteries and electrolyte out of reach of children;*
- *Avoid bodily contact with electrolyte as it can cause severe burns or permanent eye injury;*

first aid in case of bodily contact:

External

- *Skin — Wash with water;*
- *Eyes — Flush with water for 15 minutes and get immediate medical attention;*

Internal

Drink large quantities of water or milk followed with milk of magnesia, beaten egg or vegetable oil. Get immediate medical attention.

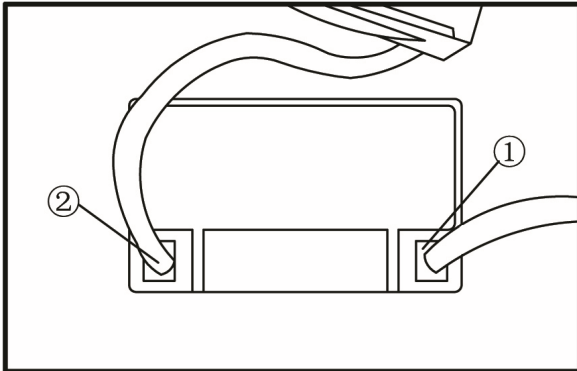
WARNING:

- *This is a sealed battery. Never remove the sealing caps because the balance between cells will not be maintained and battery performance will deteriorate;*
- *Charging time, charging amperage and charging voltage for an MF battery are*

MAINTENANCE AND ADJUSTMENT OF THE UTV

different from those of conventional batteries. The MF battery should be charged as explained in the charging method illustrations. If the battery is overcharged, the electrolyte level will drop considerably;

- *Therefore, take special care when charging the battery.*



NOTE:

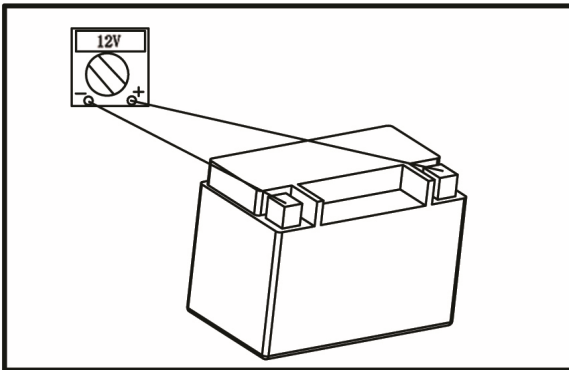
Since MF batteries are sealed, it is not possible to check the charge state of the battery by measuring the specific gravity of the electrolyte. Therefore, the charge of the battery has to be checked by measuring the voltage at the battery terminals.

1. Remove:

- Lift the hood up;
- battery case cover;
- disconnect;
battery leads

NOTE:

First, disconnect the negative battery lead ①, and then the positive battery lead ②.



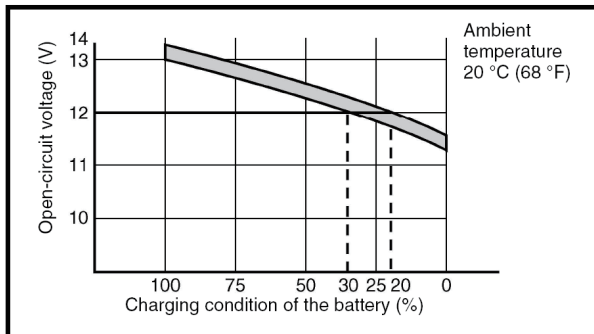
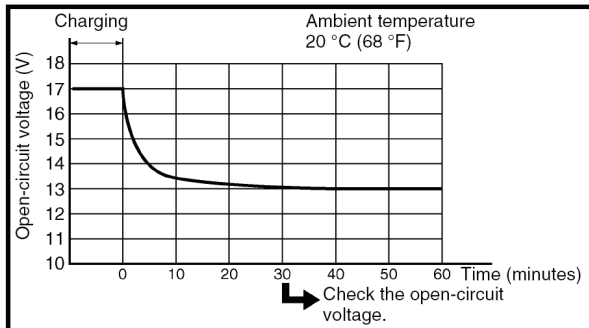
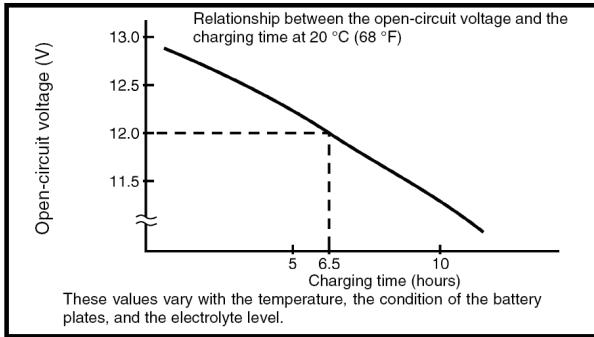
- Remove;
battery

- Check;
battery charge

a. Connect a pocket tester to the battery terminals.

Positive tester probe →
positive battery terminal
Negative tester probe →
negative battery terminal

MAINTENANCE AND ADJUSTMENT OF THE UTV



NOTE:

- The charge state of an MF battery can be checked by measuring its open-circuit voltage (i.e., the voltage when the positive terminal is disconnected).
- No charging is necessary when the open-circuit voltage equals or exceeds 12.8 V.

b. Check the charge of the battery, as shown in the charts and the following example.

Example

- c. Open-circuit voltage = 12.0 V
- d. Charging time = 6.5 hours
- e. Charge of the battery = 20 ~ 30%

2. Charge:

- Battery (refer to the appropriate charging method illustration) .

WARNING:

Do not quick charge a battery.

NOTE:

- Never remove the MF battery sealing caps.
- Do not use a high-rate battery charger since it forces a high-amperage current into the battery quickly and can cause battery overheating and battery plate damage.
- If it is impossible to regulate the charging current on the battery charger, be careful not to overcharge the battery.
- When charging a battery, be sure to remove it from the vehicle. (If charging has to be done with the battery mounted on the vehicle, disconnect the negative battery lead from the battery terminal).
- To reduce the chance of sparks, do not plug in the battery charger until the battery charger leads are connected to the battery.
- Before removing the battery charger lead clips from the battery terminals, be sure to turn off the battery charger.
- Make sure the battery charger lead clips are in full contact with the battery terminal and that

MAINTENANCE AND ADJUSTMENT OF THE UTV

they are not shorted. A corroded battery charger lead clip may generate heat in the contact area and a weak clip spring may cause sparks.

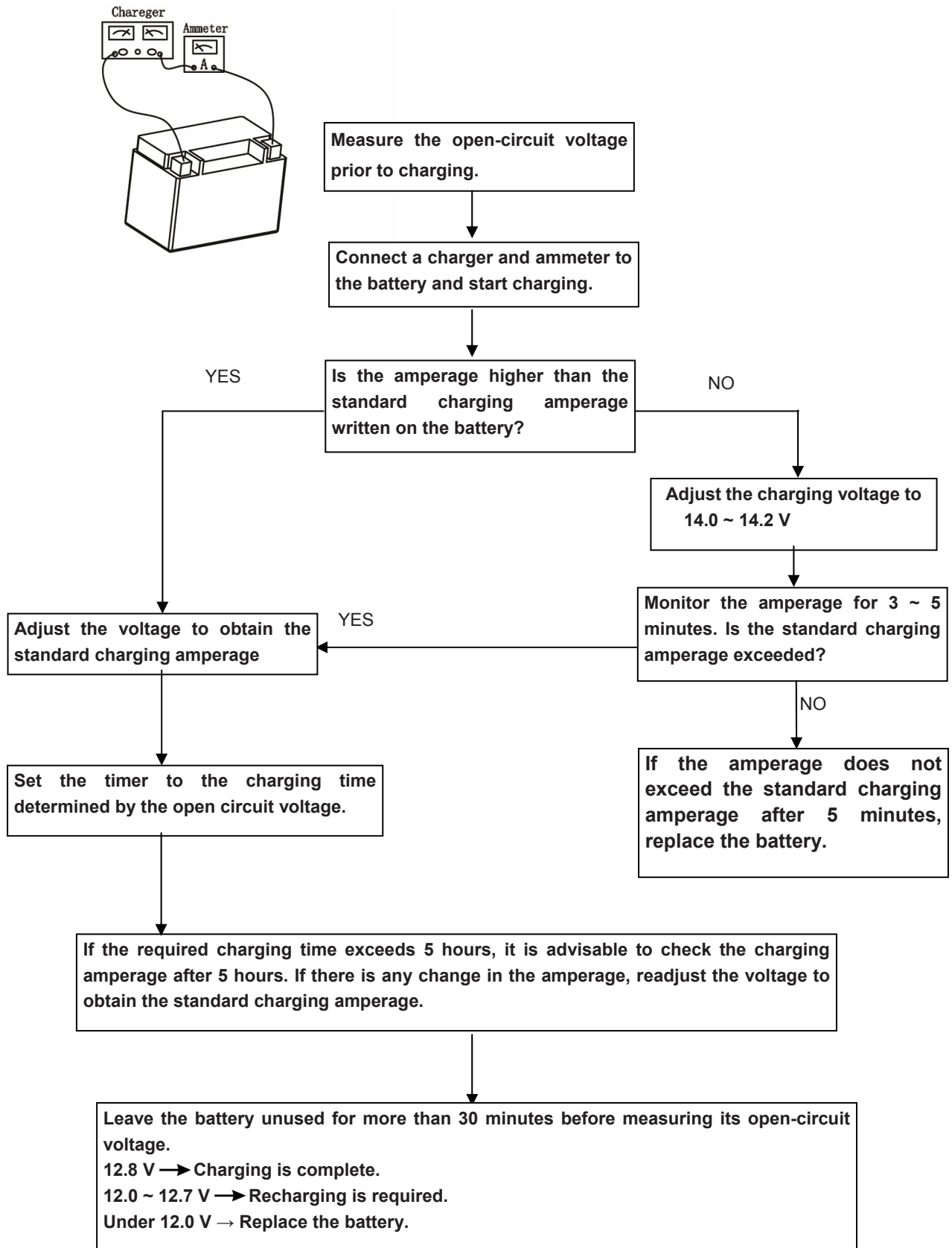
- If the battery becomes hot to the touch at any time during the charging process, disconnect the battery charger and let the battery cool before reconnecting it. Hot batteries can explode!
- As shown in the following illustration, the open-circuit voltage of an MF battery stabilizes about 30 minutes after charging has been completed. Therefore, wait 30 minutes after charging is completed before measuring the open-circuit voltage.

Charging method using a variable-current (voltage) charger

NOTE:

- Leave the battery unused for more than 30 minutes before measuring its open-circuit voltage.
 - Set the charging voltage to 14.0 ~14.2 V. (If the charging voltage is lower, charging will be insufficient, if it is higher, the battery will be over-charged.)
-

MAINTENANCE AND ADJUSTMENT OF THE UTV

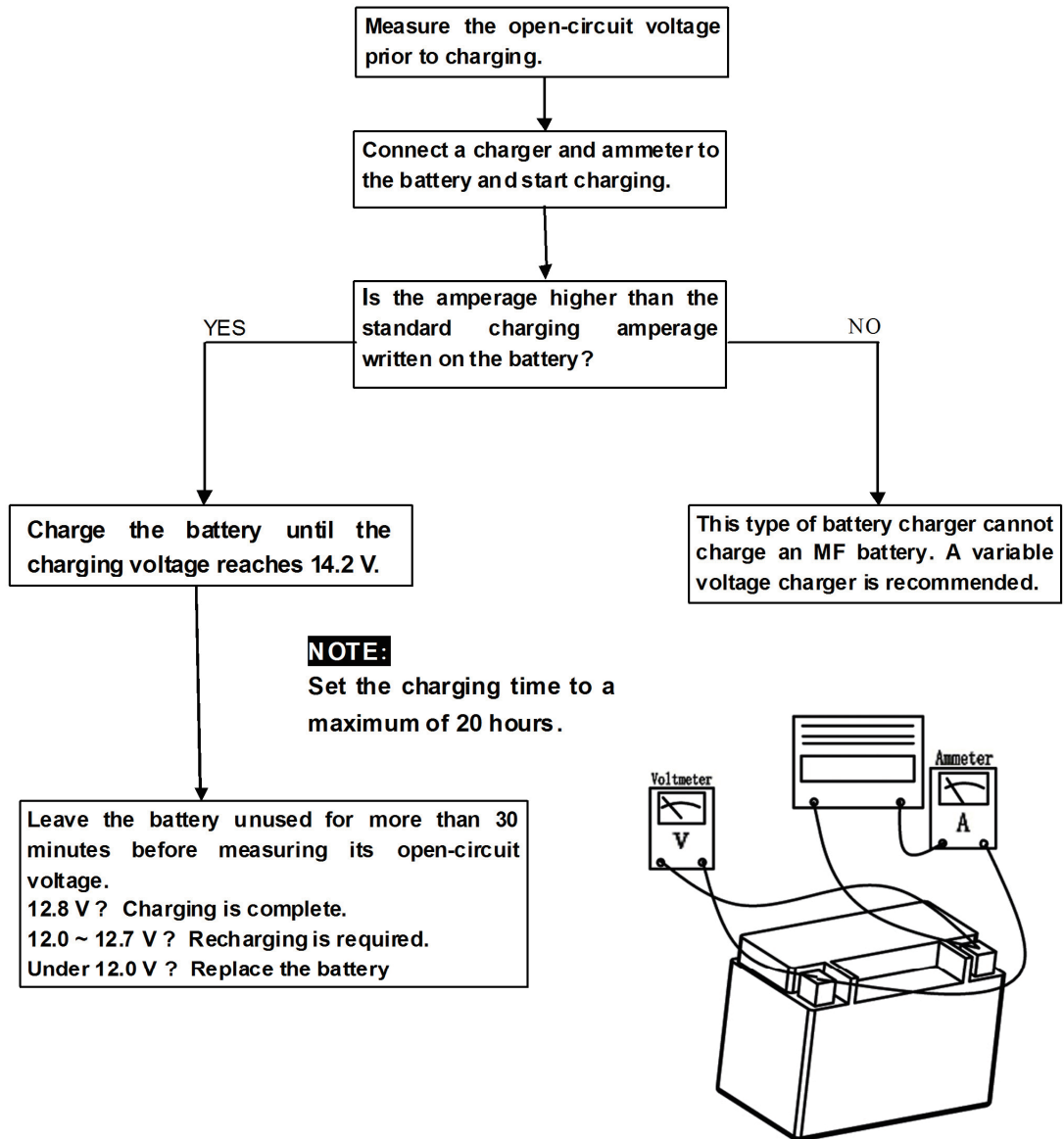


MAINTENANCE AND ADJUSTMENT OF THE UTV

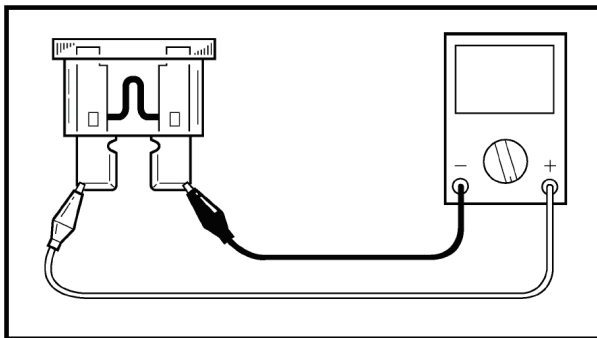
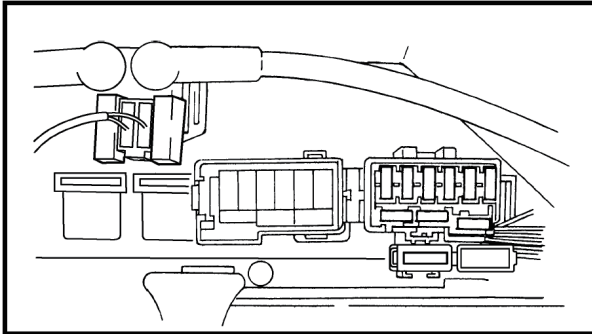
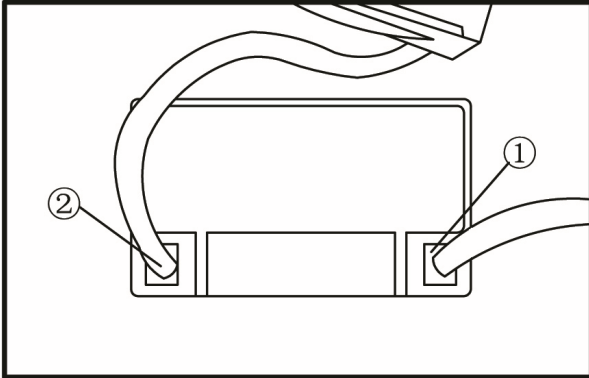
Charging method using a constant voltage charger

NOTE:

Leave the battery unused for more than 30 minutes before measuring its open-circuit voltage.



MAINTENANCE AND ADJUSTMENT OF THE UTV



NOTE:

Constant amperage chargers are not suitable for charging MF batteries.

3. Install:

- battery
- Connect:
battery leads

NOTE:

First, connect the positive battery lead ①, and then the negative battery lead ②.

• Check:

battery terminals Dirt → Clean with a wire brush.

Loose connection → Connect properly.

• Lubricate:

battery terminals

• Install:

battery case cover

• Close the hood.

CHECKING THE FUSES

NOTE:

Always turn off the main switch when checking or replacing a fuse. Otherwise, a short circuit may occur.

1. Remove:

- lift the hood up.
- battery case cover

2. Check:

- fuses

a. Connect the pocket tester to the fuse and check it for continuity

NOTE:

Set the tester to the “ $\Omega \times 1$ ” position.

- blown fuse

MAINTENANCE AND ADJUSTMENT OF THE UTV

- b. If the tester indicates “∞”, replace the fuse.
3. Replace:
 - a. Turn off the ignition.
 - b. Install a new fuse of the proper amperage.
 - c. Turn on switches to verify operation of the related electrical devices.
 - d. If the fuse immediately blows again, check the electrical circuit.

Description	Current rating	Quantity
Lighting system fuse	15 A	1
Ignition	10 A	1
Terminal (Auxiliary DC jack)	10 A	1
4WD(Four wheel drive)	5A	1
Signaling system fuse	10 A	1
Backup fuse	10 A	1
Reserve	15 A	1
Reserve	10 A	1
Reserve	5 A	1

WARNING:

Ever use a fuse with a rating other than that specified. Never use other materials in place of a fuse. An improper fuse may cause extensive damage to the electrical system, a malfunction of the lighting and ignition systems and could possibly cause a fire.

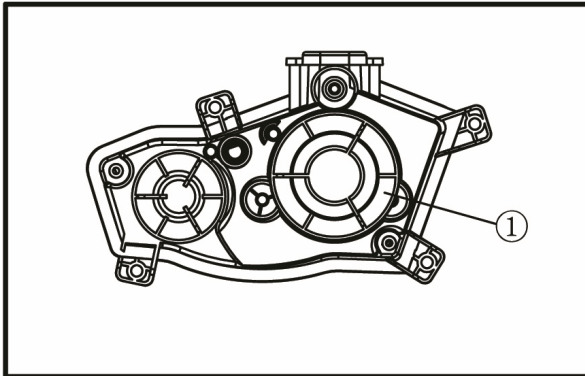
4. Install:
 - battery case cover
5. Close the hood.

MAINTENANCE AND ADJUSTMENT OF THE UTV

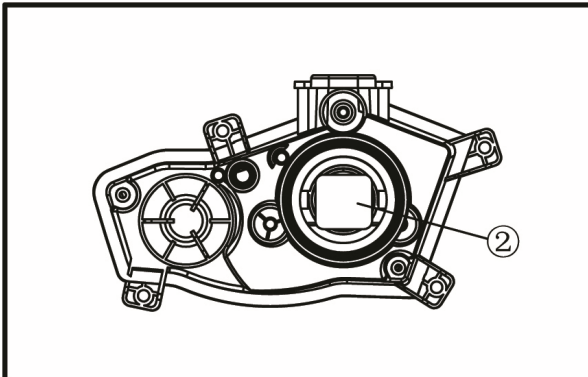
CHANGING THE HEADLIGHT BULB I

Remove:

- Lift the hood up.
- headlight bulb holder cover ①



- headlight bulb holder (with bulb) ①
- bulb



NOTE:

Turn left the defective bulb by unhooking the headlight bulb holder tabs ②

WARNING:

Keep flammable products and your hands away from the bulb while it is on, since it will be hot. Do not touch the bulb until it cools down.

MAINTENANCE AND ADJUSTMENT OF THE UTV

1. Install:

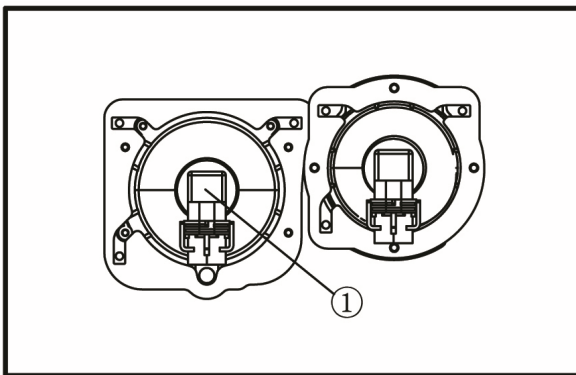
- bulb new

Secure the new bulb with the headlight bulb holder.

NOTE:

Avoid touching the glass part of the bulb. Keep it free from oil; otherwise, the transparency of the glass, life of the bulb, and luminous flux will be adversely affected. If oil gets on the bulb, thoroughly clean it with a cloth moistened with alcohol or lacquer thinner.

- headlight bulb holder (with bulb)
- headlight bulb holder cover
- Close the hood.



CHANGING THE HEADLIGHT BULB II

Remove:

- Lift the hood up.
- headlight bulb holder cover ①

- headlight bulb holder (with bulb) ①
- bulb

NOTE:

Turn on the defective bulb by unhooking the headlight bulb holder tabs

MAINTENANCE AND ADJUSTMENT OF THE UTV

WARNING:

Keep flammable products and your hands away from the bulb while it is on, since it will be hot. Do not touch the bulb until it cools down.

1. Install:

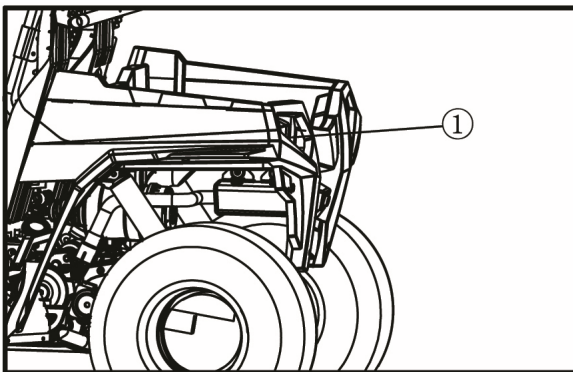
- bulb new

Secure the new bulb with the headlight bulb holder.

NOTE:

Avoid touching the glass part of the bulb. Keep it free from oil; otherwise, the transparency of the glass, life of the bulb, and luminous flux will be adversely affected. If oil gets on the bulb, thoroughly clean it with a cloth moistened with alcohol or lacquer thinner.

- headlight bulb holder (with bulb)
- headlight bulb holder cover
- Close the hood.



CHANGING THE TAIL/BRAKE LIGHT BULB

1. Remove:

- Tail/brake light bulb holder(with bulb)①
- Secure the new bulb with the tail/brake light bulb holder.
- tail/brake light bulb holder (with bulb) ①
- bulb

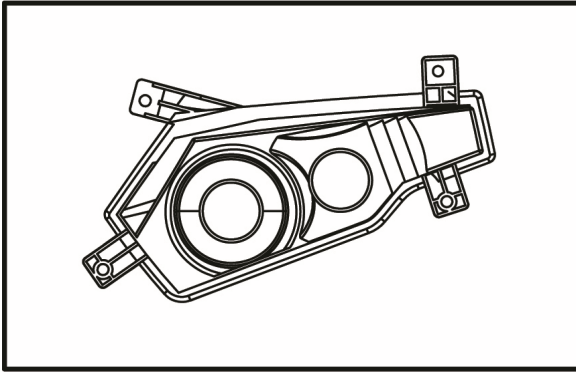
NOTE:

Turn the bulb holder counterclockwise and remove the defective bulb.

WARNING:

Keep flammable products and your hands away from the bulb while it is on, since it will be hot. Do not touch the bulb until it cools down.

MAINTENANCE AND ADJUSTMENT OF THE UTV



2. Install:

- bulb new

Secure the new bulb with the tail/brake light bulb holder.

NOTE:

Avoid touching the glass part of the bulb. Keep it free from oil; otherwise, the transparency of the glass, life of the bulb, and luminous flux will be adversely affected. If oil gets on the bulb, thoroughly clean it with a cloth moistened with alcohol or lacquer thinner.

- tail/brake light bulb holder (with bulb)

ENGINE

ENGINE

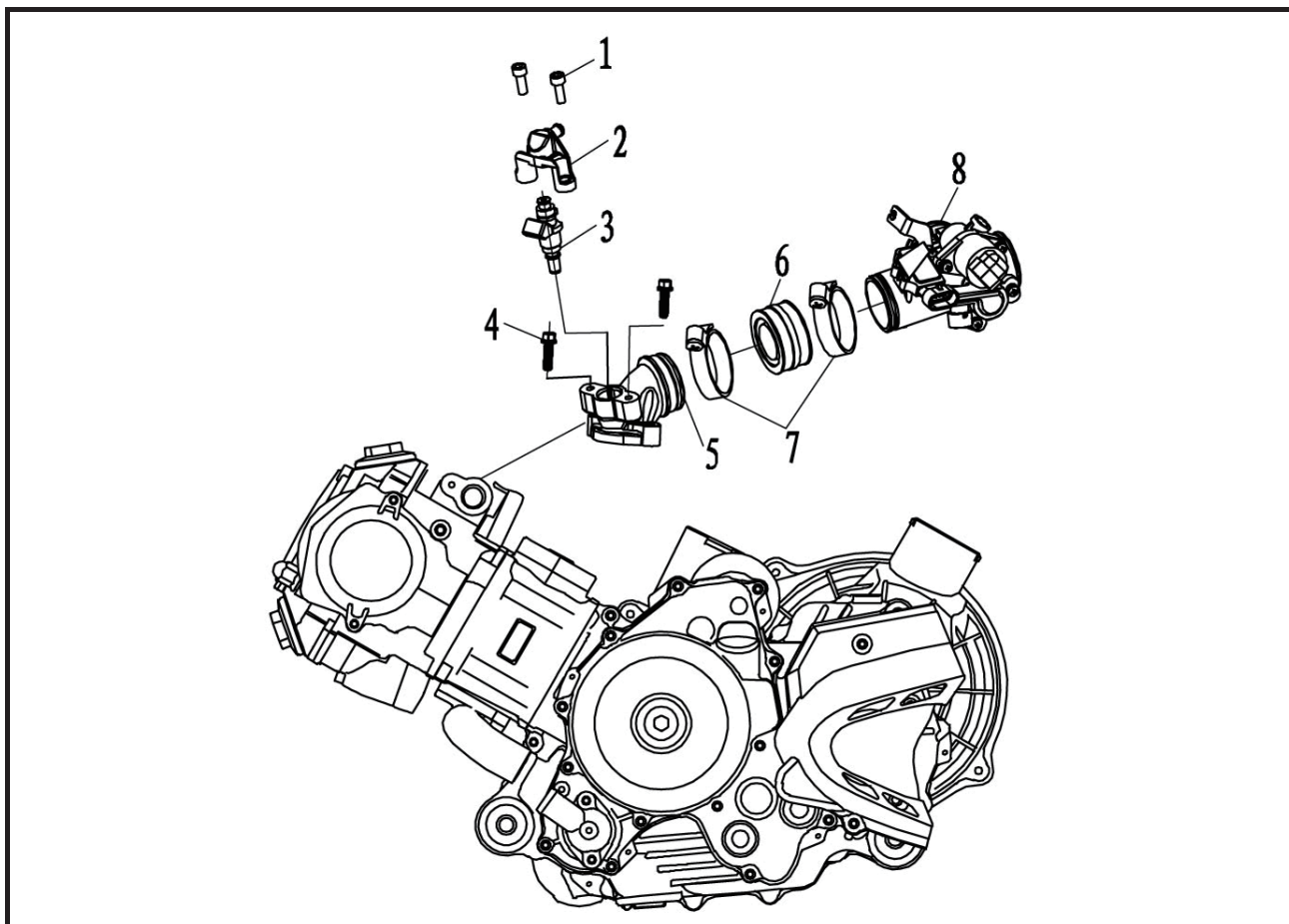
ENGINE NOTE

Make sure the components, oil, adhesive, sealant are from the company or recommended.

2. Original removal oil seal, gasket, O-ring, piston ring can not be re-assembled again, make sure all these parts are new.
1. Pay attention to keep dismantled parts orderly, make sure their original positions for reassembling.
4. Prevent dismantled parts damaged, clean before measure and assembly, remove the oil with compressed air. Paint the rotating and sliding parts with specified oil, paint or inject designated location with recommended grease.
5. Bolts and nuts tightening order: pre-fixed bolts, and then tighten them from the large diameter to small diameter, from inside to outside by diagonal points 2 or 3 times to the specified torque. Opposite order is for removing bolts and nuts.
6. Make sure sealing bolt (with the sealant) must be replaced
7. Make sure to use new bearing when remove assembly set up by pressure.
8. Determined axial and radial clearance of inner and outer bearing ring by touch, new bear should be replaced if the clearance is too large or non-rotating flexible.
9. Bearing assembly directions: bearing logo should be visible assemblies; confirm bearing outer ring rotate and move reliably and flexibly when assemble bearing by pressure.
10. Oil seal assembly: pay attention to seal side is in the side of oil, logo side outwards, seal side be painted with grease, and make sure seal side without scratch and oil seal be vertical.
11. Before assembly, sealing material attached to all engine covers and crank case combination surface should be cleaned.
12. Before assembly engine, be familiar with engine lubrication circuit, clean and blow oil circuit.

ENGINE

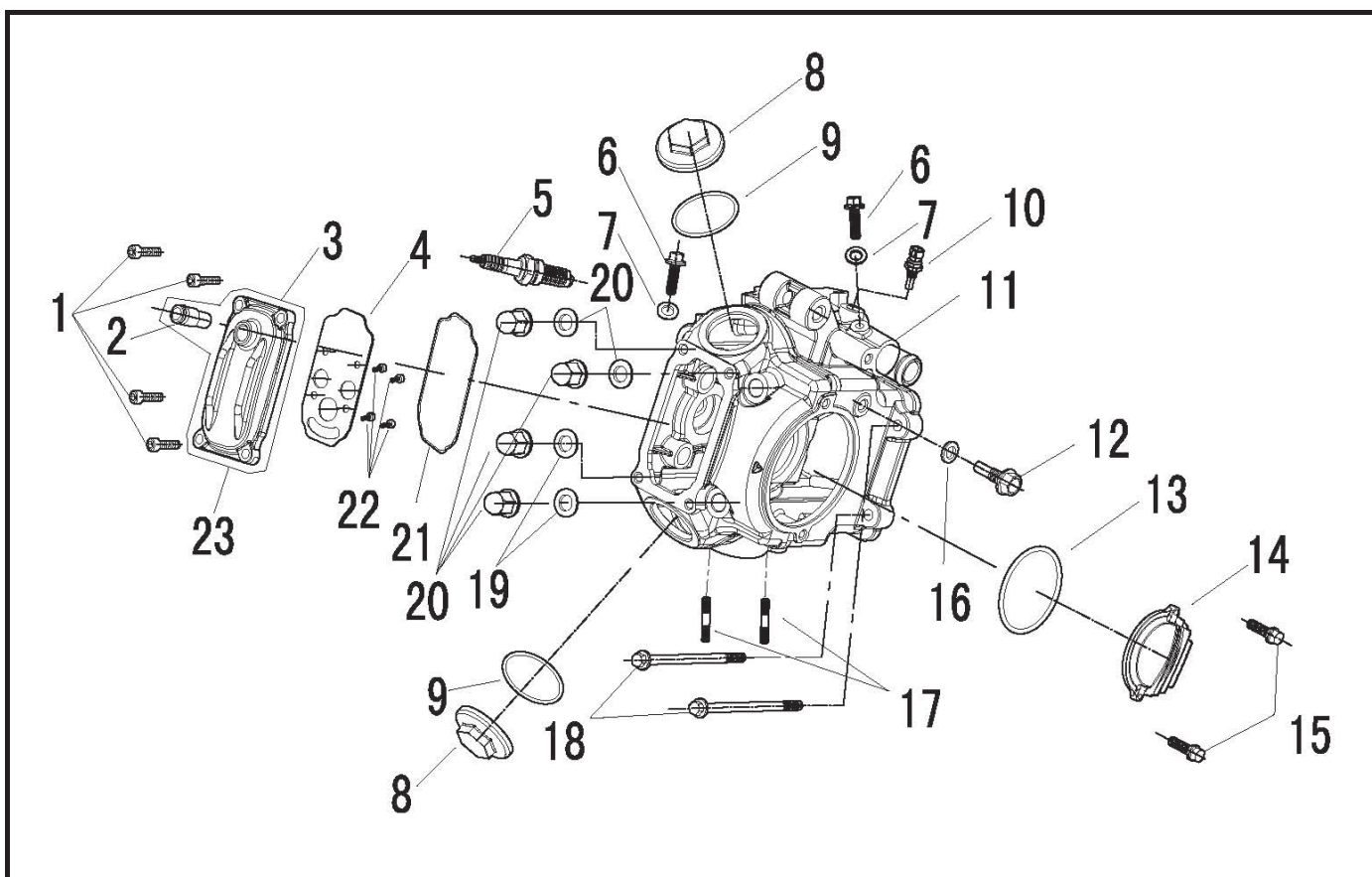
ENGINE REMOVAL



No.	Part Name	Qty	Remarks
	Removing throttle and intake manifold.		Remove the parts in the order listed.
1	Cylinder screw M6×20 Inner	2	
2	Fuel injector fixed seat	1	
3	Injector	1	
4	Cylinder screw M6×25 Inner	2	
5	Intake-tube	1	
6	Joint inlet pipe	1	
7	Inlet pipe hoop	2	
8	Throttle (D34)	1	
			For installation, reverse the removal procedure.

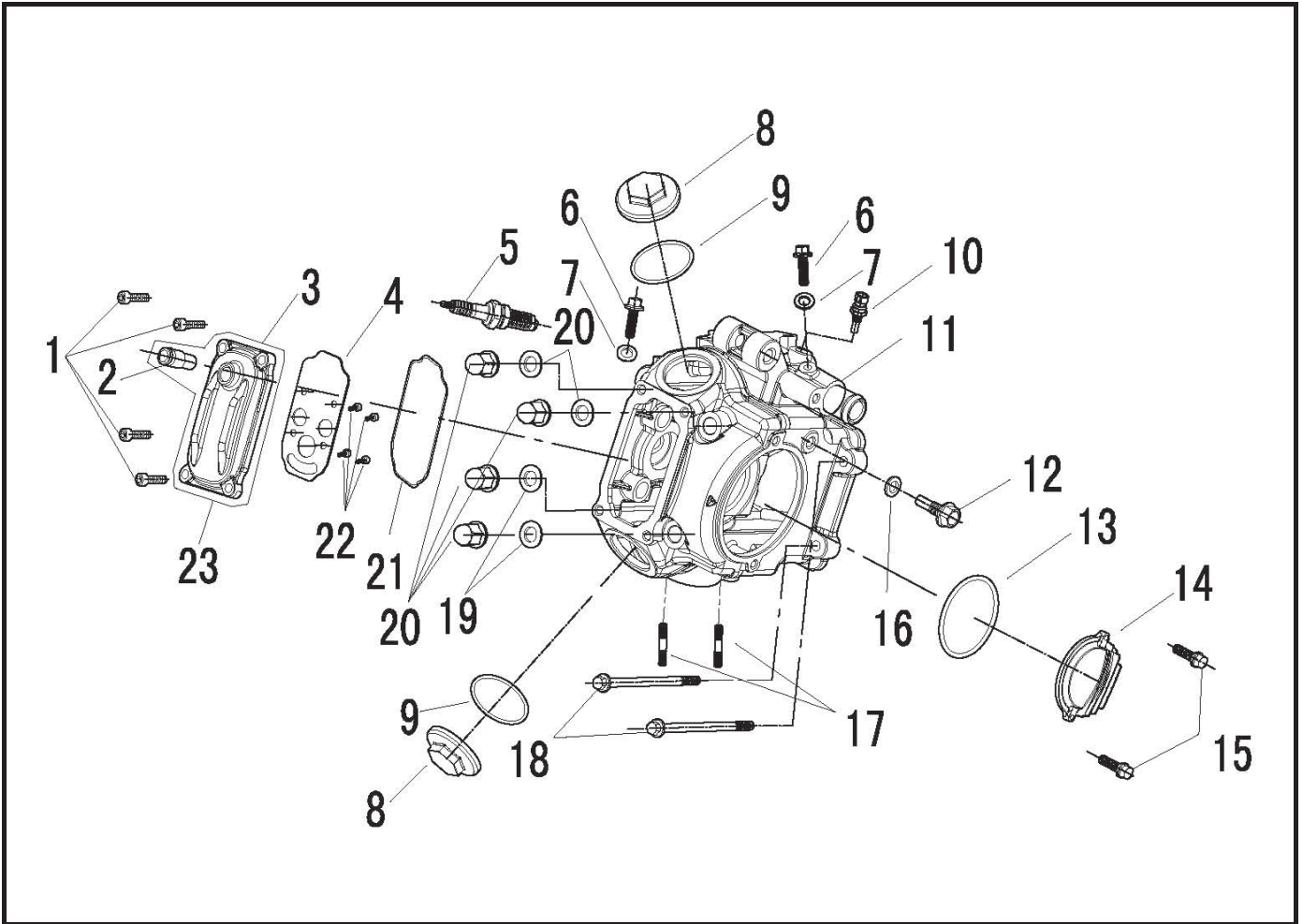
ENGINE

CYLINDER HEAD AND CYLINDER HEAD COVER



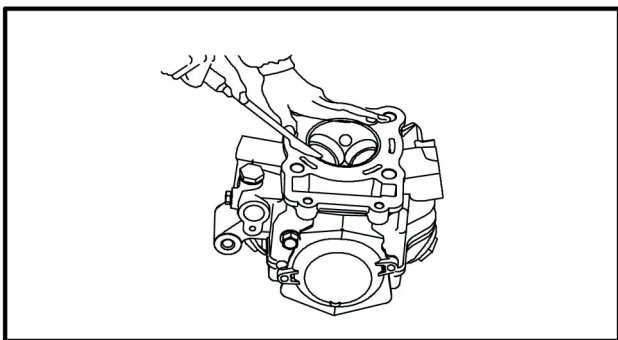
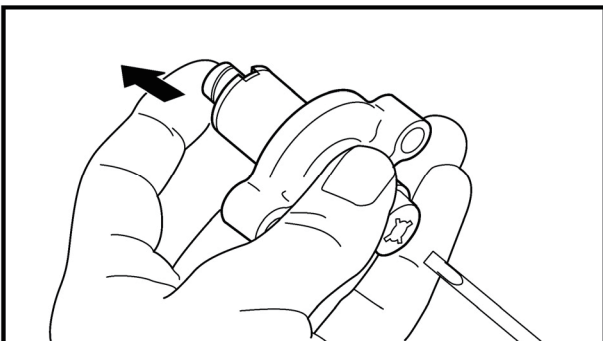
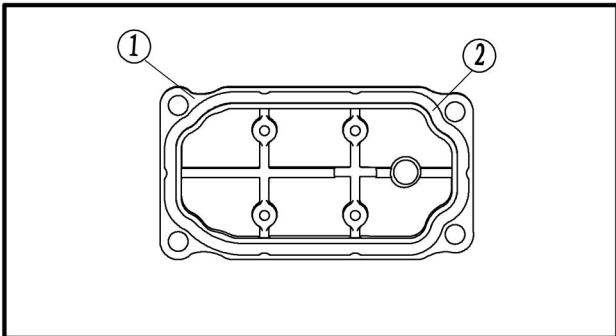
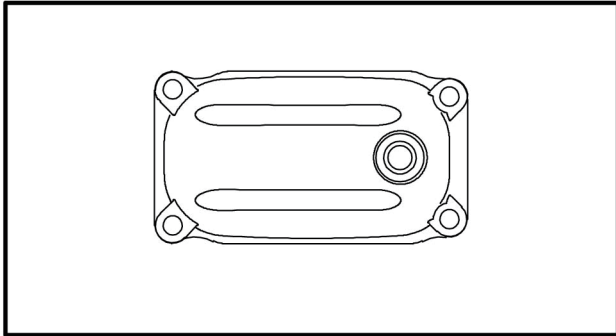
No.	Part Name	Qty	Remarks
	Removing the cylinder head and cylinder head		Remove the parts in the order listed.
1	Hexagon socket screw M6×20	4	
2	Exhaust nozzle	1	
3	Cylinder head cover	1	
4	Oil vapor separation plate	1	
5	Spark plug	1	
6	Flange bolt M6×14	2	
7	Aluminum gasket 6×12×1.5	2	
8	Valve cover	2	
9	O-RING Φ36×3.5	2	
10	Water temperature sensor	1	
11	Cylinder head comp	1	
12	Tension plate shaft bolt M8×32	1	
13	O-Ring Φ75×2.5	1	

ENGINE



No.	Part Name	Qty	Remarks
14	Left cylinder head cover	1	
15	Flange bolt M6×20	2	
16	Washer Φ8×Φ15×2	1	
17	Stud bolt M8×45	2	
18	Flange bolt M6×110	2	
19	Copper washer Φ10.5×Φ18×2	4	
20	Cap nut M10	4	
21	O-Ring Φ78×3	1	
22	Hexagon socket screw M4×12	4	
23	Cylinder head cover assembly	1	
			For installation, reverse the removal procedure.

ENGINE



1. CHECK

1). Checking the valve clearance

- Valve clearance

2). Checking the cylinder head cover

- cylinder head cover

Cracks/damage → Replace the cylinder head cover and cylinder head as a set.

3). Checking the tappet covers

- Cylinder head cover ①

Cracks/damage → Replace.

- Cylinder cover pad ②

NOTE:

When installing, new replacement washer and apply wheel bearing grease LS.

4). Removing the screwdriver and slowly release the timing chain tensioner rod.

NOTE:

Make sure that the timing chain tensioner rod comes out of the timing chain tensioner housing smoothly. If there is rough movement, replace the timing chain tensioner.

5). Checking the cylinder head (1). Eliminate:

- carbon deposits (from the combustion chamber)

Use a rounded scraper.

NOTE:

Do not use a sharp instrument to avoid damaging or scratching:

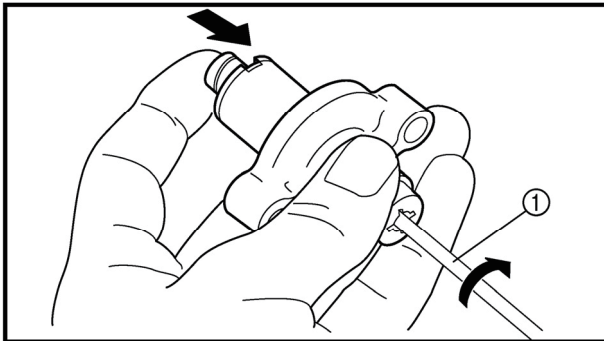
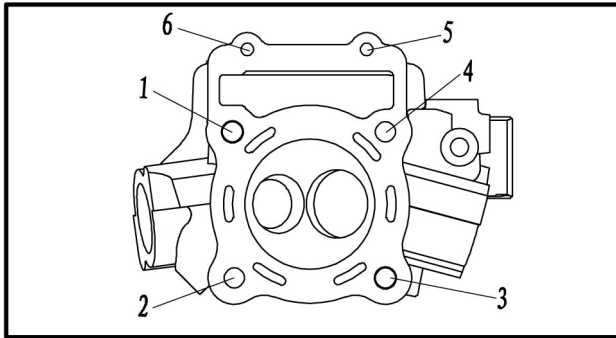
- spark plug threads
- valve seats

(2). Check:

- cylinder head

Scratches/damage → Replace the cylinder

ENGINE



head cover and cylinder head as a set.

- cylinder head water jacket
Mineral deposits/rust → Eliminate.

2. INSTALL

1). Installing the cylinder head

- cylinder head gasket
- cylinder head
- bolts (M9: 1 ~ 6, 38Nm)
- bolts (M6: 7, 10Nm)

NOTE:

- **Tighten the bolts in the proper sequence.**
- **Follow the numerical order shown in the illustration. Tighten the bolts in two stages.**

- timing chain guide (exhaust side)
- timing chain tensioner

a. Lightly press the timing chain tensioner rod into the timing chain tensioner housing by hand.

b. While pressing the timing chain tensioner rod, wind it clockwise with a thin screwdriver ① until it stops.

c. With the screwdriver still inserted into the timing chain tensioner, install the timing chain tensioner and gasket onto the cylinder block. Then, tighten the timing chain tensioner bolts to the specified torque.

WARNING:

Always use a new gasket.

NOTE:

The “UP” mark on the timing chain tensioner should face up.

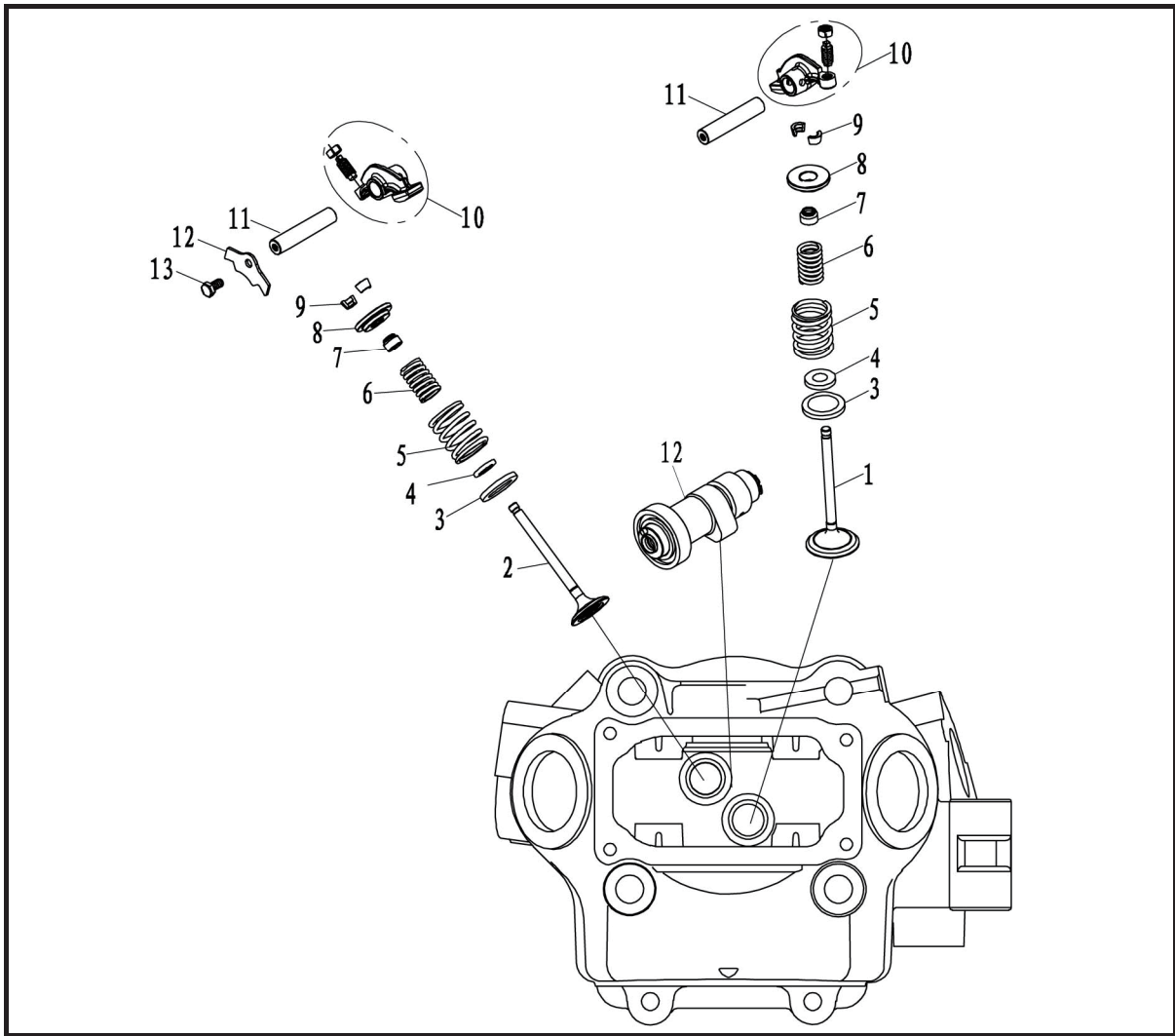
Timing chain tensioner bolt (10 Nm)

d. Remove the screwdriver, make sure that the timing chain tensioner rod releases, and tighten the cap bolt to the specified torque.

Timing chain tensioner cap bolt (7 Nm)

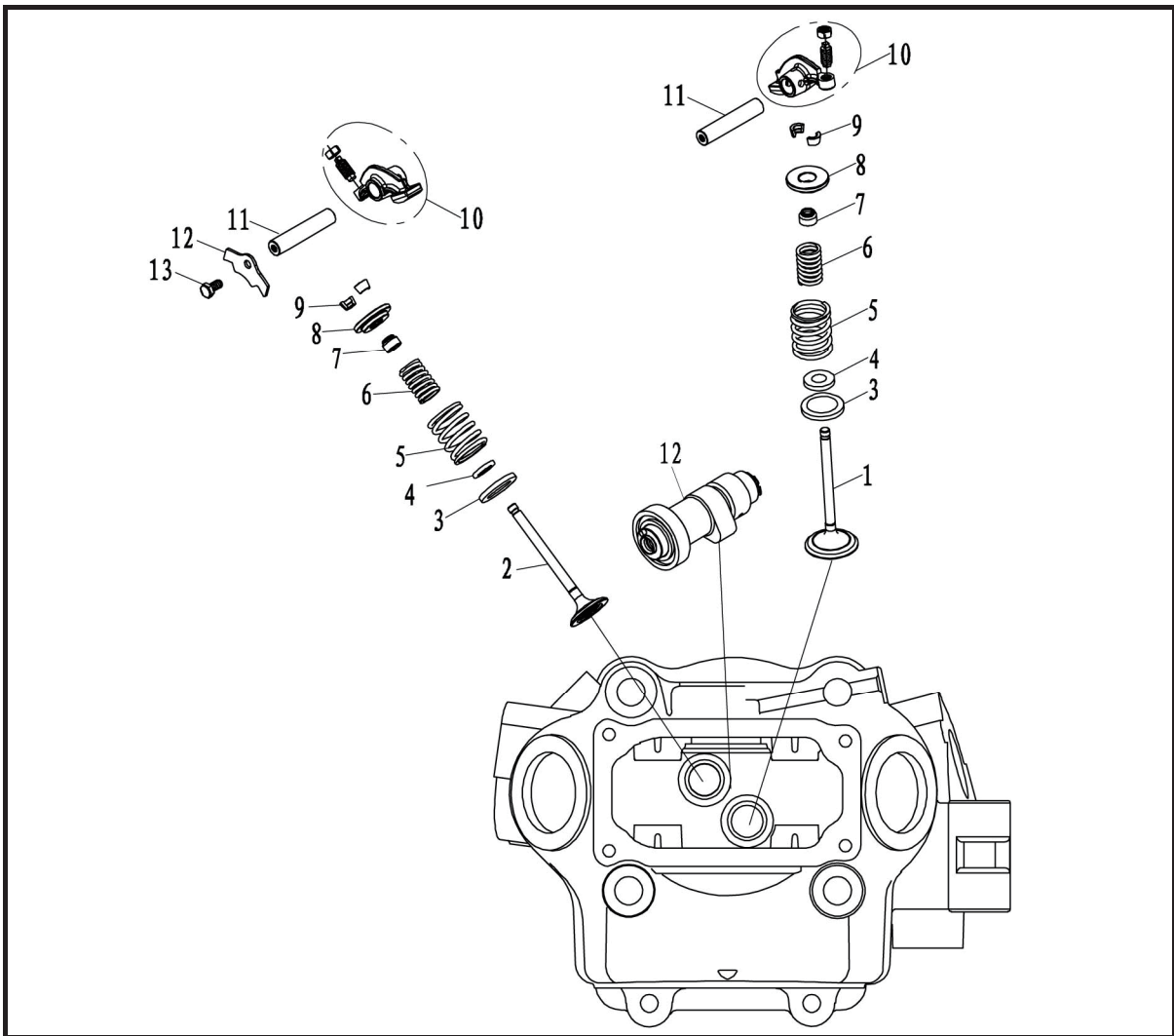
ENGINE

ROCKER ARMS, VALES AND CAMSHAFT



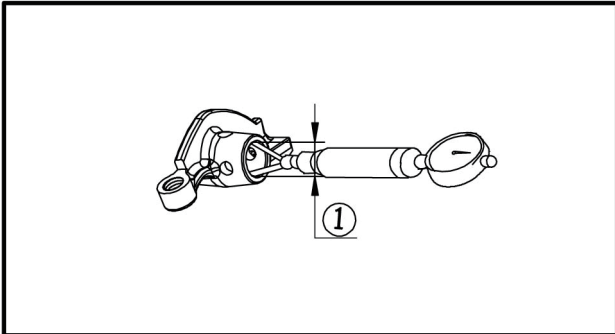
No.	Part Name	Qty	Remarks
	Removing the rocker arms and Camshaft		Remove the parts in the order listed.
1	Inlet valve	1	
2	Outlet valve	1	
3	Valve spring holder	2	
4	Inner valve spring holder	2	
5	Spring valve outer	2	
6	Spring, valve inner	2	
7	Fuel shield cover comp	2	
8	Valve seat	4	
9	Valve key	2	
10	Swing arm comp valve	2	

ENGINE



No.	Part Name	Qty	Remarks
11	Rocker shaft	2	For installation, reverse the removal procedure.
12	Pressure plate cam shaft	1	
13	Hexagon bolt M6×12	1	

ENGINE



1、 CHECK

1). Checking the rocker arms

- rocker arm lobes
- valve adjusters
Blue discoloration/pitting/scratches → Replace.
- rocker arms
- rocker arm shafts
Damage/wear → Replace.

- Check whether the rocker arm is worn out, or damaged and whether the oil hole is blocked.
- If there is a rocker arm to be replaced, check the camshaft prominent position of unfairness.
- Measure the inside diameter of the rocker arm holes ①.

Out of specification → Replace.

Rocker arm inside diameter repairing limit value

Φ12.05mm

- Check the surface of the rocker arm shafts.
Worn/pitting/scratches → Replace.
- Measure the external diameter of rocker arm shaft with micrometer.
Out of specification → Replace.

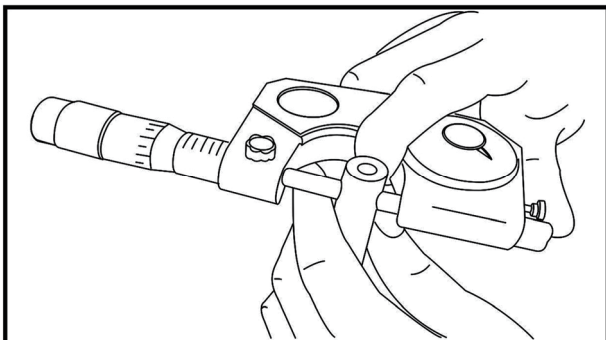
Rocker arm shaft outside diameter repairing limit value

Φ11.96mm

- Calculate the clearance by subtracting the rocker arm shaft outside diameter from the rocker arm inside diameter.
Out of specification → Replace the defective part(s).

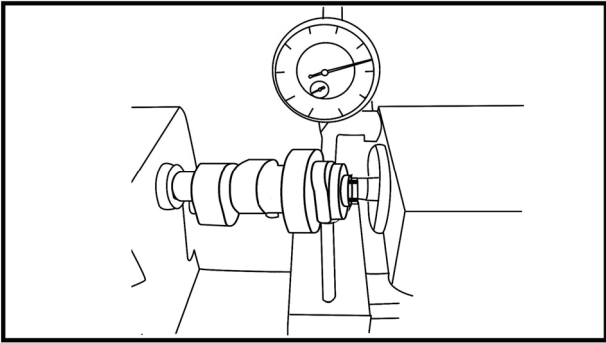
Rocker arm to shaft clearance repairing limit value

0.06mm



2). Checking the camshaft

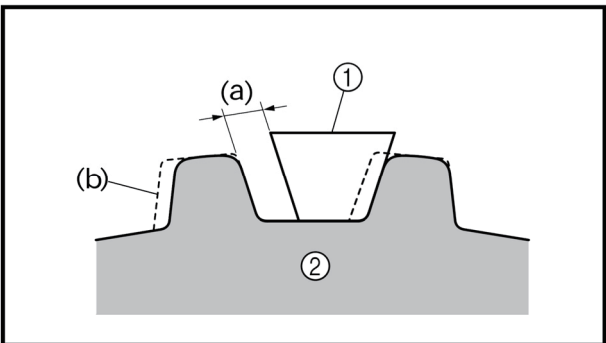
ENGINE



- cam lobes
Pitting/scratches/blue discoloration → Replace
- camshaft journal
Wear/damage → Replace
- Measure the external diameter of camshaft journal with micrometer.
Out of specification → Replace.
- small holes on camshaft sprocket
- rotor "I" mark
Out of alignment

3). Checking the camshaft sprocket

- camshaft sprocket
Wear/damage → Replace the camshaft sprocket and timing chain as a set.
- (a) 1/4 of a tooth
(b) Correct
- ① Timing chain
 - ② Sprocket



4). Checking the decompression system

- decompression system
Check while the camshaft sprocket is installed on the camshaft.

2. INSTALL

1). Installing the rocker arms

- rocker arms
- rocker arm shafts

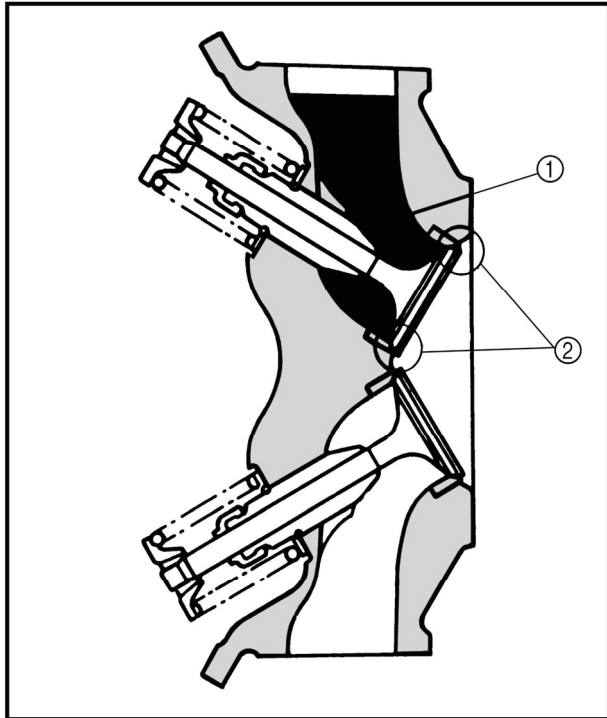
NOTE:

- After installation, make sure that the thread hole of the rocker arm shaft is positioned correctly.
-

2). Installing the camshaft

- camshaft
- camshaft sprocket

ENGINE



1、CHECK

- valve sealing
Leakage at the valve seat → Check the valve face, valve seat and valve seat width.
- a. Pour a clean solvent ① into the intake and exhaust ports.
- b. Check that the valve seals properly. There should be no leakage at the valve seat ②.
- valve face
Pitting/wear → Grind the face.
- valve stem end
Mushroom shape or diameter larger than the body of the stem → Replace.
- valve seats
Pitting/wear → Reface the valve seat.

2、MEASURE:

1).Measure:

- The valves surface width

Repairing limit value 2.0mm

- stem-to-guide clearance

Stem-to-guide clearance = valve guide inside diameter – valve stem diameter

NOTE:

If the mating surface is coarse, corrode or cannot contact with valve seat normally, replace it.

Stem-to-guide clearance repairing limit value

Intake:0.08mm Exhaust:0.10mm

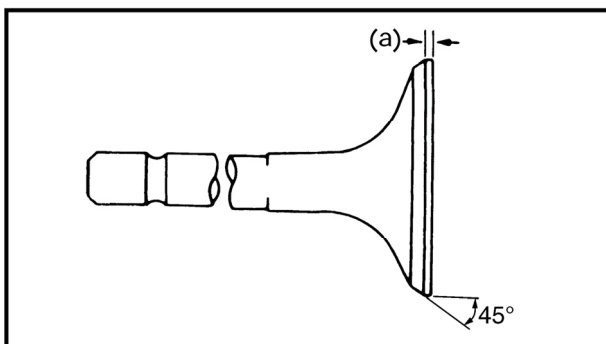
- margin thickness (a)

Out of specification → Replace.

Margin thickness

Intake:2 mm

Exhaust:2.2 mm

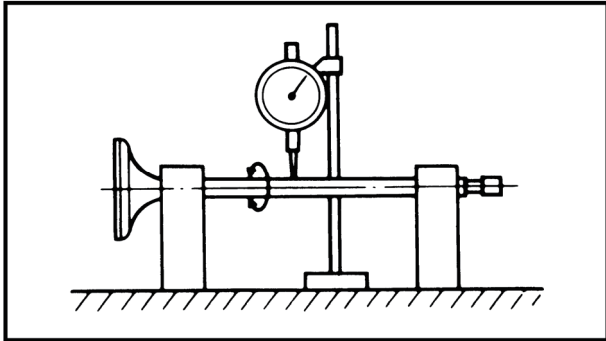


- valve stem runout

Out of specification → Replace.

Runout limit 0.01 mm

ENGINE



NOTE:

- When installing a new valve always replace the guide.
- If the valve is removed or replaced always replace the oil seal.

- The valve seat surface width
Out of specification → Reface the valve seat.

Repairing limit value
2.0mm

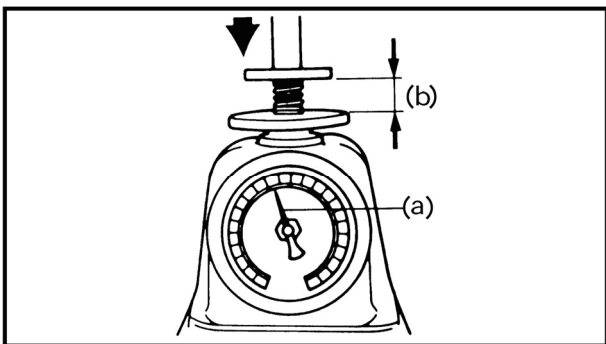
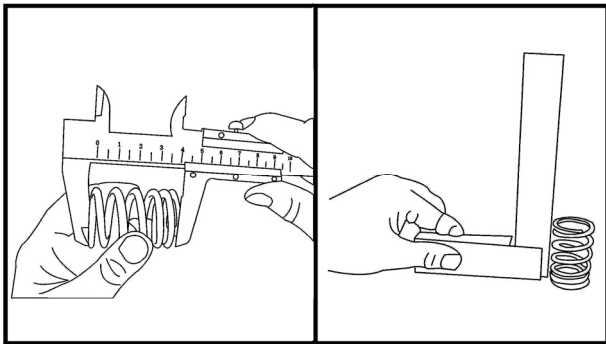
- Install the valve into the cylinder head.
- Press the valve through the valve guide and onto the valve seat to make a clear pattern.
- Measure the valve seat width. Where the valve seat and valve face made contact, blueing will have been removed.

- Valve spring free length
 - Valve spring squareness
- Out of specification → Replace.

Valve spring free length
Intake:44.9mm Exhaust44.9mm
Valve spring squareness
Intake:1.60mm Exhaust 1.60mm

- compressed spring force(a)
- Out of specification → Replace.
- (b) Installed length

Compressed spring force
Intake: 470 N at 24.5 mm
Exhaust: 270 N at 31.0 mm



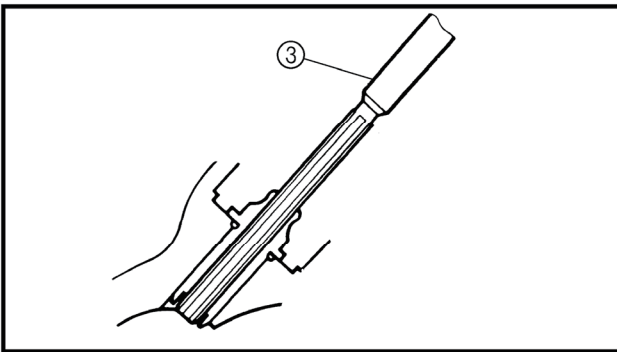
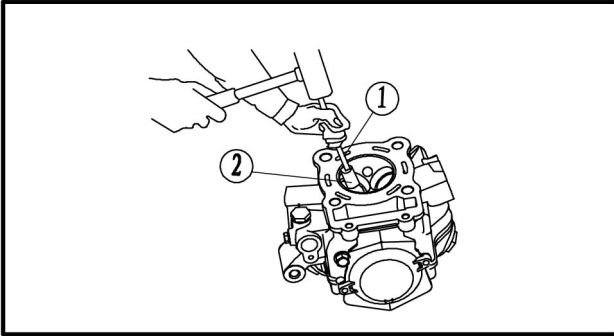
- Remove:
 - valve guide

NOTE:

To ease guide removal, installation and to maintain correct fit, heat the cylinder head to 100 °C (212 °F) in an oven.

- Install the new valve guide using a valve guide remover ① and valve guide installer ②.
- After installing the valve guide, bore the valve guide using a valve guide reamer ③ to obtain proper stem-to-guide clearance.

ENGINE



NOTE:

After replacing the valve guide reface the valve seat.

- c. If the valve seat is too wide or narrow or cracked, grind it to ensure impermeability.
- 3). Lap:
 - valve face
 - valve seat

NOTE:

After reface the valve seat or replacing the valve and valve guide, the valve seat and valve face should be lapped.

- a. If the pipe will be replaced, grind the valve seat again.

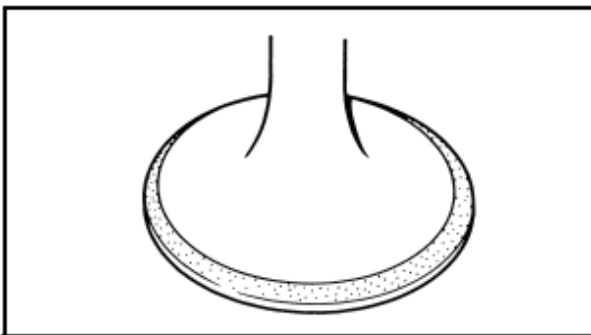
CAUTION:

Do not let the compound enter the gap between the valve stem and the guide.

- b. Install the valve into the cylinder head.
- c. Turn the valve until the valve face and valve seat are evenly polished, then clean off all of the compound.

NOTE:

For best lapping results, lightly tap the valve seat while rotating the valve back and forth between your hands.



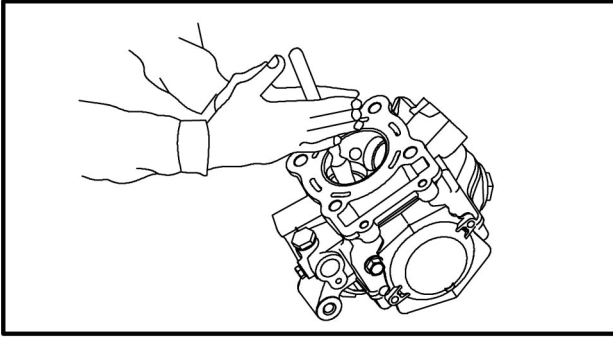
- d. Apply a fine lapping compound to the valve face and repeat the above steps.

NOTE:

After every lapping operation be sure to clean off all of the compound from the valve face and valve seat.

- e. Install the valve into the cylinder head.
- g. Press the valve through the valve guide and onto the valve seat to make a clear pattern.
- h. Measure the valve seat width again. If the valve seat width is out of specification, reface and relapse the valve seat.

ENGINE



3. INSTALL:

1). Apply:

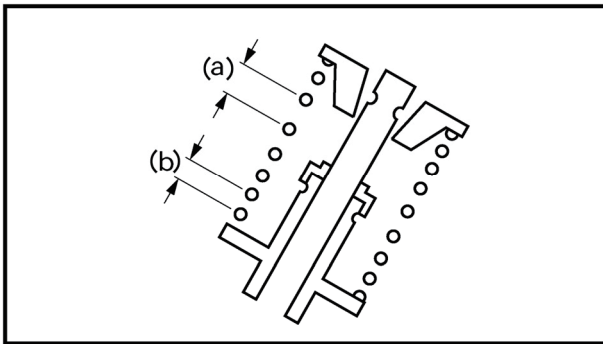
- molybdenum disulfide oil (onto the valve stem and valve stem seal)

2). Install:

- valve spring seats
- valve stem seals
- valves
- valve springs
- valve spring retainers

NOTE:

Install the valve springs with the larger pitch (a) facing upwards.

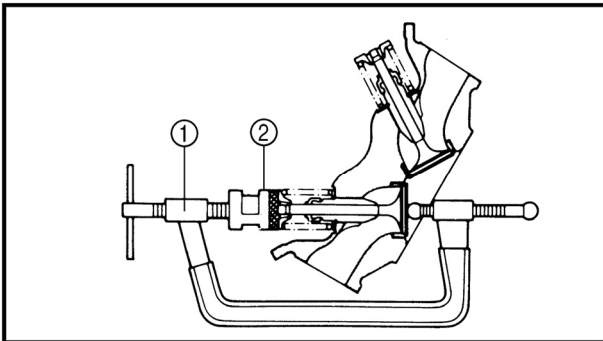


(b) Smaller pitch

- valve cotters

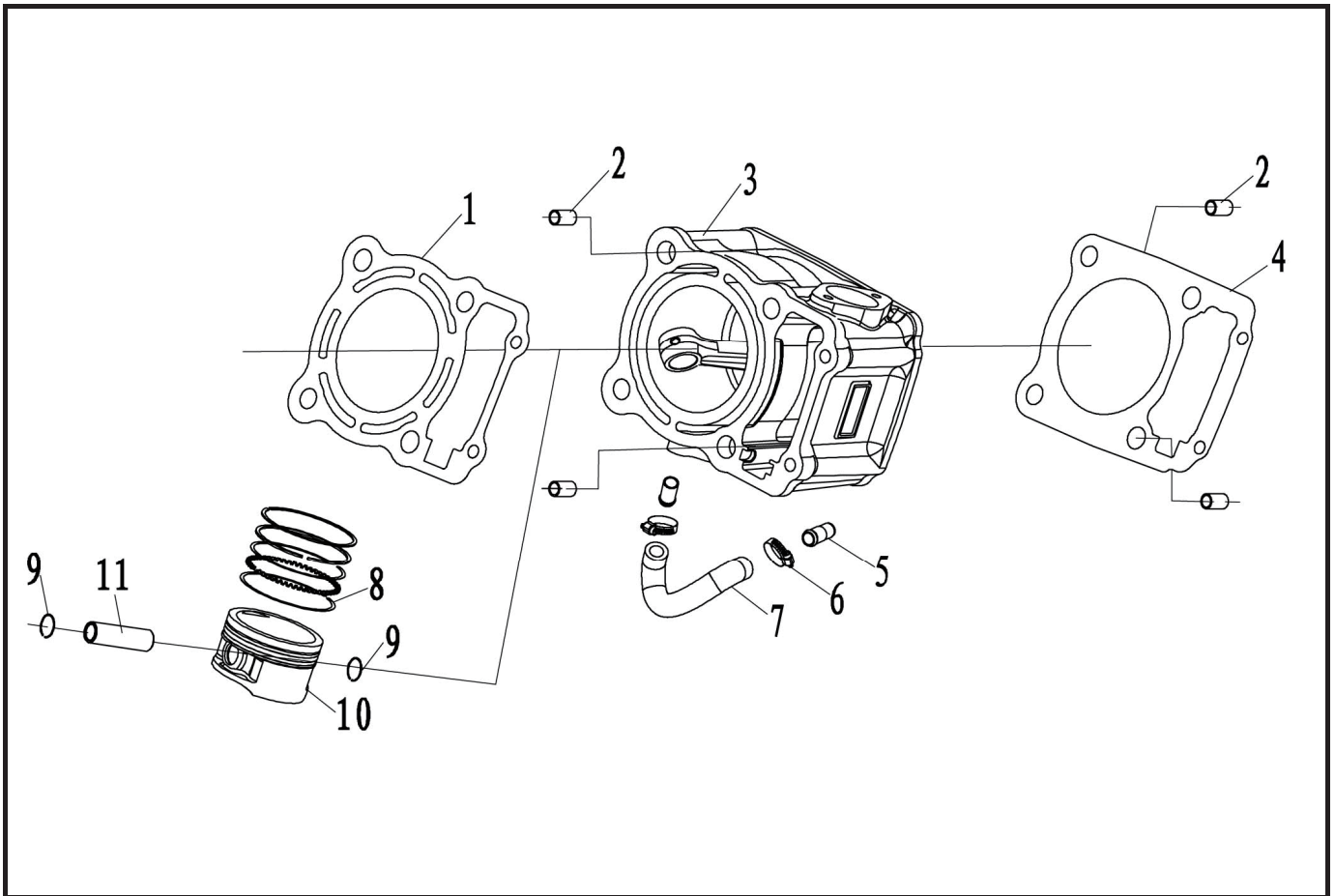
NOTE:

Install the valve cotters while compressing the valve spring with the valve spring compressor ① and valve spring compressor attachment ②.



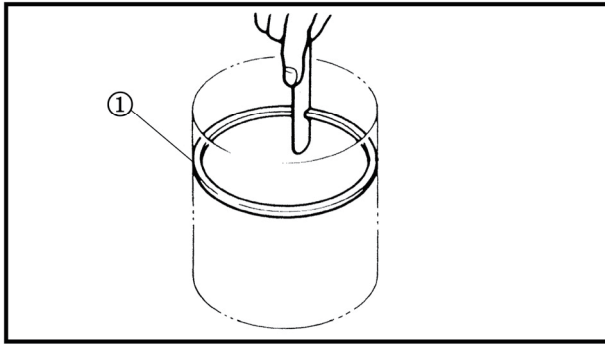
ENGINE

CYLINDER AND PISTON



No.	Part Name	Qty	Remarks
	Removing the cylinder and piston		Remove the parts in the order listed.
1	Cylinder head gasket	1	
2	Location pin $\Phi 12 \times 16$	4	
3	Cylinder body comp	1	
4	Gasket cylinder body	1	
5	Water pipe connector $\Phi 18$	1	
6	Hoop 12/20	2	
7	Water pipe	1	
8	Piston ring	1	
9	Circlip piston pin	2	
10	Piston	1	
11	Piston pin	1	
			For installation, reverse the removal procedure.

ENGINE

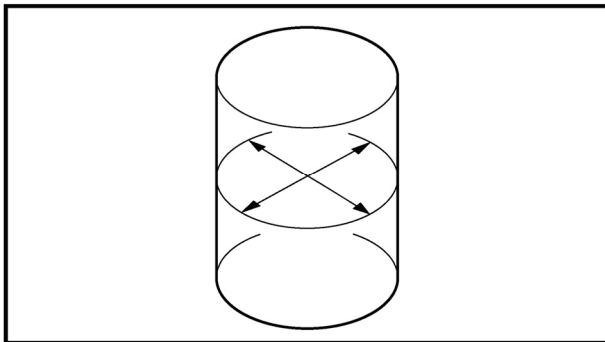


1、CHECK

- 1).Checking the cylinder and piston
 - cylinder and piston walls Vertical scratches → Rebore or replace the cylinder and the piston.
- 2).Checking the piston rings
 - piston ring
(Insert in cylinder piston ring will be ① ,and measure the end gap.)

NOTE:

Check whether the piston and the piston groove is cracked and abraded.



- 3).Checking the piston pin

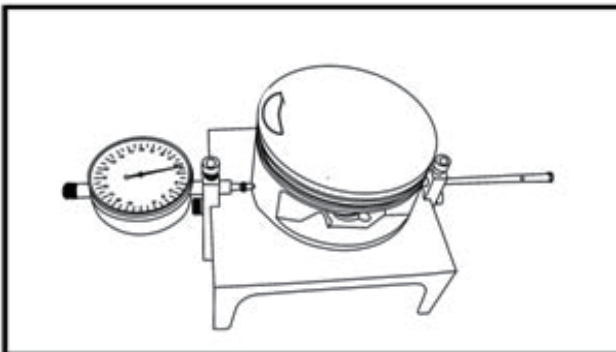
- piston pin
Blue discoloration/grooves → Replace, then check the lubrication system.

2、MEASURE

- At the top, the middle and the bottom of the piston stroke.

NOTE:

Measure the bore diameter at directions of right-angle intersection.



Repairing limit value

Out of roundness:0.10mm

Taper:0.10mm

- The external diameter 10mm above the bottom of the piston skirt.。

NOTE:

Repair limit on the clearance between the piston and cylinder.

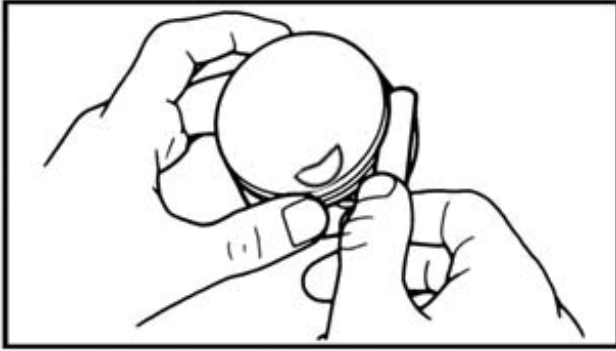
Repairing limit value 0.10mm

- ring end gap
Out of specification → Replace.

Repairing limit value

Top ring/2nd ring:0.5mm

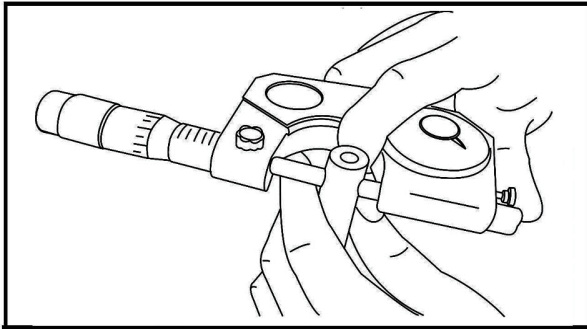
ENGINE



- ring side clearance
Use a thickness gauge.
- Out of specification → Replace the piston and rings as a set.

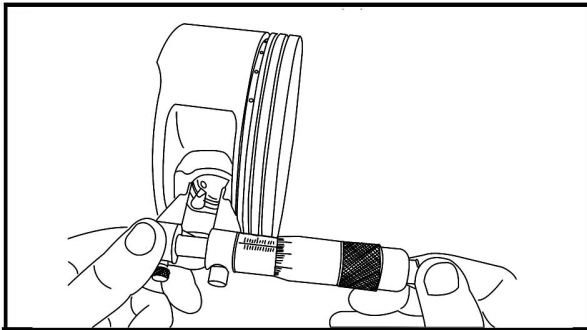
NOTE:

Clean carbon from the piston ring grooves and rings before measuring the side clearance.



	Side clearance	
	Standard	Limit
Top ring	0.04~0.08mm	0.13mm
2nd ring	0.03~0.07mm	0.13mm

- piston pin-to-piston clearance.
- Measure the piston pin outside diameter.
 - Measure the piston pin bore inside diameter.



Repairing limit value

0.08mm

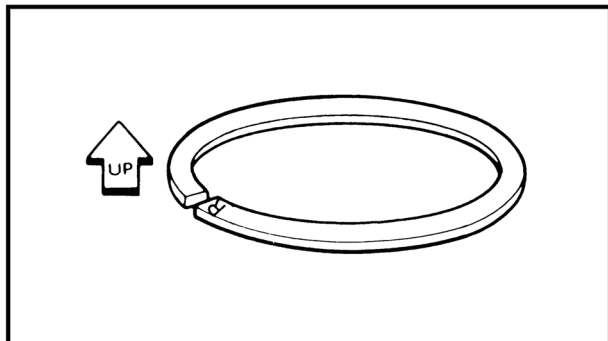
- Calculate the piston pin-to-piston clearance with the following formula.
Piston pin-to-piston clearance = Piston pin bore inside diameter – Piston pin outside diameter
- If out of specification, replace the piston.

3. INSTALL:

- Installing the piston
 - piston rings (onto the piston)

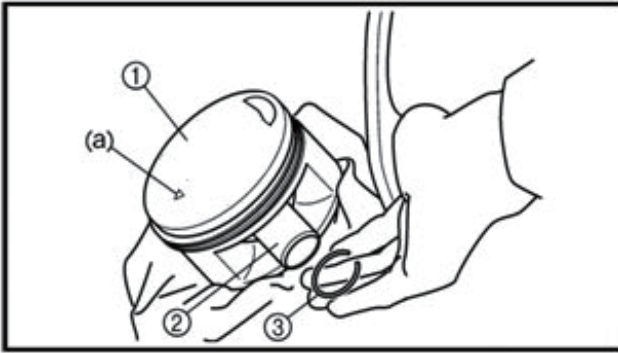
NOTE:

- Be sure to install the piston rings so that the manufacturer's marks or numbers are located on the upper side of the rings.
- Lubricate the piston and piston rings liberally with engine oil.



- piston ①
- piston pin ②
- piston pin clips ③ (new replacement)

ENGINE



NOTE:

- Apply engine oil onto the piston pin, piston rings and piston.
 - Be sure that the arrow mark a on the piston points to the exhaust side of the engine.
 - Before installing the piston pin clip, cover the crankcase with a clean rag to prevent the piston pin clip from falling into the crankcase.
-

2). Installing the cylinder

- cylinder
- O-ring

NOTE:

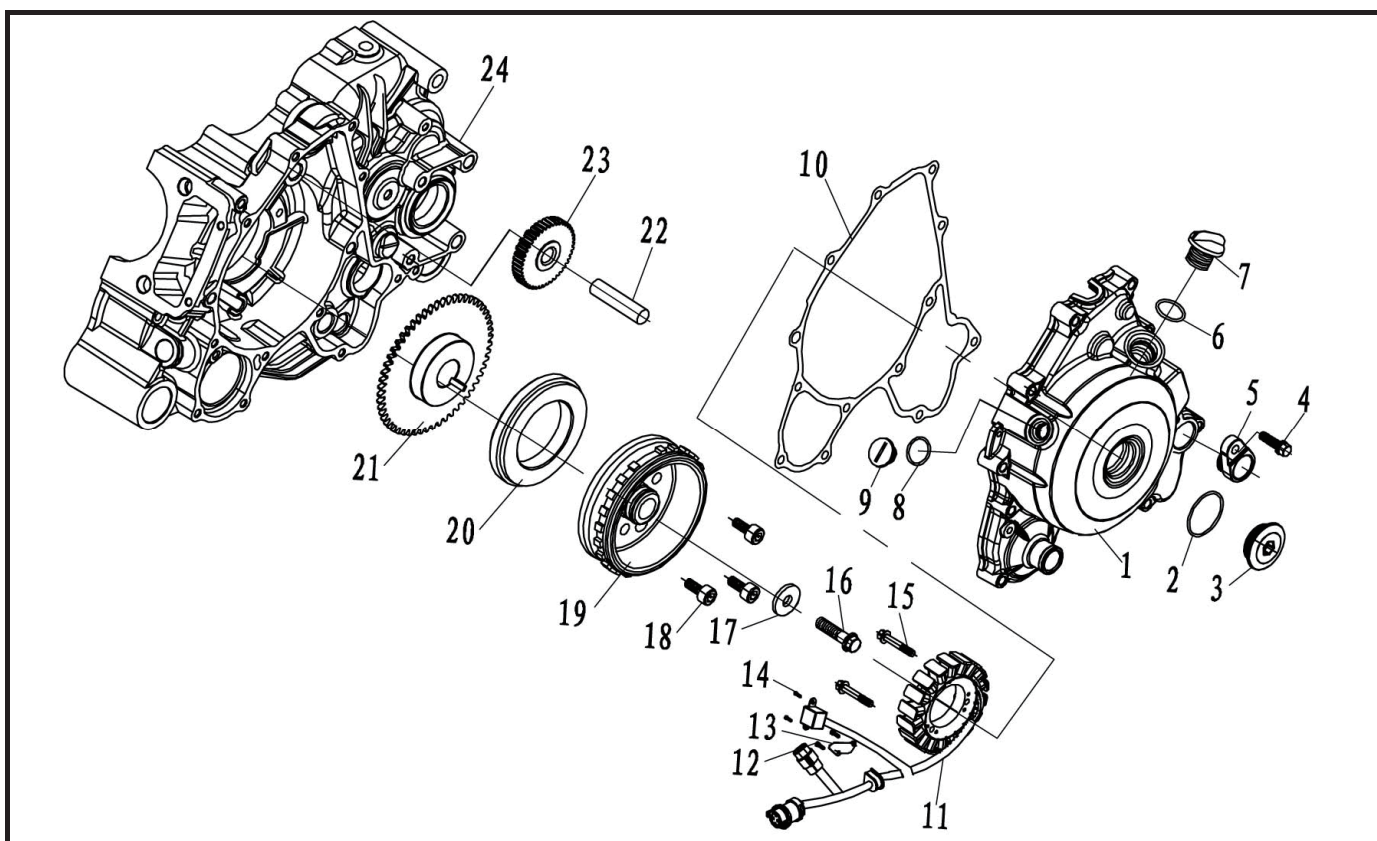
Install the cylinder with one hand while compressing the piston rings with the other hand.

CAUTION:

- Be careful not to damage the timing chain guide during installation.
 - Pass the timing chain through the timing chain cavity.
-

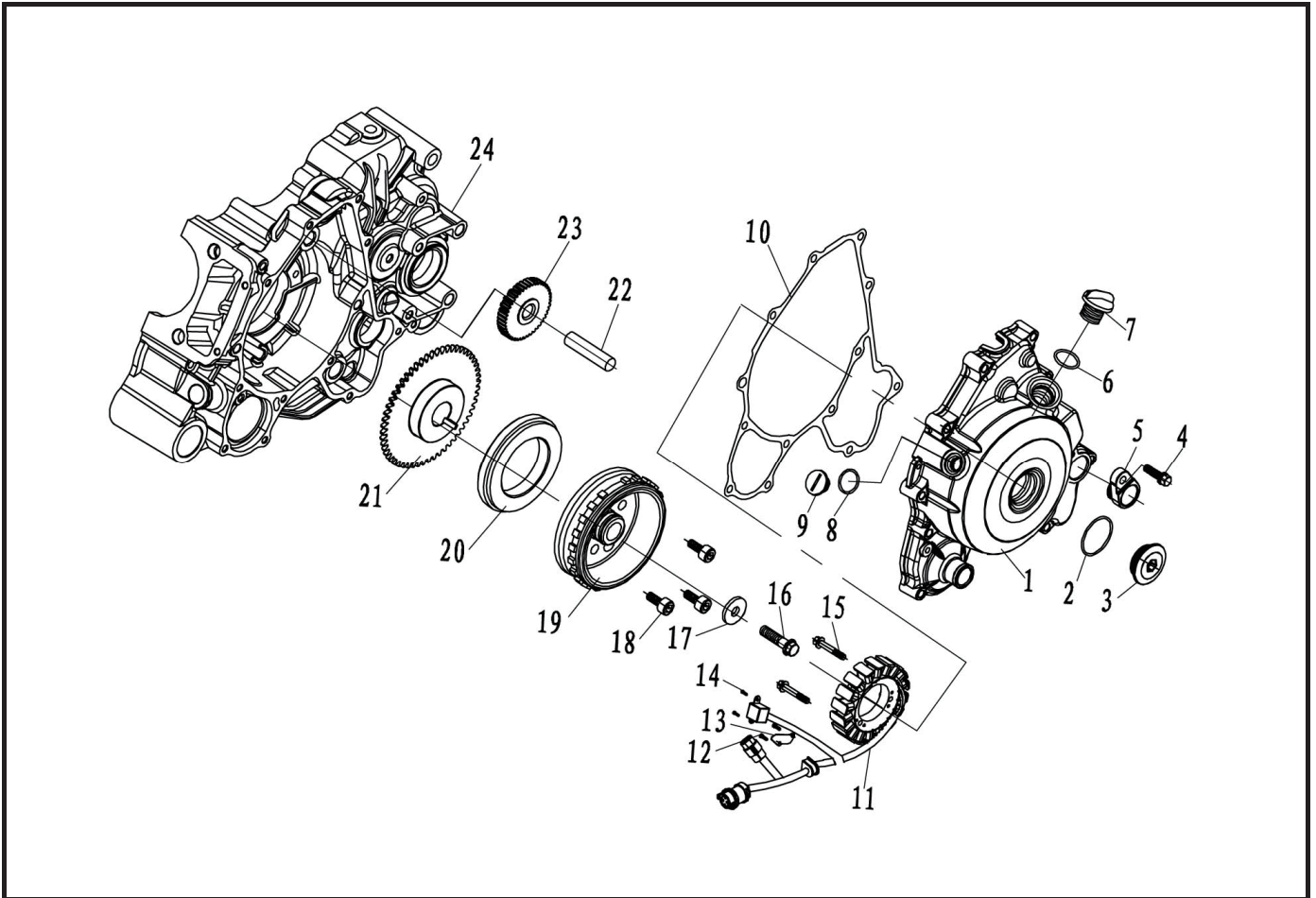
ENGINE

ENGINE LEFT CRANKCASE COVER AND A.C. MAGNETO



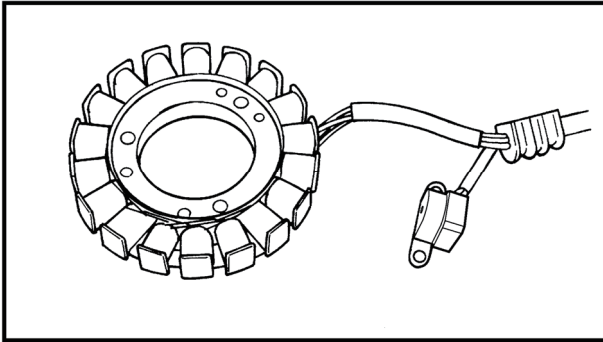
No.	Part Name	Qty	Remarks
	Removing the engine left crankcase over and A.C. magneto		Remove the parts in the order listed.
	Engine oil		
	Water pump assembly		
1	Left crankcase cover	1	
2	O-ring 20.7×2.5	1	
3	Hand hole cover	1	
4	Flange bolt M6×16	1	
5	Gear sensor	1	
6	O-ring 20.7×2.6	1	
7	Oil plug	1	
8	O-ring 13.4×2.35	1	
9	Man head	1	
10	R. Crank case gasket	1	
11	Stator comp	1	
12	Hexagon socket head screws M5×12	2	

ENGINE



No.	Part Name	Qty	Remarks
13	Tension disc	1	
14	Hexagon socket head screws M4×12	2	
15	Flange bolt M6×35	2	
16	Bolt M10×1.25×40	1	
17	Washer 10×32×5	1	
18	Hexagon socket head cap screws M8×16	3	
19	Rotor comp	1	
20	One way machine comp	1	
21	Balanced initiative gear	1	
22	Pair gearwheel shaft	1	
23	Pair gearwheel	1	
24	Left crankcase comp	1	
			For installation, reverse the removal procedure.

ENGINE

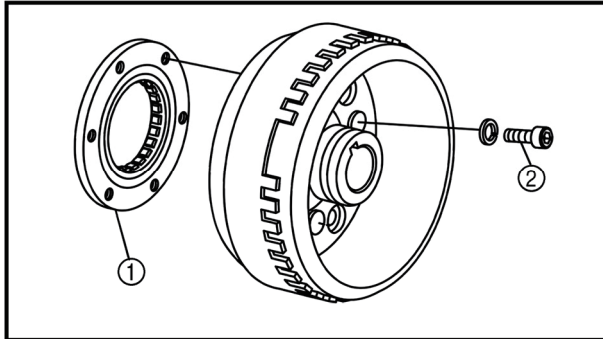


1. CHECK

1). Checking the A.C. magneto

- stator coil
- pickup coil

Damage → Replace.



2). Checking the starter clutch

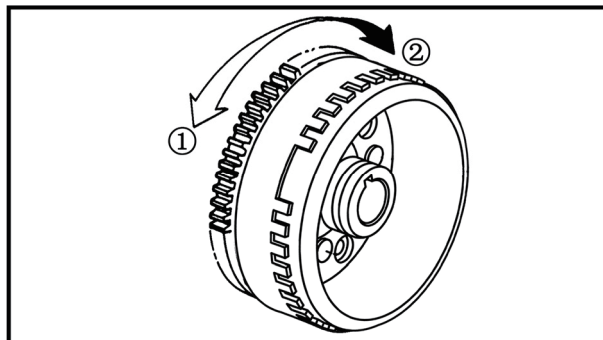
- starter clutch ①
Cracks/damage → Replace.
- starter clutch bolts ②

Loose → Replace with new ones, and clinch the end of the bolts.

NOTE:

- The arrow mark on the starter clutch must face inward, away from the A.C. magneto rotor.
- When installing, apply the locking agent.

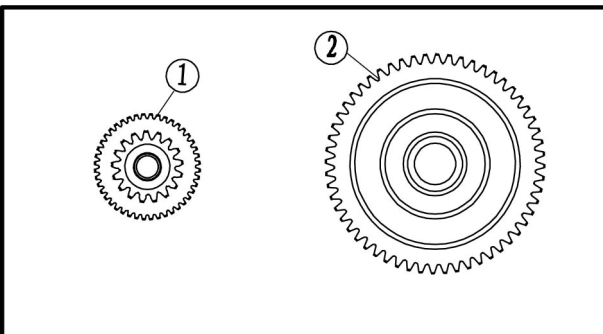
a. Install the starter wheel gear onto the starter clutch, and hold the starter clutch.



b. Turn the starter wheel gear counterclockwise ① to check that the starter clutch and wheel gear engage.

If the starter clutch and wheel gear do not engage, replace the starter clutch.

c. Turn the starter wheel gear clockwise ② to check the starter wheel gear for smooth operation. If operation is not smooth, replace the starter clutch.



- starter idle gear teeth ①
- starter wheel gear teeth ②

Burrs/clips/roughness/wear → Replace.

- starter wheel gear (contacting surface)
Damage/pitting/wear → Replace.

ENGINE

2. INSTALL

- woodruff key
- dowel pins
- A.C. magneto rotor

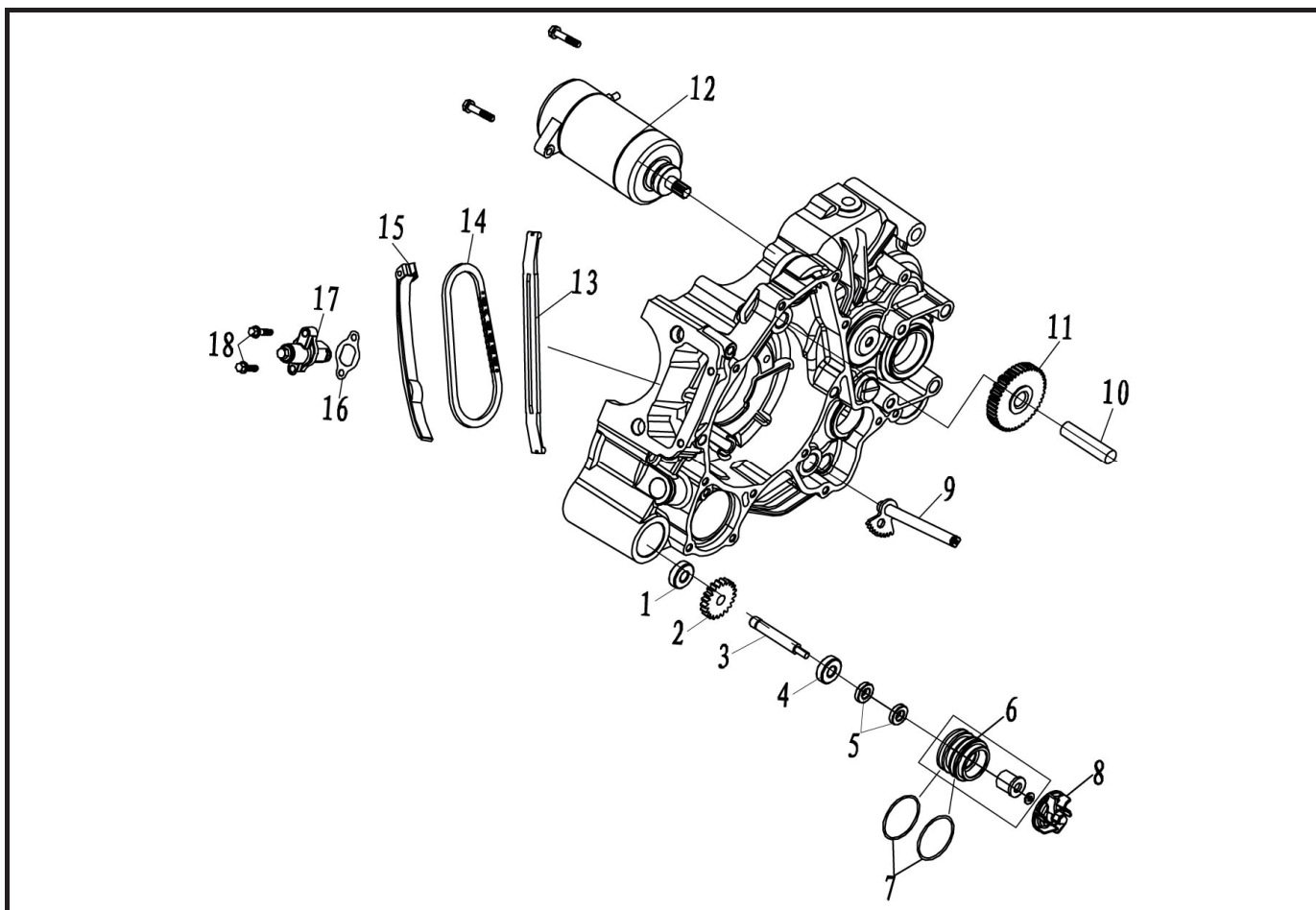
NOTE:

- **Before installing the rotor, clean the outside of the crankshaft and the inside of the rotor.**
 - **After installing the rotor, check that the rotor rotates smoothly. If not, reinstall the key and rotor.**
-

- dowel pins
- gasket (New replacement)

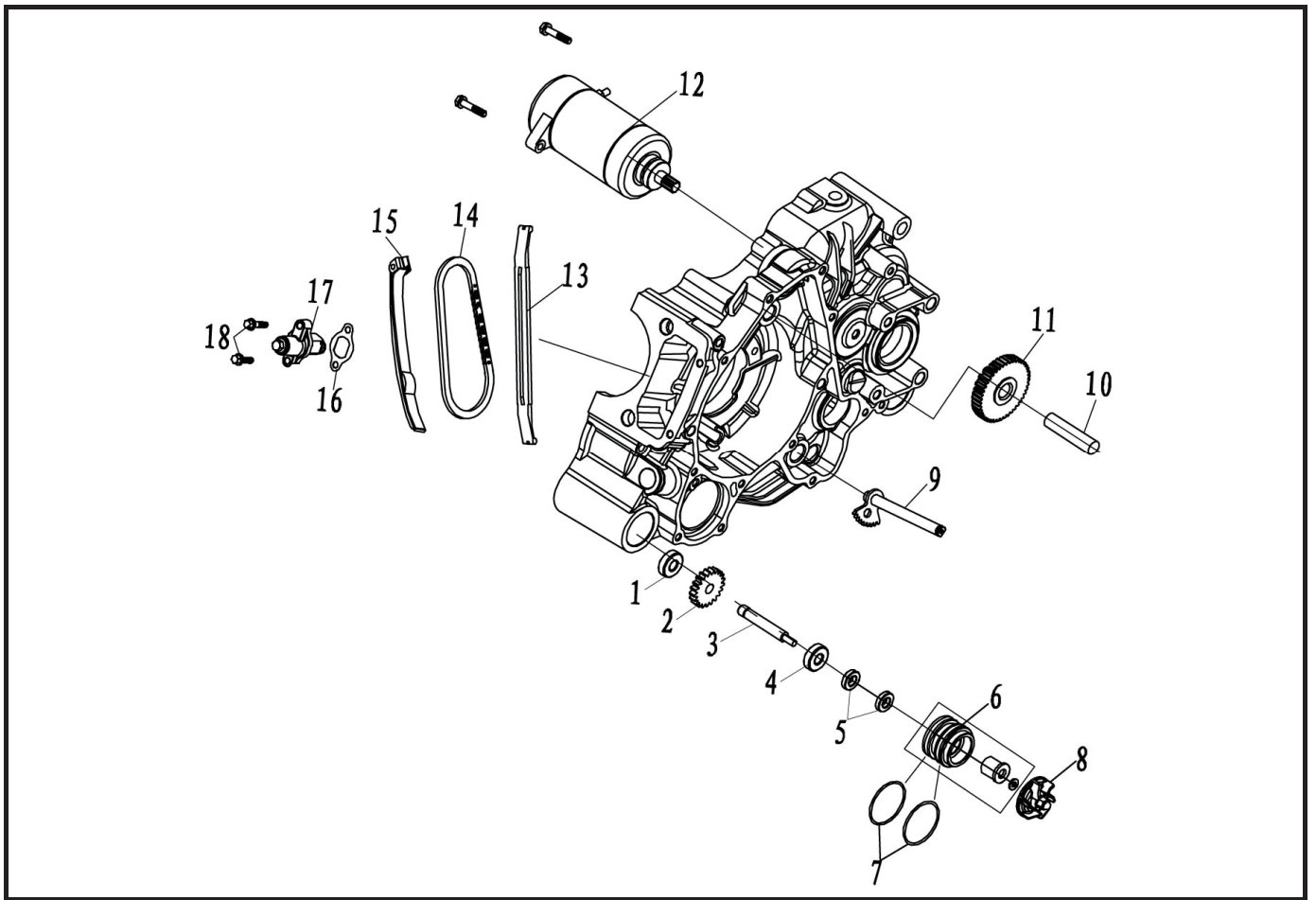
ENGINE

STARTER MOTOR AND WATER PUMP



No.	Part Name	Qty	Remarks
	Removing the starter motor and water pump		Remove the parts in the order listed
1	Needle pin HK1010	1	
2	Water pump driven gear	1	
3	Water pump shaft	1	
4	Bearing 6000	1	
5	Oil seal 10×20×5	2	
6	Water pump bearing soleplate	1	
7	O-ring 38.5×2.5	2	
8	Water pump vane	1	
9	Shift arm components	1	
10	Pair gearwheel shaft	1	
11	Pair gearwheel	1	
12	Start motor	1	

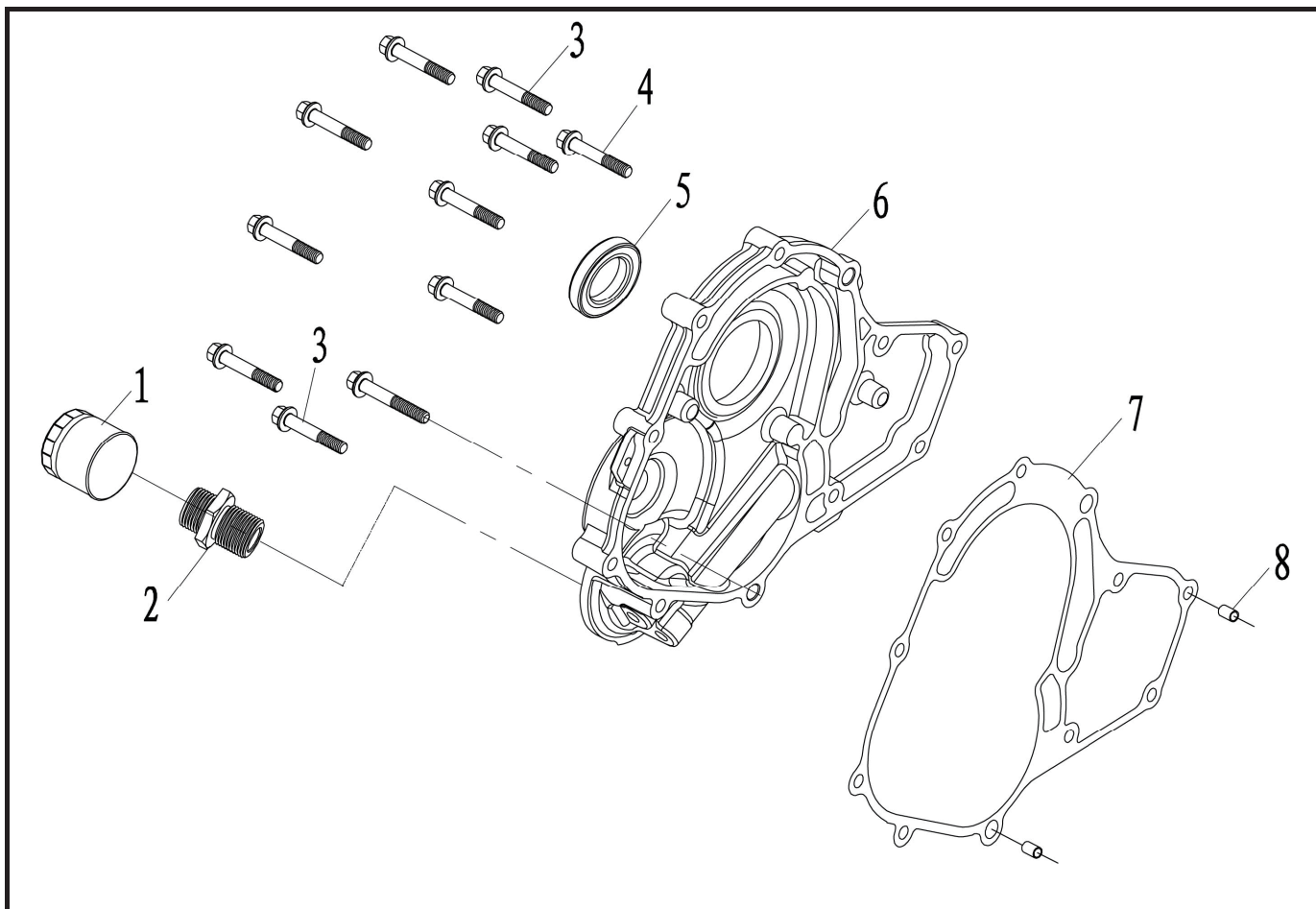
ENGINE



No.	Part Name	Qty	Remarks
13	Tensioner plate assy	1	For assembly, reverse the disassembly procedure.
14	Timing chain 102	1	
15	Guide plate	1	
16	Tensioner gasket	1	
17	Tensioner assy	1	
18	Flange bolt M6×16	2	

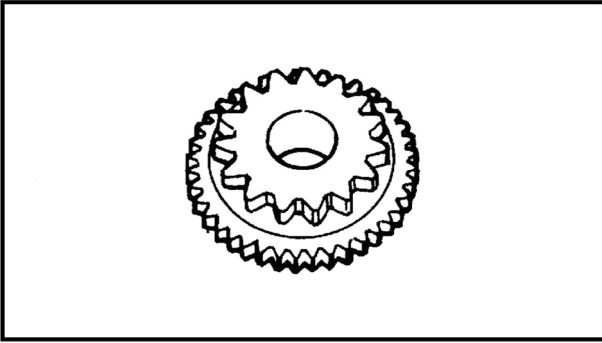
ENGINE

RIGHT CRANKCASE COVER AND OIL FILTER



No.	Part Name	Qty	Remarks
	Removing the right crankcase cover and oil filter		Remove the parts in the order listed For assembly, reverse the disassembly procedure.
1	Oil filter group	1	
2	Connecting head filter	1	
3	Flange bolt M6×40	2	
4	Flange bolt M6×355	8	
5	Oil seal 32×47×7	1	
6	R. Crank case cover	1	
7	R. Crank case gasket	1	
8	Dowel Pin Φ8×12	2	

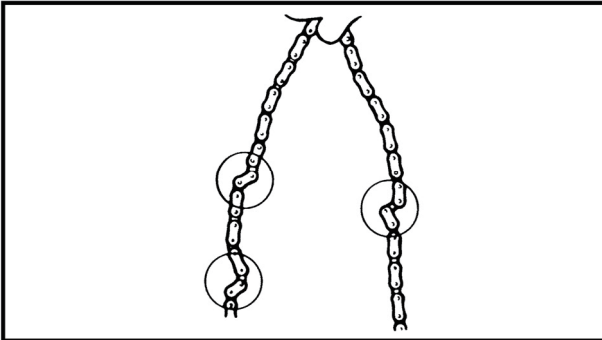
ENGINE



1、 CHECK

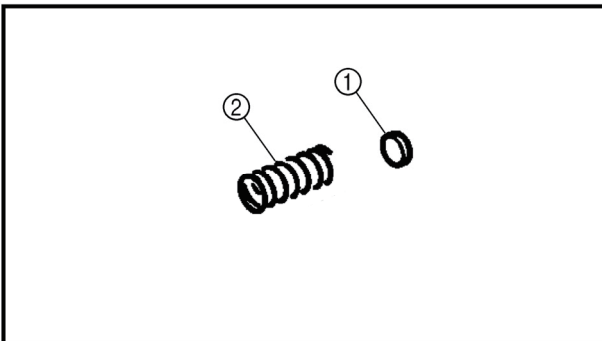
1) Checking the starter idle gear

- starter idle gear
Cracks/wear/damage → Replace



2) Checking the timing chain and guides

- timing chain
Cracks/stiff → Replace the timing chain and camshaft sprocket as a set.
- timing chain guides
Wear/damage → Replace.



3) Checking the relief valve spring

- relief valve steel ball ①
- relief valve spring ②
Damage/wear → Replace the defective part(s).

4) Checking the oil filter cartridge

- Oil filter cartridge
Damage → Replace.
Contaminants → Clean with engine oil.

5) Checking the starter motor

- starter motor
Damage/wear → Replace the defective part(s).

2、 INSTALL

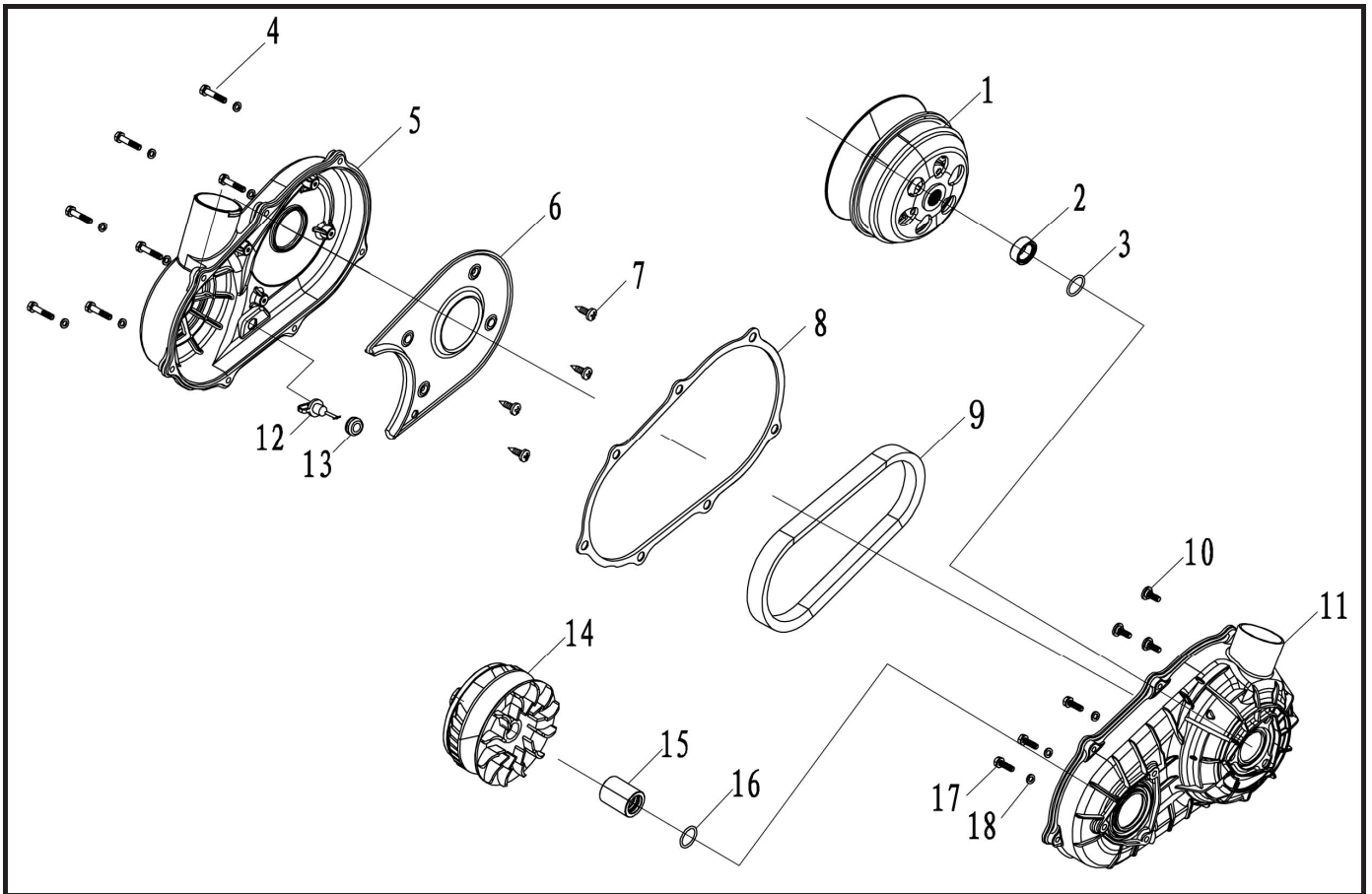
- starter motor
- oil filter cartridge
- Starter idle gear shaft
- Starter idle gear

NOTE:

Apply the molybdenum disulfide grease to the thread of axle and nut.

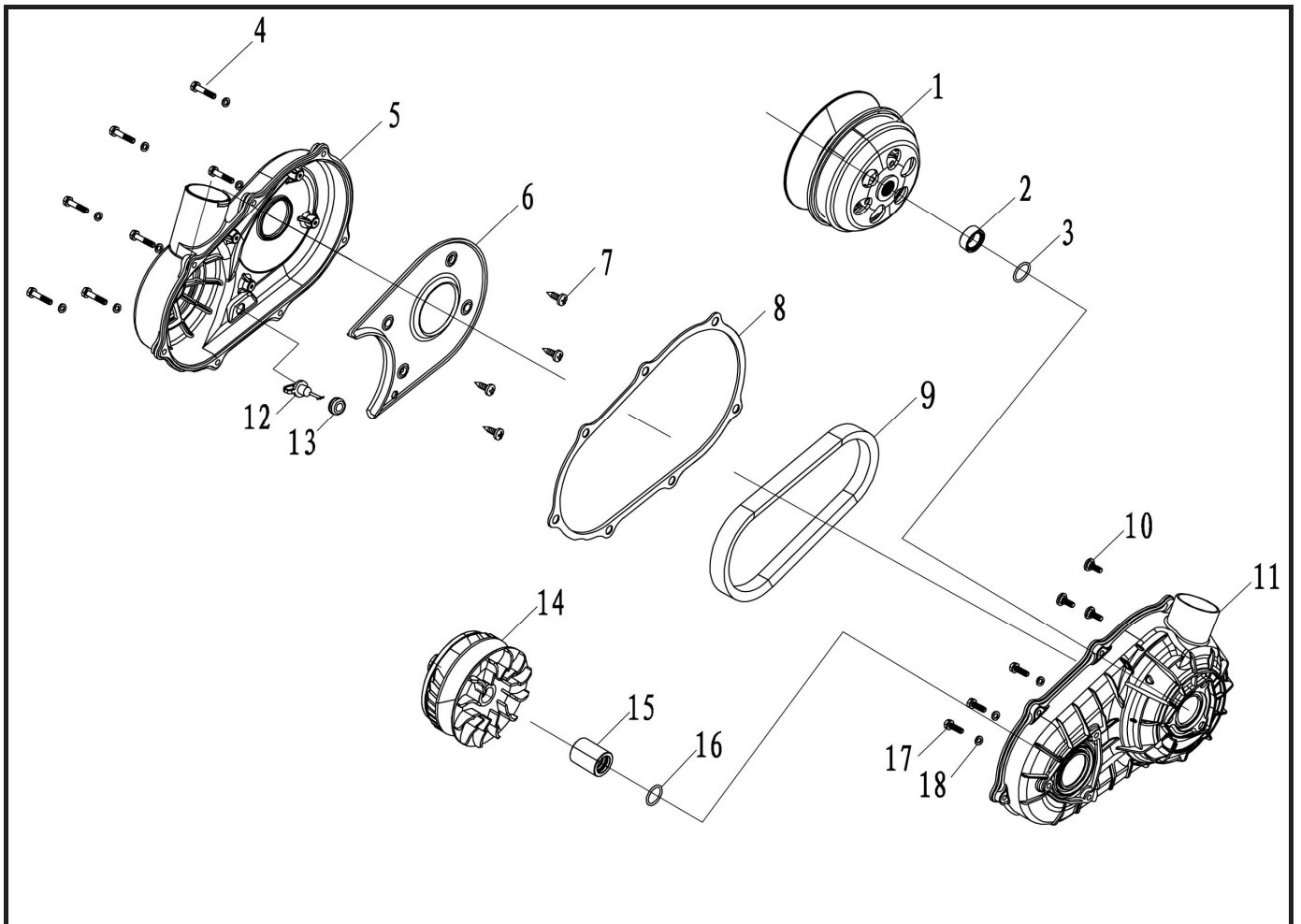
ENGINE

PRIMARY AND SECONDARY SHEAVES



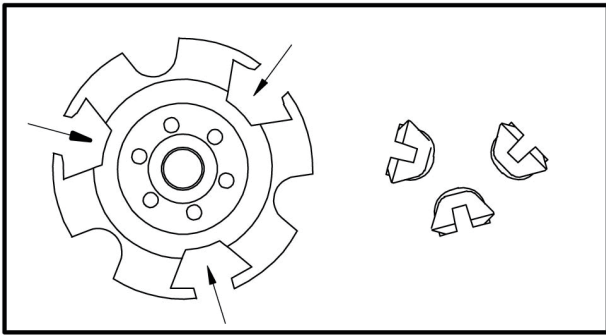
No.	Part Name	Qty	Remarks
	Removing the primary and secondary sheaves		Remove the parts in the order listed.
	Engine assembly		
1	Secondary clutch components	1	
2	Bush $\Phi 30 \times 12$	1	
3	O-ring 20 \times 2.3	2	
4	Flange bolt M6 \times 30	6	
5	Cover comp clutch	1	
6	Clapboard	1	
7	Countersunk head tapping screws 4.2 \times 16	1	
8	Gasket-clutch cover	1	
9	CVT drive belt	1	
10	Hexagon socket countersunk head screws M6 \times 20	3	

ENGINE



No.	Part Name	Qty	Remarks
11	Cover seat comp clutch	1	For assembly, reverse the disassembly procedure.
12	Piled head clutch cover	1	
13	Rubber sheath	1	
14	Primary clutch component	1	
15	Bush $\Phi 32 \times 40$	1	
16	O-ring 20.7×2.6	1	
17	Flange bolt M6 \times 25	3	
18	Bush $\Phi 6.5 \times 5$	3	

ENGINE

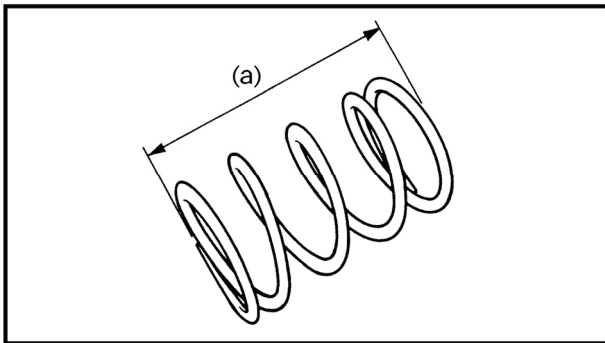


1. Check

1). Checking the primary sheave

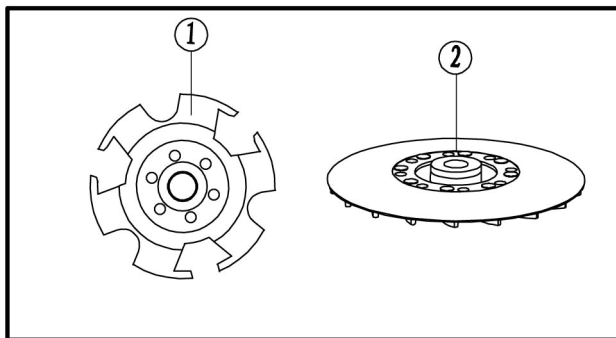
- primary pulley slider
Wear/cracks/damage → Replace.
- primary sliding sheave splines
Wear/cracks/damage → Replace.
- spacer
- primary pulley cam
Cracks/damage → Replace.

- primary sliding sheave
- primary fixed sheave
Cracks/damage → Replace.



2. Measure

- secondary sheave spring free length (a)
Out of specification → Replace the secondary sheave spring.



3. INSTALL

1). Assembling the primary sheave

(1)Clean:

- slope plate ①
- Disk drive ②

NOTE:

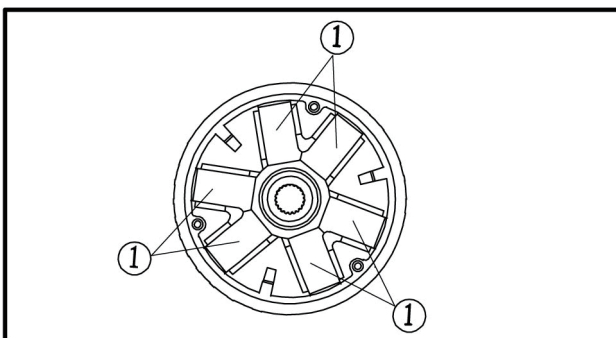
Remove any excess grease.

(2)Install:

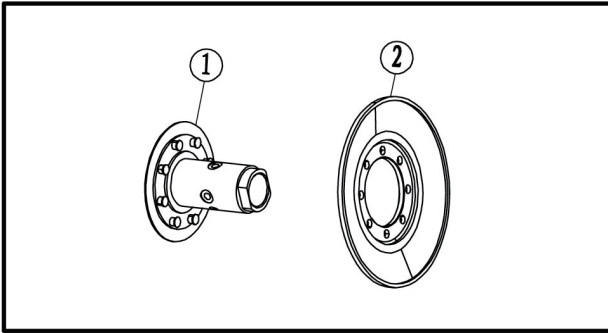
- Cylindrical roller ①

NOTE:

- **Apply grease (90g) to the whole outer surface of the weights and install.**
- **Apply grease to the inner surface of the collar.**
- **Apply grease to the inner surface of the primary sliding sheave.**



ENGINE



2). Assembling the secondary sheave

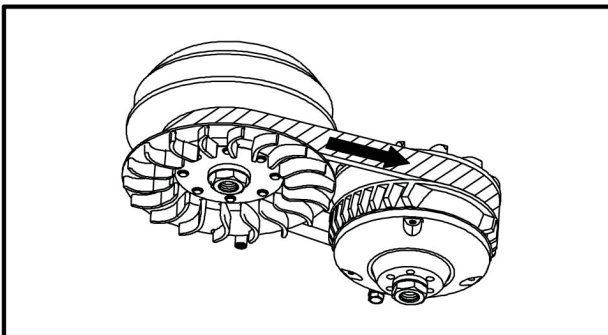
(1)Apply:

- assembly lube(to the fixed shaftsheave ① inner surface and oil seals)。
- assembly lube (to the bearings, oil seals and inner surface of the Mobile disk②)

3). Installing the primary and secondary sheaves

(1) Install:

- Mobile disk
- V-belt
- primary sheave assembly

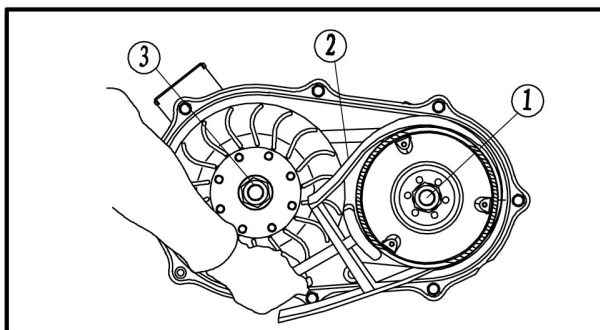


NOTE:

- Tightening the bolts will push the secondary sliding sheave away, causing the gap between the secondary fixed and sliding sheaves to widen.
- Install the V-belt so that its right faces the direction show in the illustration.

(2)Tighten:

- primary sheave nut (70Nm)
- secondary sheave nut (50Nm)

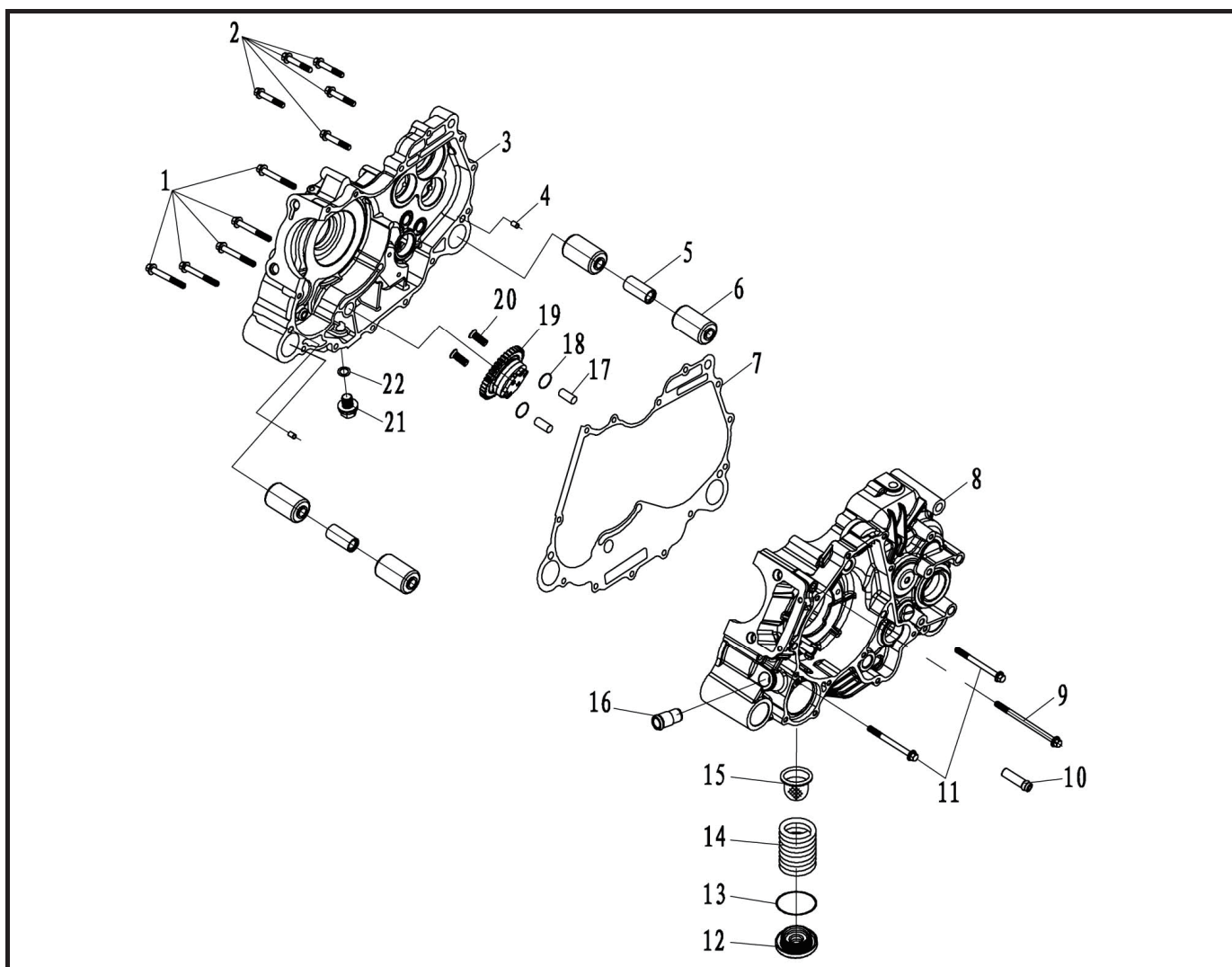


NOTE:

- Use the sheave holder to hold the primary sheave.
- First, tighten the primary sheave nut , then tighten the secondary sheave nut .

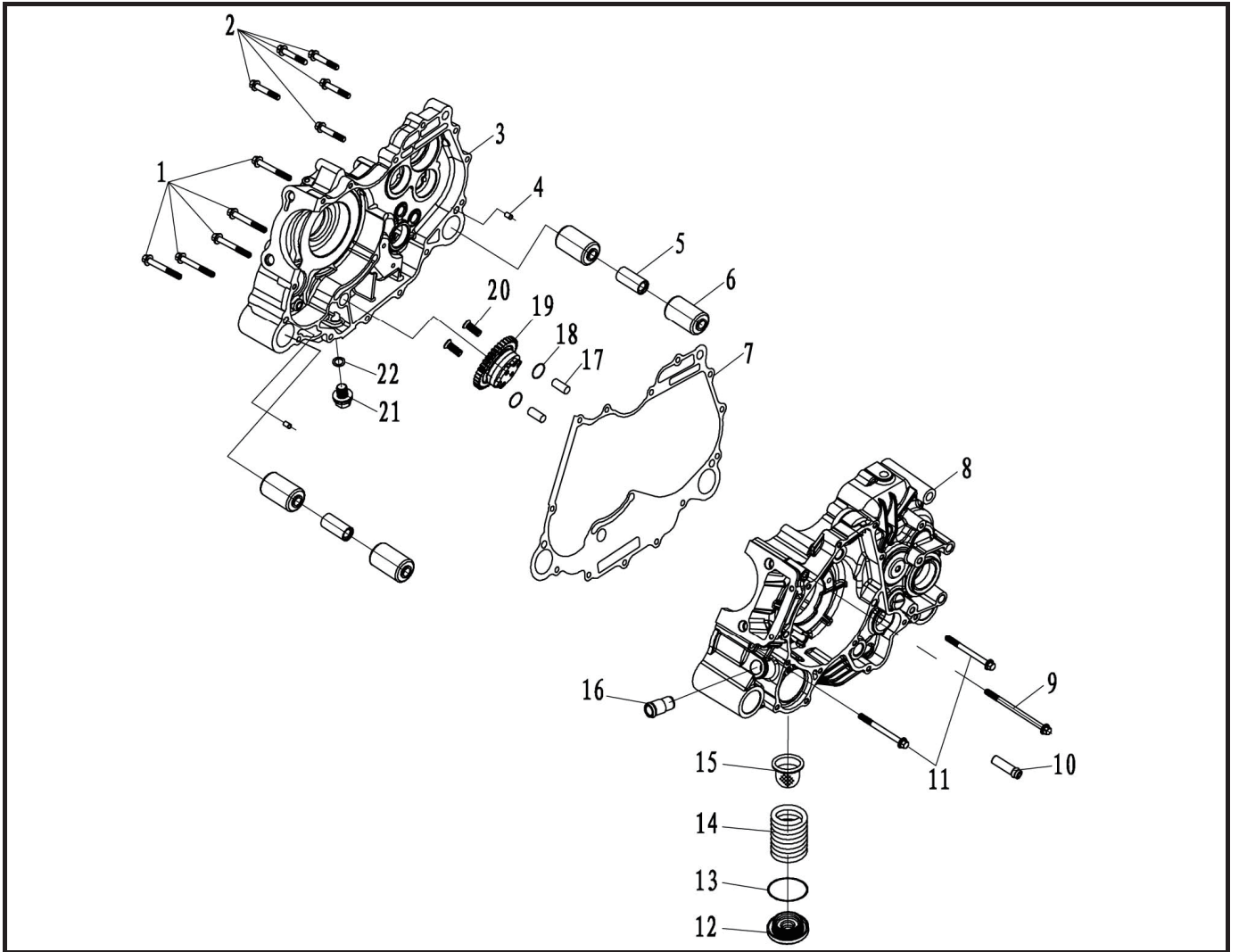
ENGINE

CRANKCASE AND OIL PUMP



No.	Part Name	Qty	Remarks
	Removing the crankcase and oil pump		Re move the parts in the order listed.
	Crankcase separation		
1	Flange bolt M6×55	5	
2	Flange bolt M6×355	5	
3	Right crankcase comp	1	
4	Dowel pin Φ8×12	2	
5	Washer Φ10.5×Φ19×38	2	
6	Damping bush	4	
7	Crankcase gasket	1	
8	Left crankcase comp	1	
9	Flange bolt M6×100	1	
10	Transmission exhaust nozzle	1	
11	Flange bolt M6×70	2	

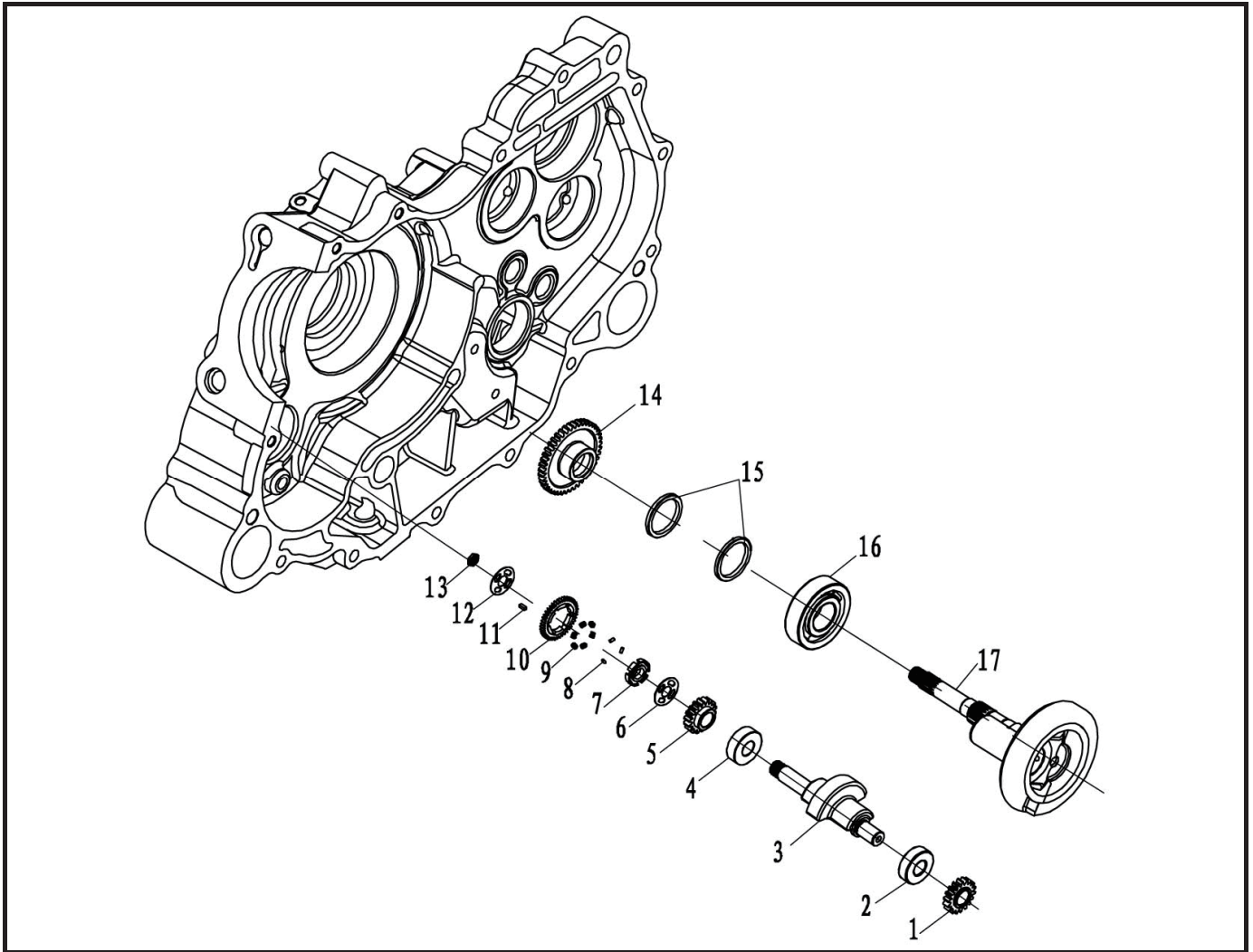
ENGINE



No.	Part Name	Qty	Remarks
12	Oil drain screw	1	
13	O-ring 36×3.5	1	
14	Mesh spring	1	
15	Oil strainer	1	
16	Water pipe connector Φ18	1	
17	Locating pin 8×12	2	
18	O-ring 9×2	2	
19	Oil pump comp	1	
20	Cross recessed countersunk head screw M6×30	2	
21	Bolt M14×1.5×16	1	
22	Aluminum gasket 14×22×1	1	
			For assembly, reverse the disassembly procedure.

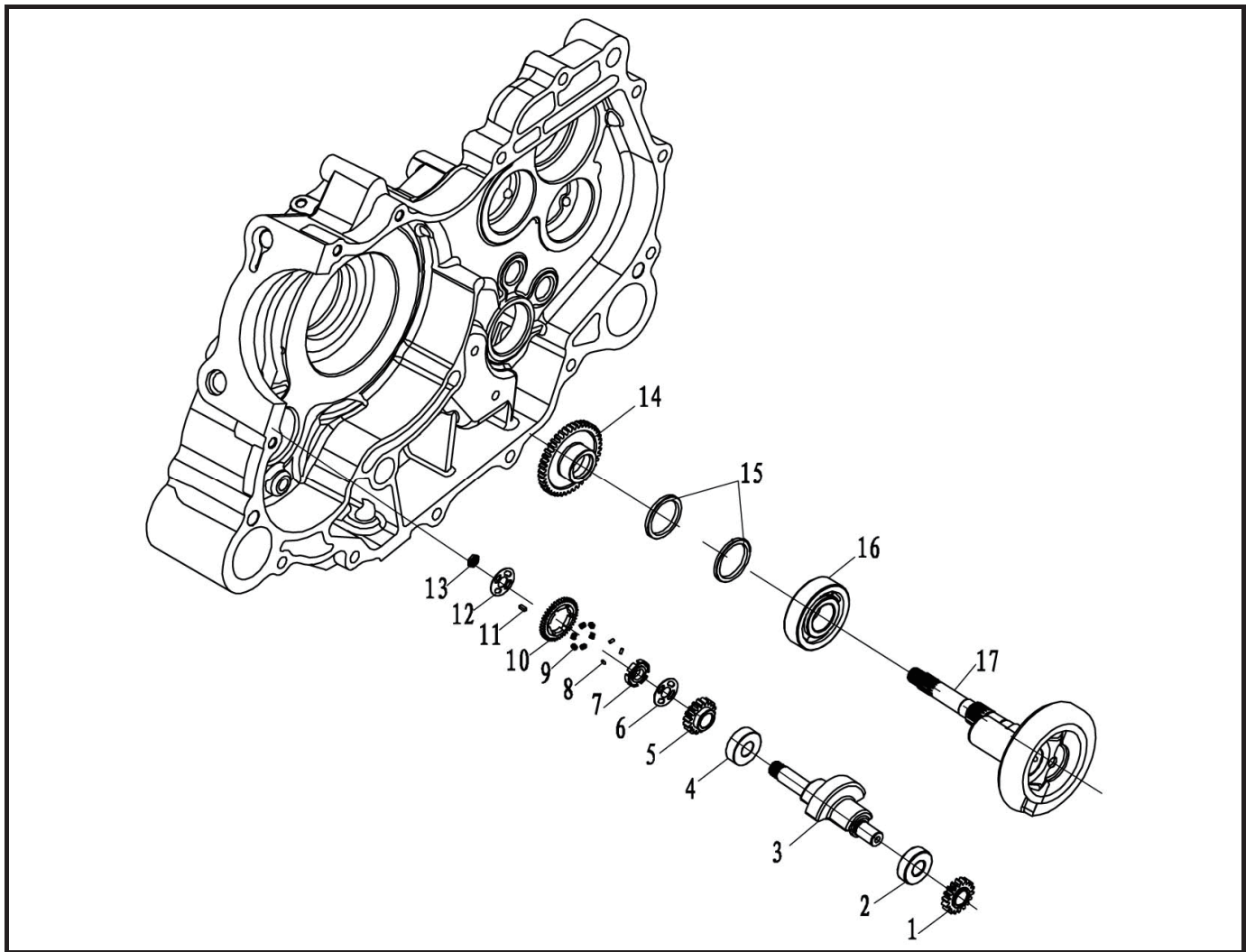
ENGINE

BALANCE SHAFT



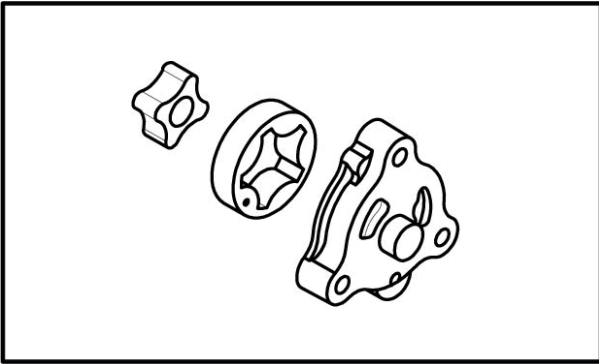
No.	Part Name	Qty	Remarks
	Removing the balance shaft		Re move the parts in the order listed.
1	Driving gear pump	1	
2	Bearing 6004	2	
3	Balance shaft	1	
4	Oil pump driving tooth	1	
5	Balance of tooth holder I	1	
6	Balance driven gear base	1	
7	Pin $\Phi 4.5 \times 9.4$	3	
8	Buffer spring	6	
9	Balance driven ring	1	
10	Flat key B5 \times 8	1	
11	Balance of tooth holder II	1	

ENGINE



No.	Part Name	Qty	Remarks
12	Balance driven gear	1	
13	Nut 14×1	1	
14	Balanced initiative gear	1	
15	Oil seal 35×44×4	2	
16	Balance the driving gear	1	
17	balance shaft	1	
			For assembly, reverse the disassembly procedure.

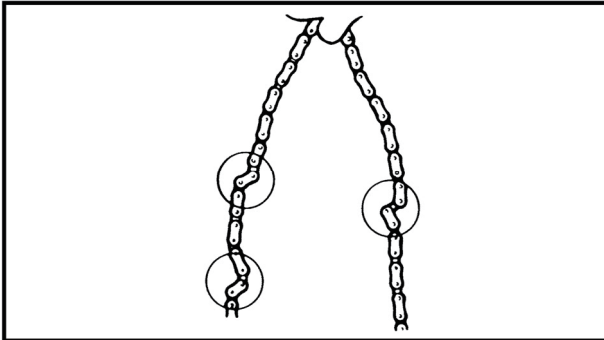
ENGINE



1、 CHECK

1). Checking the oil pump

- rotor housing
- rotor cover
- Cracks/wear/damage → Replace.
- oil pump operation
- Unsmooth → Repeat steps #1 and #2 or replace the defective parts.



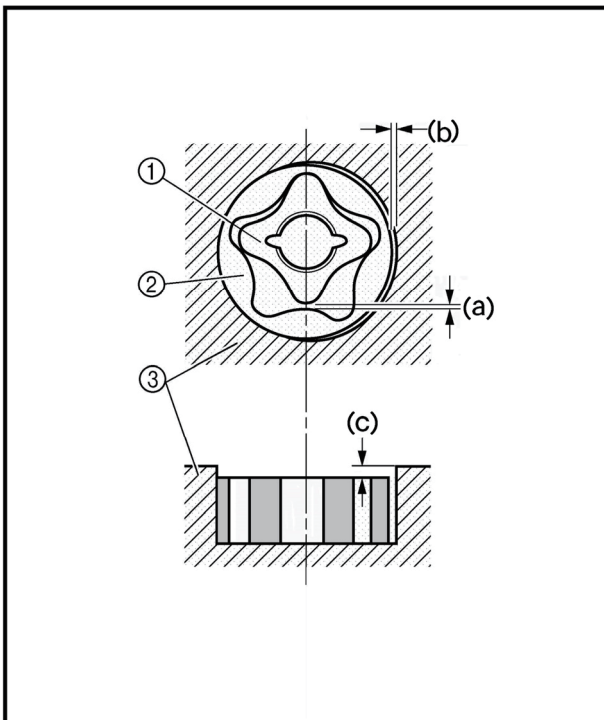
2) Checking the timing chain and guides

- timing chain
- Cracks/stiff → Replace the timing chain and camshaft sprocket as a set.
- timing chain guides
- Wear/damage → Replace.

2、 MEASURE

1). Measure the oil pump

- tip clearance(a) (between the inner rotor ① and the out rotor ②)
 - side clearance(b)(between the outer rotor ② and the pump housing ③)
 - body clearance (c) (between the outer rotor ② and the pump housing ③)
- Out of specification → Replace the oil pump.



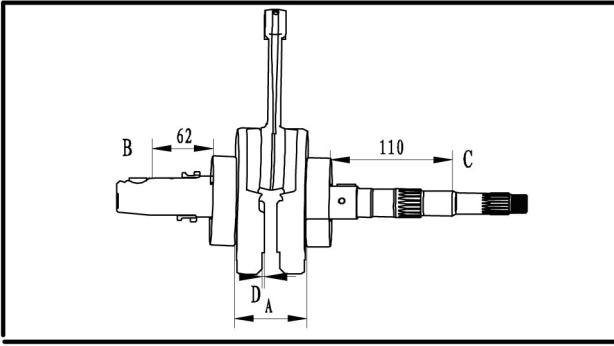
Tip clearance Limit: 0.23 mm
Side clearance Limit: 0.25 mm
Body clearance Limit: 0.20 mm

3、 INSTALL

1). Assembling the oil pump

- inner rotor
- outer rotor
- oil pump shaft (with the recommended lubricant)

ENGINE



1、 MEASURE

1). Measure the crankshaft

- crank width (A)

Out of specification → Replace the crankshaft.

Crank width

54.95~ 55 mm (2.1634~2.1654 in)

- side clearance (D)

Out of specification → Replace the crankshaft

Big end side clearance Limit:

0.15 mm (0.0059 in)

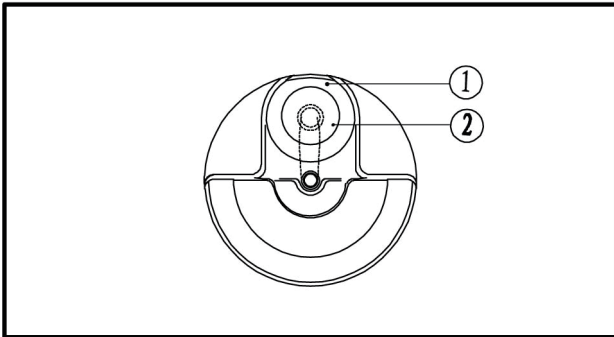
- runout (b)(C)

Out of specification → Replace the crankshaft.

Runout limit

(b): 0.03 mm (0.0012 in)

(C): 0.03 mm (0.0012 in)



The crankshaft ① and the crank pin ② oil passages must be properly interconnected with a tolerance of less than 1 mm (0.04 in).

CAUTION:

The buffer boss and woodruff key should be replaced when removed from the crankshaft.

2). Assembling the crankcase

(1) Apply:

- sealant (Quick Gasket)
(to the mating surfaces of both case halves)

(2) Install:

- dowel pins

(3) Fit the left crankcase onto the right case. Tap lightly on the case with a soft hammer

CAUTION:

Before installing and torque the crankcase holding bolts, be sure to check whether the transmission is functioning properly by manually rotating the shift drum in both directions.

ENGINE

(4) Tighten:

- crankcase bolts
(follow _____ per tightening sequence)

NOTE: _____

- **Tighten the bolts in stages, using a criss cross pattern.**
-

3、INSTALL

1). Installing the crankshaft

- crankshaft

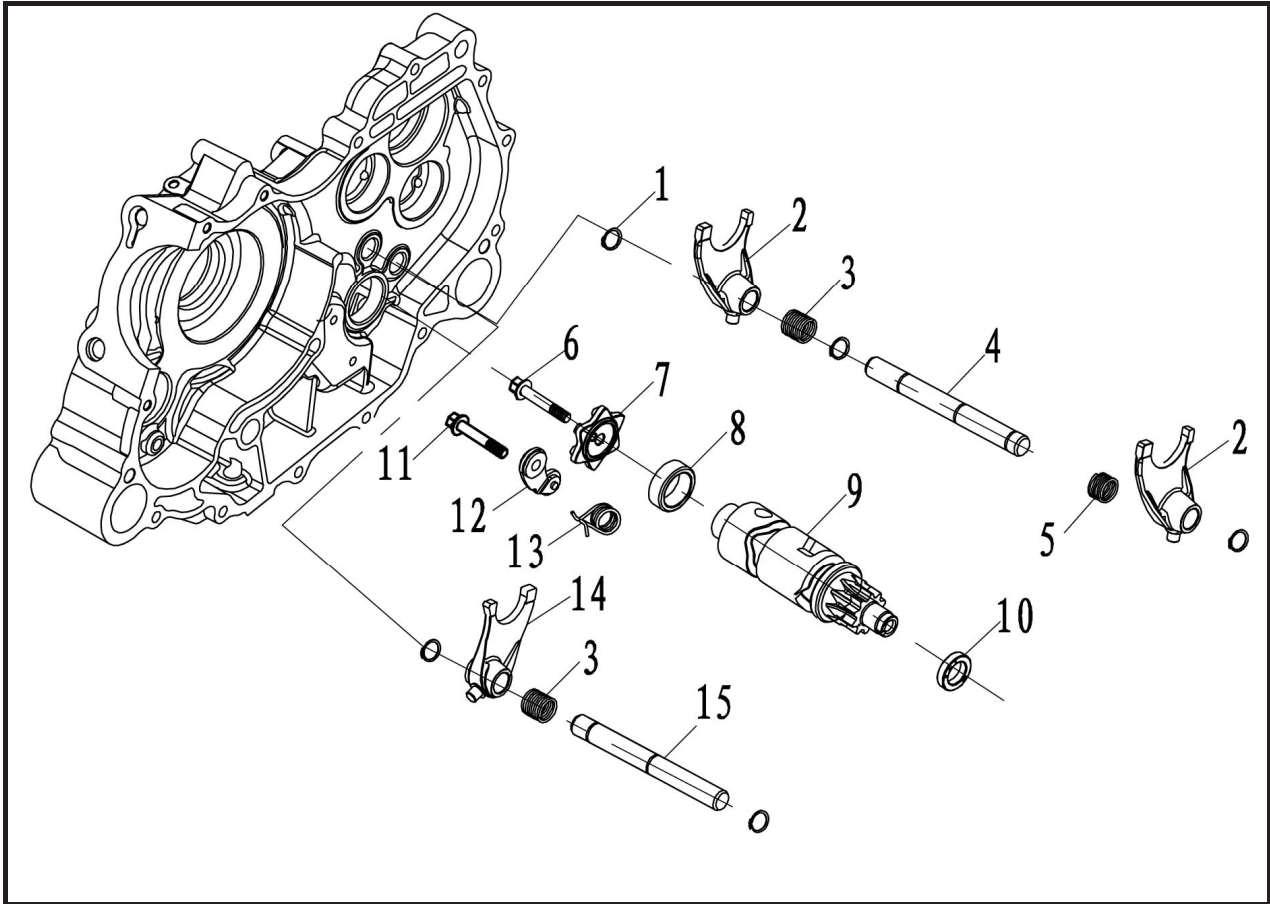
NOTE: _____

Hold the connecting rod at the Top Dead Center (TDC) with one hand while turning the nut of the installing tool with the other.

Operate the installing tool until the crankshaft bottoms against the bearing.

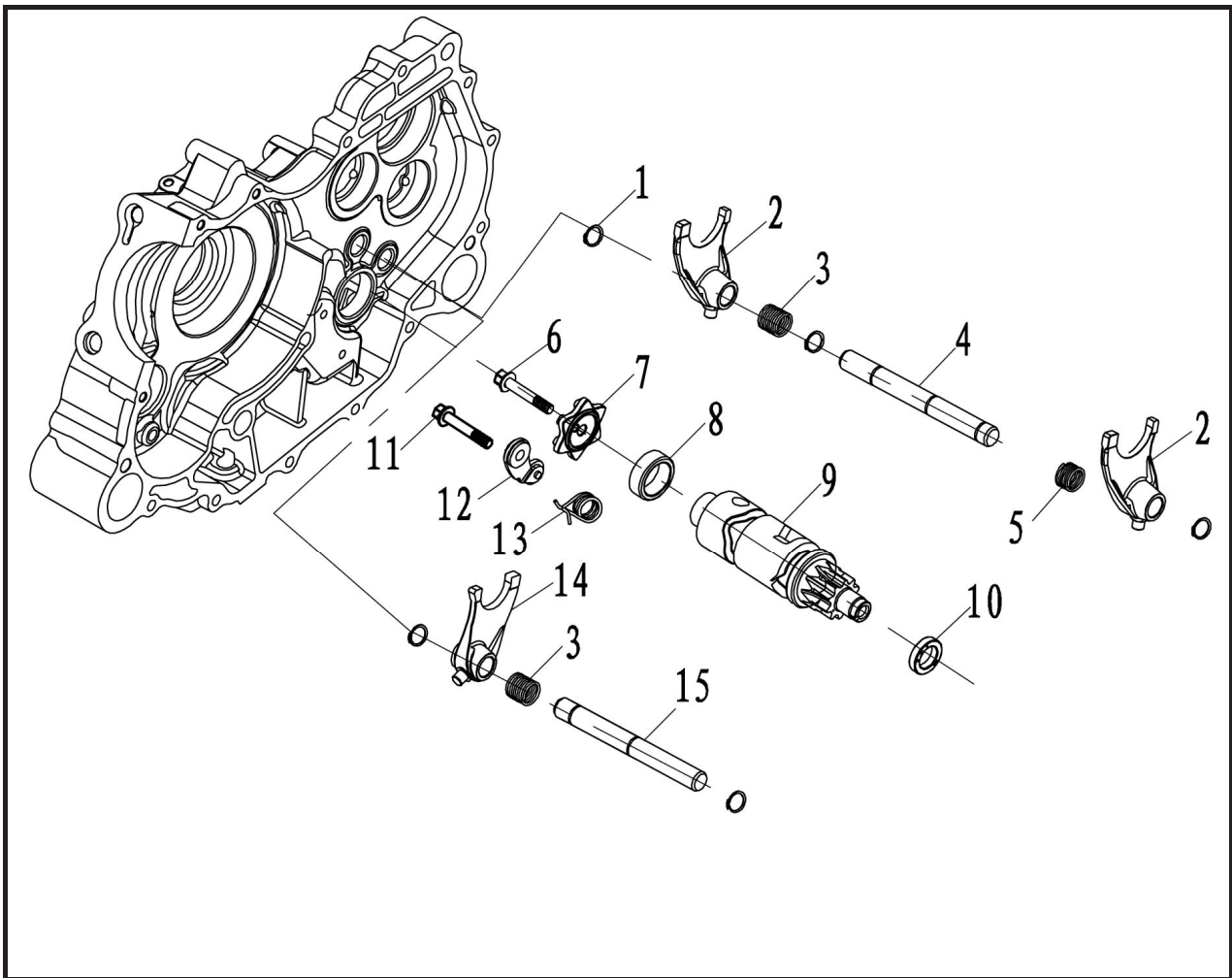
ENGINE

SHIFT AND CONTROL MECHANISM



No.	Part Name	Qty	Remarks
	Removing the shifting fork and Variable speed drum		Remove the parts in the order liste
	Gear case separation		
1	Cir clip $\Phi 12$	5	
2	Shifting fork	2	
3	HR gear dpring	2	
4	Shifting yoke II	1	
5	L gear spring	1	
6	Flange bolt M6×25	1	
7	Gate shift	1	
8	Needle bearing	1	
9	Variable speed drum	1	
10	Oil seal 14×22×5	1	

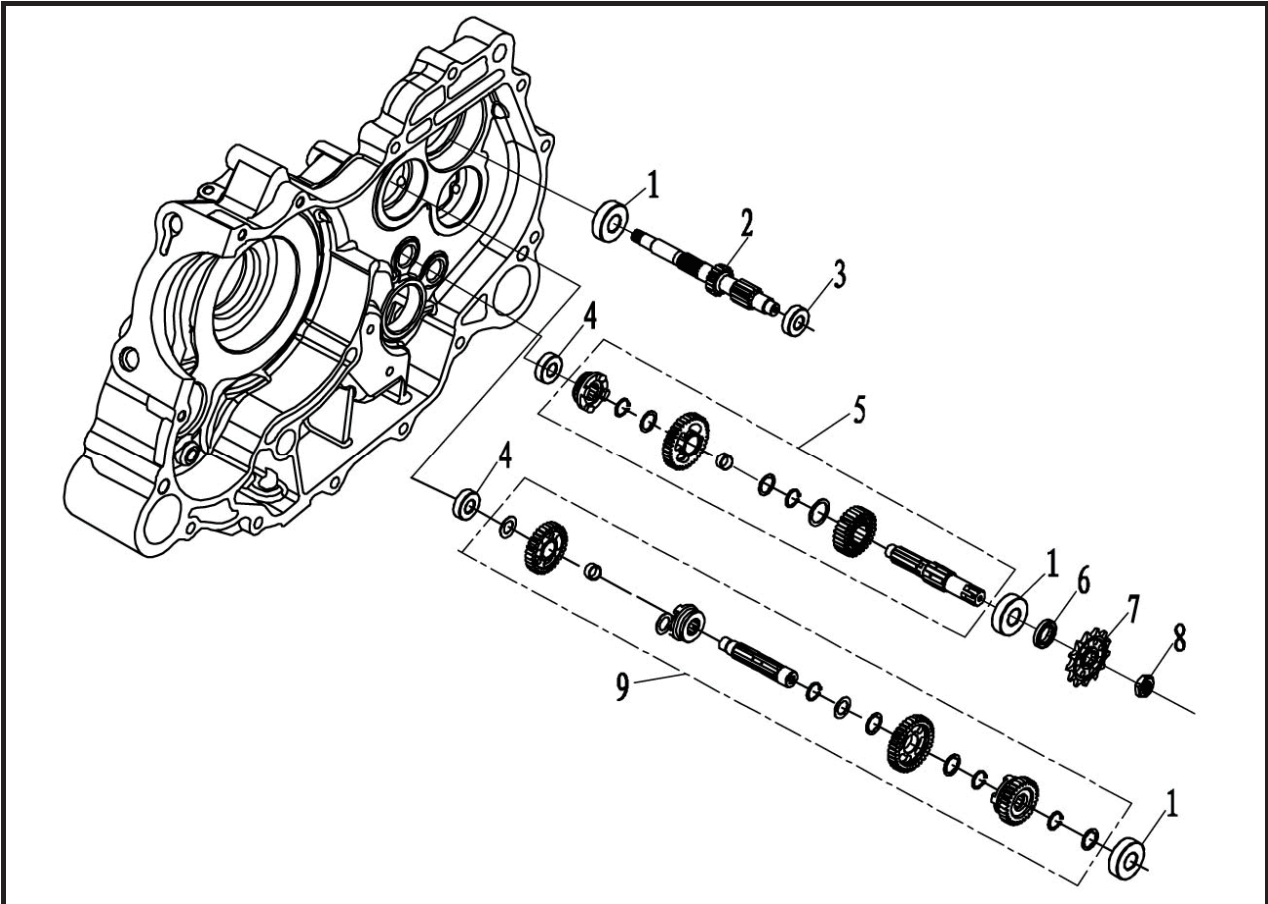
ENGINE



No.	Part Name	Qty	Remarks
11	Flange bolt M6×20	1	For assembly, reverse the disassembly procedure.
12	Shift reset board	1	
13	Reset spring	1	
14	Shifting fork II	1	
15	Shifting yoke I	1	

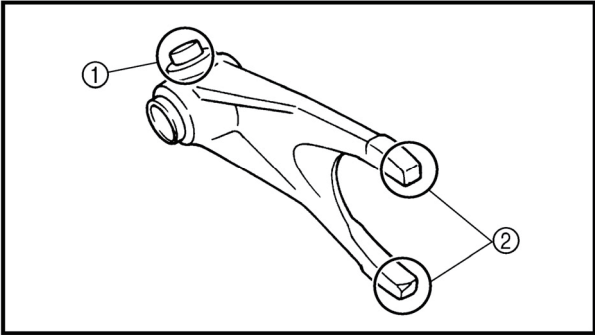
ENGINE

GEARCASE TRANSMISSION



No.	Part Name	Qty	Remarks
	Removing the gear case transmission		Remove the parts in the order listed.
	Gear case separation		
1	Bearing 6204	3	
2	Main shaft	1	
3	Bearing 6202	1	
4	Bearing 6202Z	2	
5	Output shaft	1	
6	Oil seal 20×34×7	1	
7	Drive sprocket	1	
8	Nut 14×1	1	
9	Auxiliary shaft	1	
			For assembly, reverse the disassembly procedure.

ENGINE



1. CHECK

1). Checking the shift forks

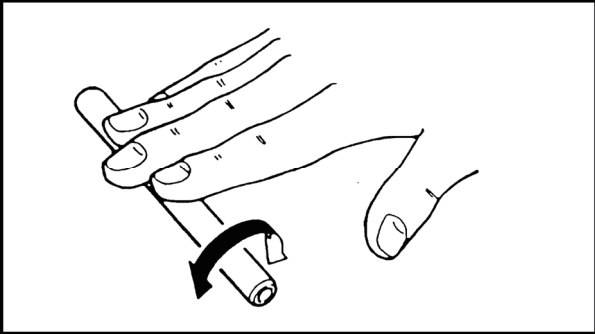
- shift fork follower ①
- shift fork pawl ②

Scoring/bends/wear/damage → Replace.

- guide bar

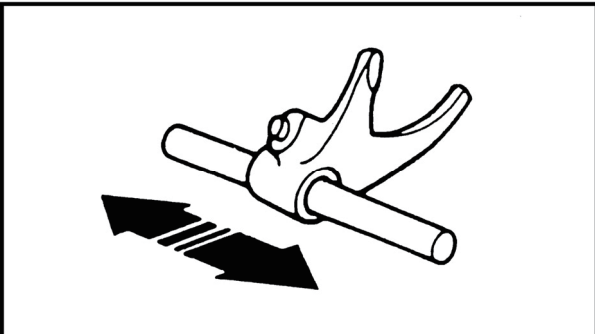
Roll the guide bar on a flat surface.

Bends → Replace.



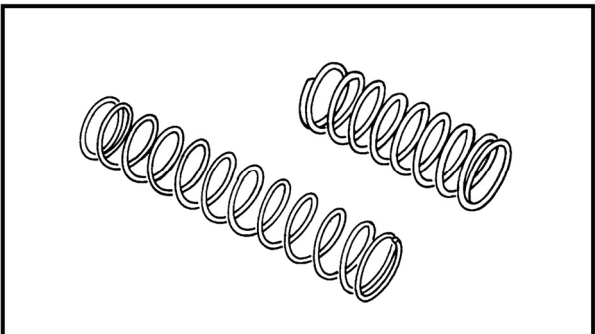
WARNING:

Do not attempt to straighten a bent guide bar.



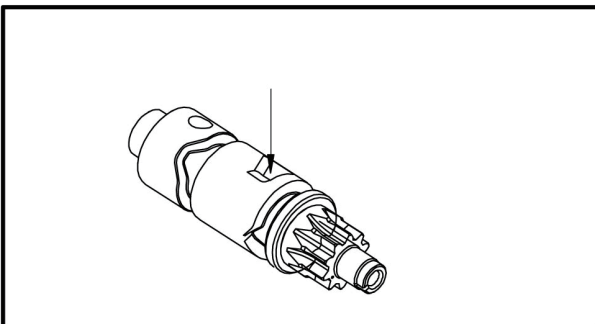
- shift fork movement
(on the guide bar)

Unsmooth operation → Replace the shift fork and the guide bar.



- springs

Cracks/damage → Replace.

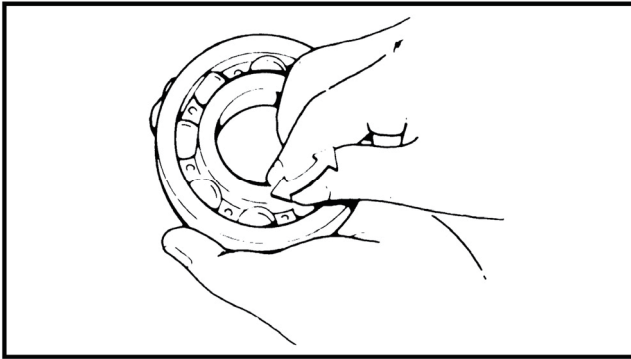


2). Checking the shift drum

- shift drum grooves

Scratches/wear/damage → Replace.

ENGINE



3). Checking the bearings

(1) Check:

- bearings

Clean and lubricate, then rotate the inner race with a finger.

Roughness → Replace

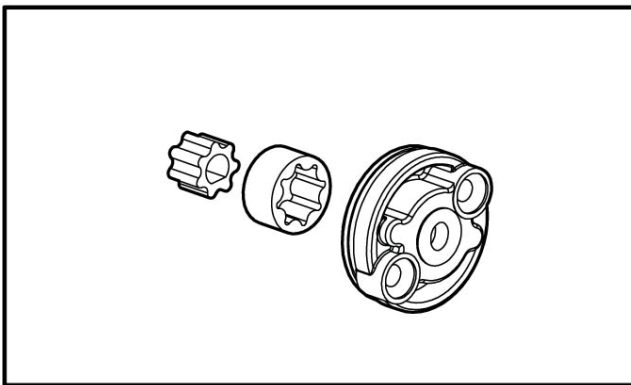
4). Checking the oil pump

- rotor housing
- rotor cover

Cracks/wear/damage → Replace.

- oil pump operation

Unsmooth → Repeat steps #1 and #2 or replace the defective parts.



2. Measure:

1). Measure the oil pump

- tip clearance(a)

(between the inner rotor ① and the out rotor ②)

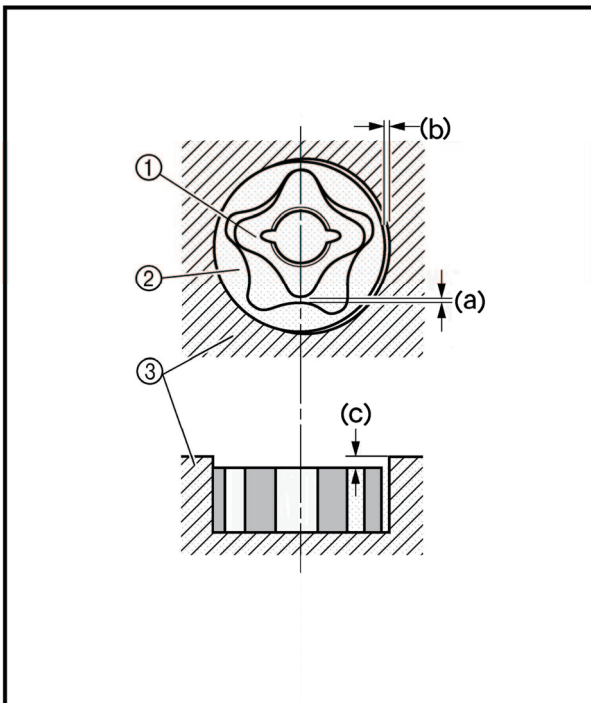
- side clearance(b)

(between the outer rotor ② and the pump housing ③)

- body clearance (c)

(between the outer rotor ② and the pump housing ③)

Out of specification → Replace the oil pump.

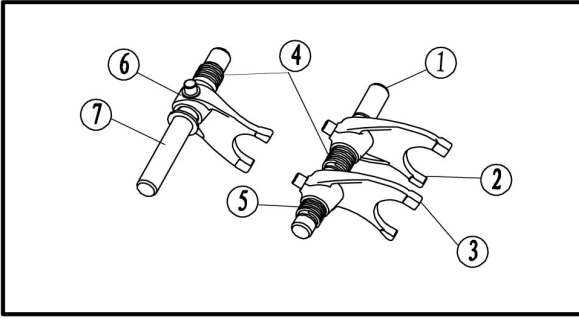


Tip clearance Limit: 0.23 mm

Side clearance Limit: 0.25 mm

Body clearance Limit: 0.20 mm

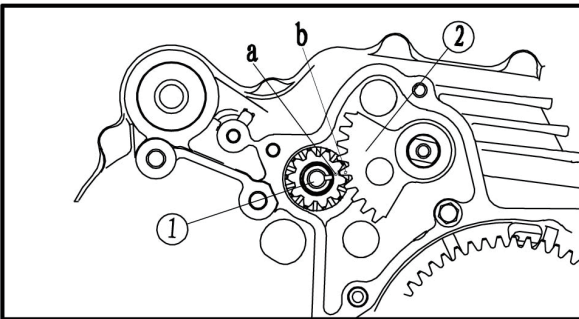
ENGINE



3. INSTALL

1). Assembling the shift fork

- shifting yoke II ①
- H shifting fork ②
- L shifting fork ③
- HR gear spring ④
- L gear spring ⑤
- R shifting fork ⑥
- shifting fork I ⑦



2). Installing the shift levers

- Variable speed drum ①
- Shift arm components ②

NOTE:

When installing the shift lever 1, align the punch mark (a) on the shift lever 1 with the punch marks (b) on the shift lever 2.

3). Assembling the oil pump

- inner rotor
- outer rotor
- oil pump shaft
(with the recommended lubricant)

CHASSIS

MALFUNCTION INSPECTION

Appearance malfunction inspection		
No.	Phenomenon	Measure
1	Plastic cover damaged	1. Replace new plastic cover.
		2. Check whether installation supporter deformed, repairing or re-painting is needed before replacing new plastic cover.
		3. Re-paste decals and re-rivet warning labels.
2	Bumper damaged	1. Replace new bumper.
		2. Check whether installation supporter deformed or damaged, repairing or re-painting is needed before replacing new bumper.
3	Frame toe-board damaged	1. Replace new frame toe-board.
		2. Check plastic cover whether deformed or damaged, repairing deformed or damaged plastic cover.
4	Warning labels	Replace damaged and vague warning labels
Brake system malfunction inspection		
No.	Phenomenon	Measure
1	Locked braking system	1. Check whether brake disc plates deformed.
		2. Check whether hydraulic cylinder of brake clamp locked or brake clamp assembly parts deformed.
2	Brake performance degressive	1. Check whether disc plates abrasion exceeded limits.
		2. Check whether brake shoe of clamp abrasion exceeded limits or polluted by friction material such as oil.
		3. Check whether the oil cup of brake fluid lack oil.
3	Grinding noises emerged from front brake or brake plate become red during drive due to superheat.	1. Check whether brake plate deformed.
		2. Check whether hydraulic cylinder of brake clamp locked or brake clamp assembly parts deformed.
4	Grinding noises emerged from rear brake or brake plate become red during drive	1. Check whether brake plate deformed.
		2. Check whether hydraulic cylinder of brake clamp locked or brake clamp assembly parts deformed.
		3. Check whether rear brake clamp parking institution running flexible or return accurately.
5	Off tracking by braking at high-speed	1. Check whether front brake power deviation from left and right is within specified scope.
		2. Check whether front brake power degressive caused to rear wheel locked before front wheel in brake process.
		3. Check whether left and right absorber spring force deviation is exceeded specified value.
		4. Check whether front wheel and front wheel axle nut loosen or damaged.

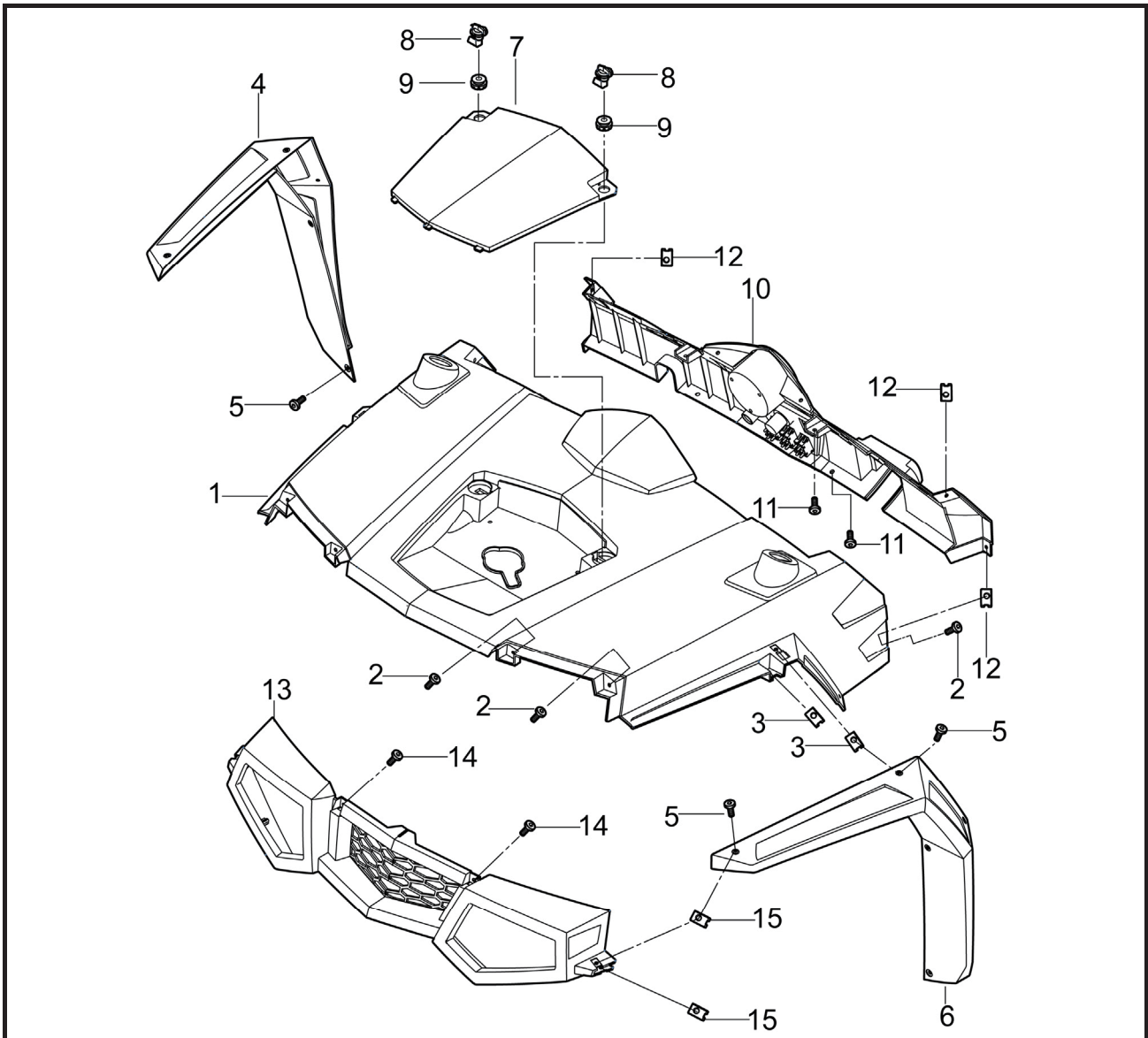
CHASSIS

5	Off tracking by braking at high-speed	5. Check whether front wheel hub inner spline and front wheel axle outer spline worn or loosen.
		6. Check whether rubber cushion connected to front suspension rocker and frame damaged.
Other system malfunction inspection		
No.	Phenomenon	Measure
1	Steering wheel loosen, shift up and down	1. Check whether steering wheel clip loosen or damaged.
		2. Check whether steering column clip and clip seat loosen or damaged.
2	Front wheel steering clearance excessive	1. Check whether tie-rod and steering column locknut loosen or damaged, or steering knuckle and steering column locknut loosen or damaged.
		2. Check whether tie-rod two ball joint damaged.
3	Front wheel sway during drive	1. Check whether steering knuckle bearing damaged.
		2. Check whether king pin ball joint damaged.
		3. Check whether front wheel and axle locknut loosen or damaged.
		4. Check whether front wheel hub inner spline and front wheel axle outer spline worn or loosen.
		5. Check whether rubber cushion connected to front suspension rocker and frame damaged.
4	Rear wheel sway during drive	1. Check whether rear axle bearing damaged.
		2. Check whether rear wheel and axle locknut loosen or damaged.
		3. Check whether rear wheel hub inner spline and rear wheel axle outer spline worn or loosen.
		4. Check whether rubber cushion connected to rear suspension rocker and frame damaged.
5	Wheel hop during drive	1. Check whether wheel rim deformed.
		2. Check whether front and rear axles bent.
		3. Check whether tyre aging and deformed.
6	Absorber become soft and comfortability depressed	1. Check whether over loading.
		2. Check whether absorber spring become soft.
		3. Check whether absorber lost of damping force in compression and prolongation.

CHASSIS

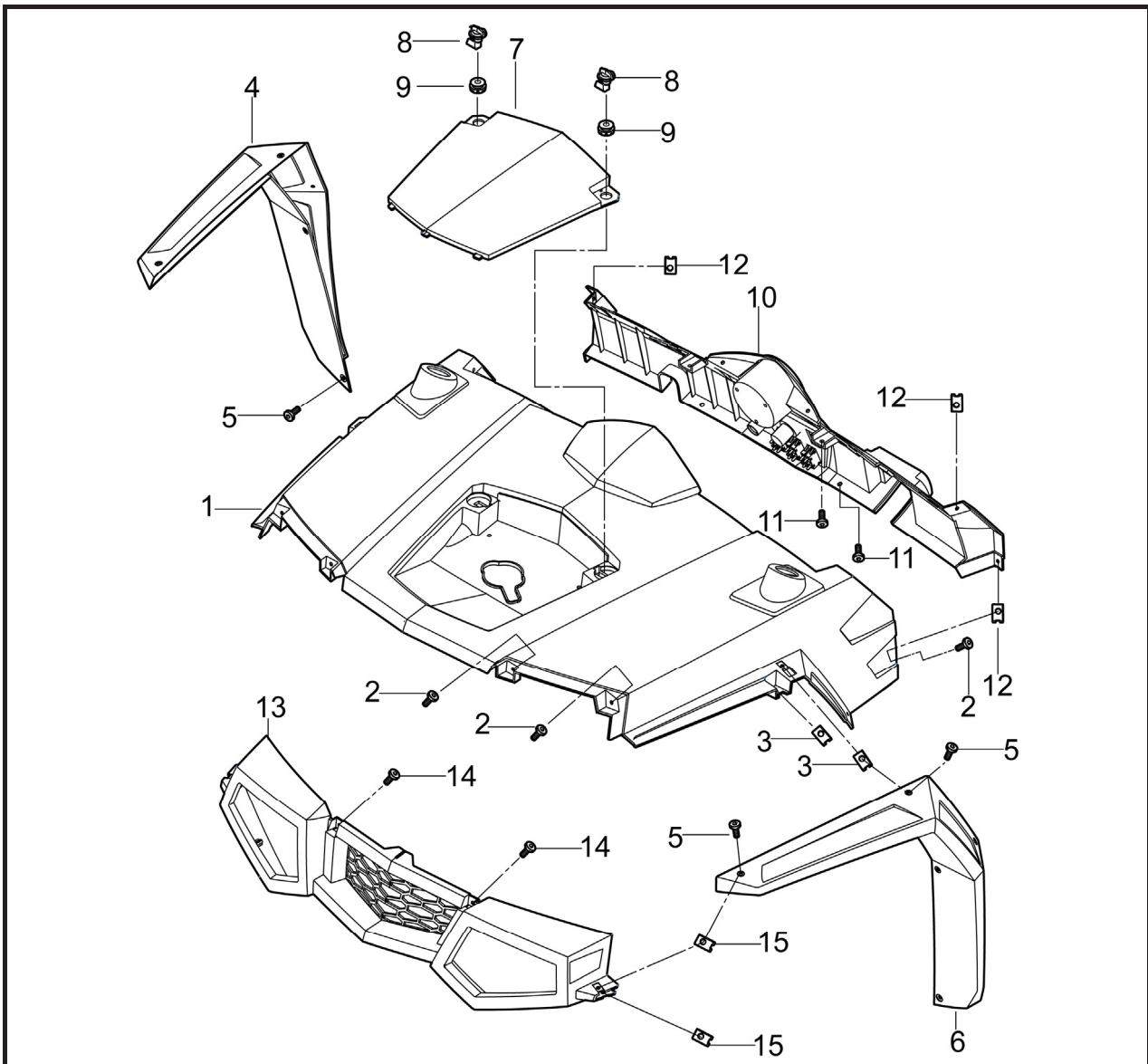
PANEL AND CARGO BED

Front Panel



No.	Part Name	Qty	Remarks
Removing the front panel			
1	Front cover	1	
2	Socket hexagon flat head screws M6×16	12	
3	Clip for bolt M6×2	8	
4	Front left mudguard	1	
5	Socket hexagon flat head screws M6×16	16	
6	Front right mudguard	1	
7	Front panel	1	
8	Knobs	2	
9	H-shaped rubber ring	2	

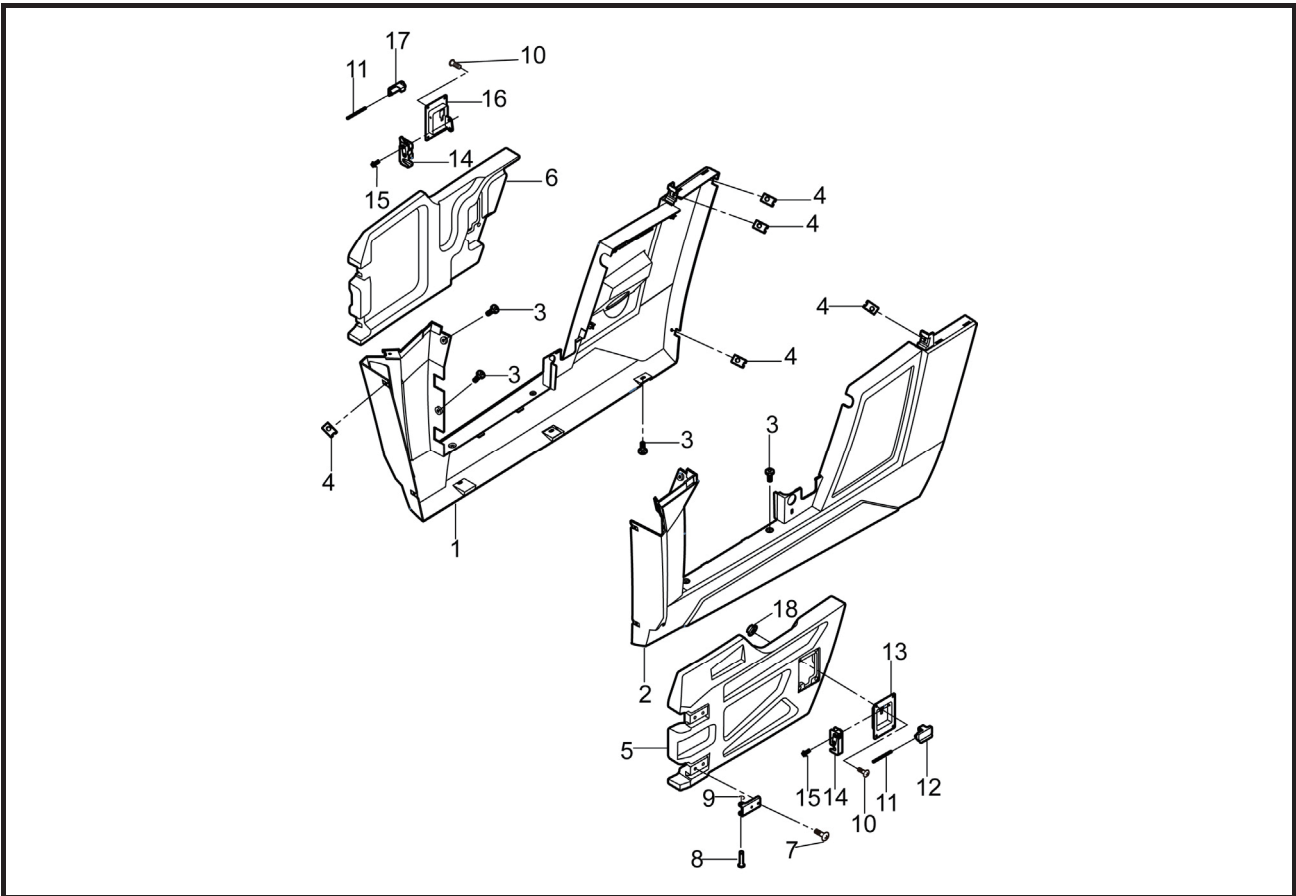
CHASSIS



No.	Part Name	Qty	Remarks
10	Dashboard	1	
11	Socket hexagon flat head screws M6×16	4	
12	Clip for bolt M6×2	6	
13	Headlight cover	1	
14	Socket hexagon flat head screws M6×16	2	
15	Clip for bolt M6×2	8	

CHASSIS

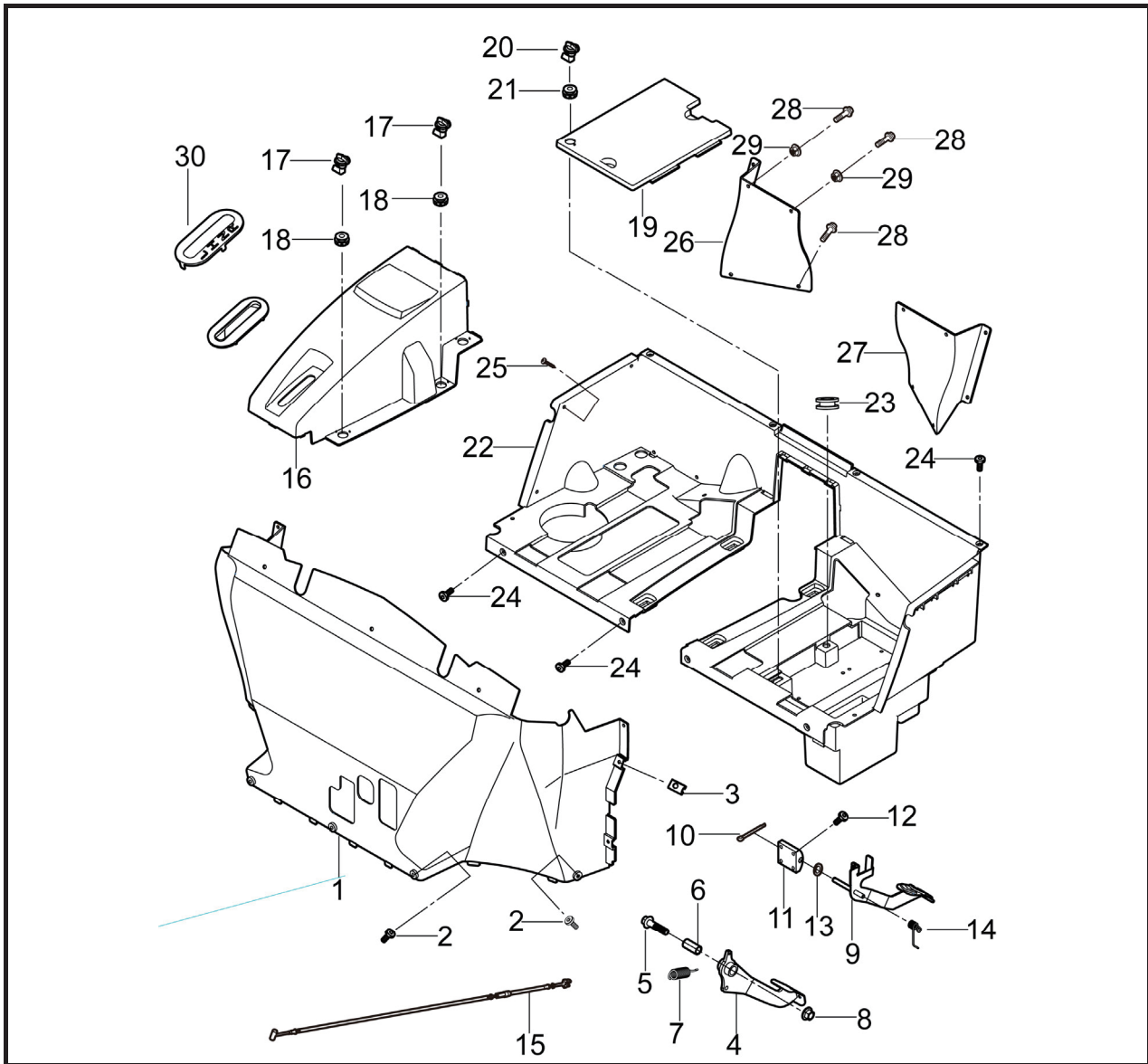
Side Cover



No.	Part Name	Qty	Remarks
	Removing the side cover		
1	Left Board	1	
2	Right Board	1	
3	Socket Hexagon Flat Head Screws M6×16	14	
4	Clip For Bolt M6×2	14	
5	Left Door Comp.	1	
6	Right Door Comp.	1	
7	Bolt M6×16	8	
8	Gemel Pin Φ10×Φ17×44	4	
9	Split Washer Φ8×1	4	
10	Cross Small Plate Head Screw M5×16	8	
11	Door lock pin	2	
12	door lock bracket II (L)	1	
13	door lock bracket I (L)	1	
14	door lock assy	2	
15	Hexagon Flange Bolt M6×16	4	
16	door lock bracket I (R)	1	
17	door lock bracket II (R)	1	
18	Hexagon Flange Bolt M5	8	

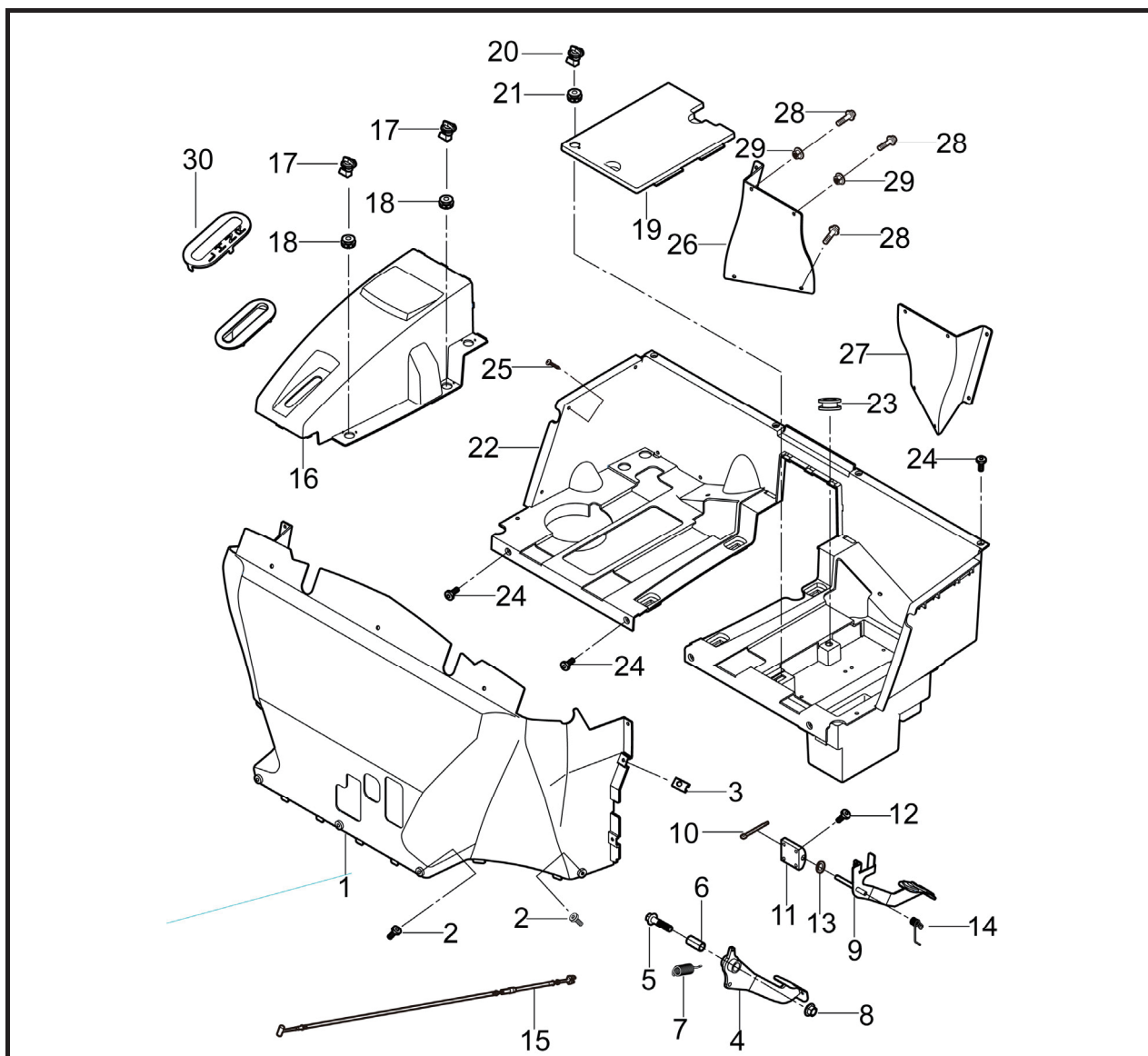
CHASSIS

Side Cover Parts



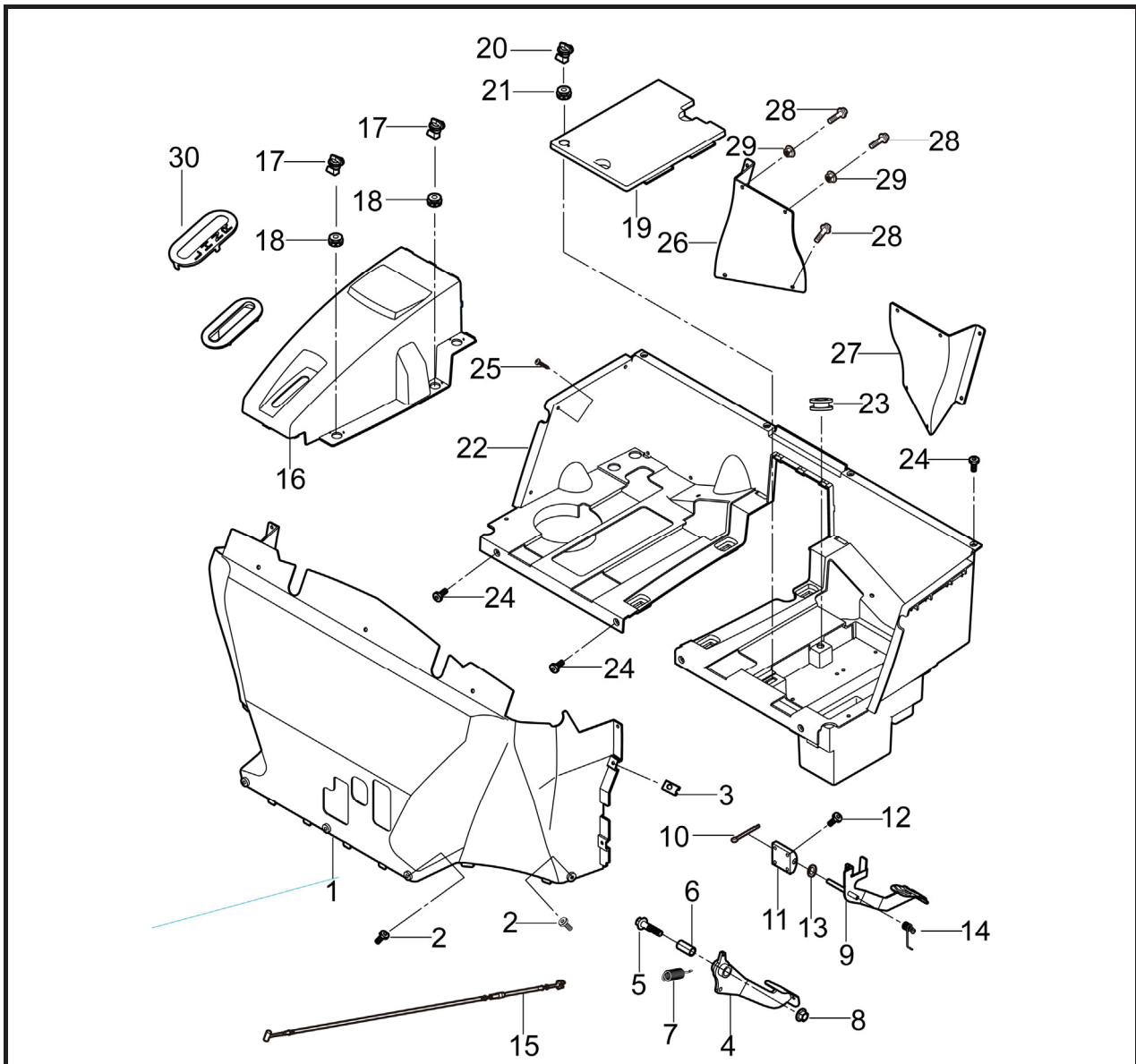
No.	Part Name	Qty	Remarks
	Removing the side cover parts		
1	Inner wind board	1	
2	Socket hexagon flat head screws M6×16	8	
3	Clip for bolt M6×2	9	
4	Brake pedal assy.	1	
5	Hexagon flange bolt M10×1.25×60	1	
6	Brake pedal bushing II	1	
7	Return spring , rear brake Φ1.2×Φ7×38	1	
8	Hexagon flange locked Nut M10×1.25	1	
9	Accelerator pedal welding assy.	1	
10	Cotter pin 2×32	1	

CHASSIS



No.	Part Name	Qty	Remarks
11	Mounting seat assy., accelerator pedal	1	
12	Hexagon socket head bolt M6×20	4	
13	Washer Φ8×Φ16×1.6	1	
14	Torsional spring I	1	
15	Throttle cable	1	
16	Engine cover board	1	
17	Knobs	4	
18	H-shaped rubber ring	4	
19	Battery cover	1	
20	Knobs	1	
21	H-shaped rubber ring	1	
22	Seat mounting board	1	

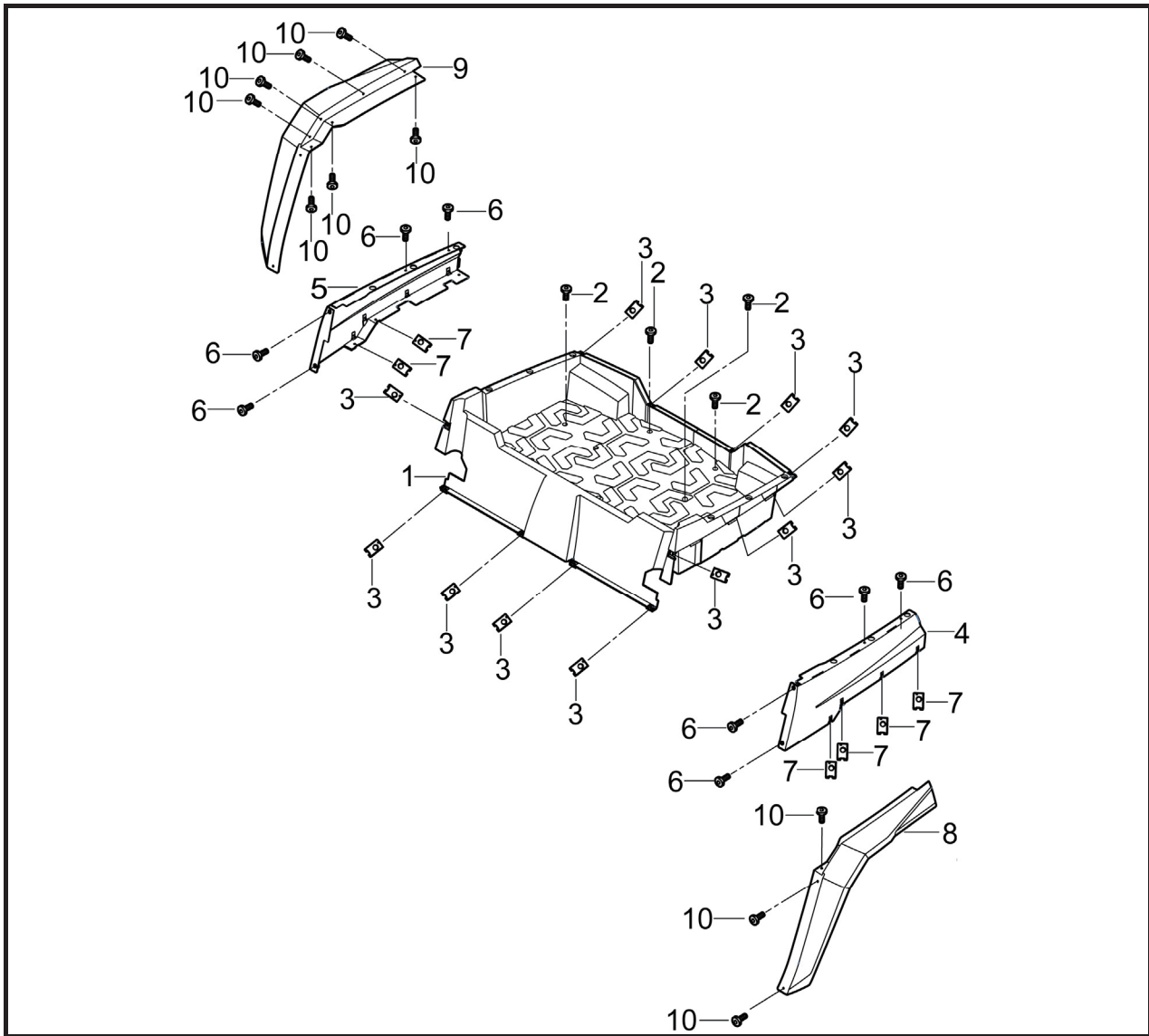
CHASSIS



No.	Part Name	Qty	Remarks
23	H-shaped rubber ring	1	
24	Socket hexagon flat head screws M6×16	8	
25	Self tapping screw, cross pan head ST4.8×13	6	
26	Rear right mud-guard board	1	
27	Rear left mud-guard board	1	
28	Hexagon flange bolt M6×16	12	
29	Hexagon flange locked Nut M6	4	
30	Shifting decorative cover	1	

CHASSIS

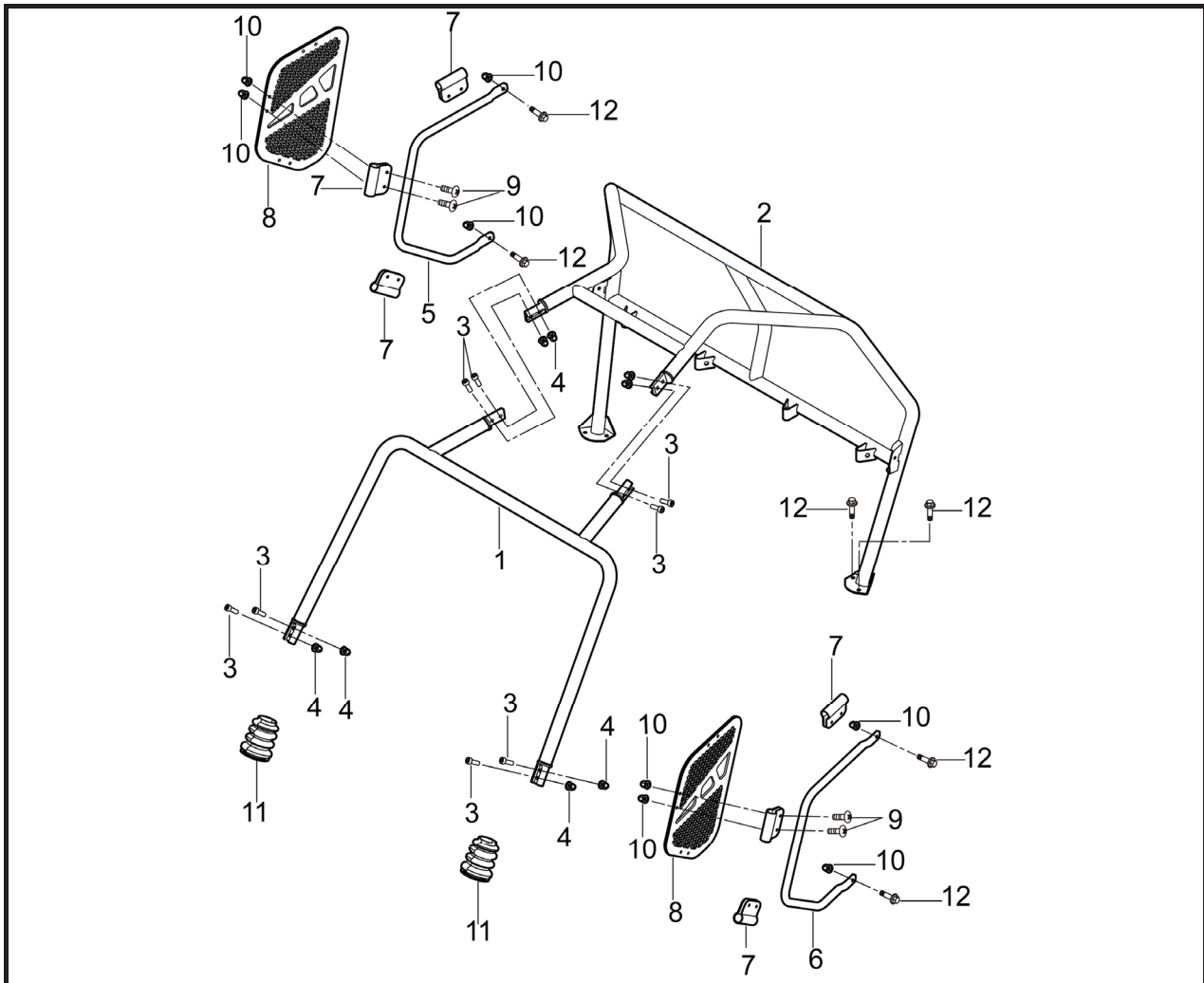
Cargo Bed



No.	Part Name	Qty	Remarks
	Removing the side cover parts		
1	Cargo bed	1	
2	Socket hexagon flat head screws M6×16	9	
3	Clip for bolt M6×2	14	
4	Rear left board	1	
5	Rear right board	1	
6	Socket hexagon flat head screws M6×16	8	
7	Clip for bolt M6×2	12	
8	Rear left decorative plate	1	
9	Rear right decorative plate	1	
10	Socket hexagon flat head screws M6×16	18	

CHASSIS

Head Shed Frame

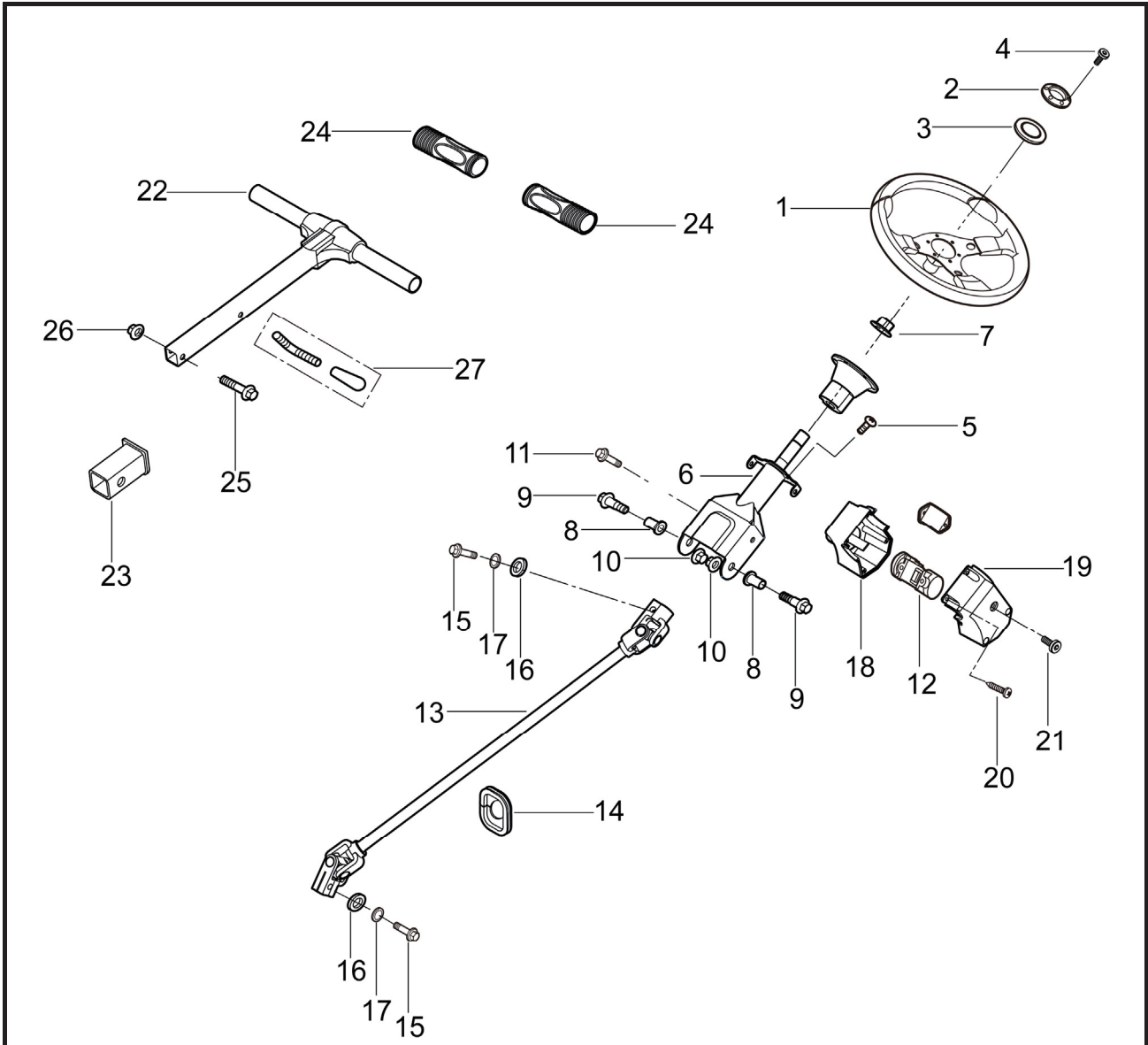


No.	Part Name	Qty	Remarks
	Removing the head shed frame		
1	Front part, shed assy.	1	
2	Rear part, shed assy.	1	
3	Hexagon socket head screw M8×1.25×35	8	
4	Cap nut M6×17	12	
5	Left net tube	1	
6	Right net tube	1	
7	Pipe clamp II	6	
8	Shoulder protector panel	2	
9	Bolt M6×16	12	
10	Nut with cover M6×12	12	
11	Sealing boot VI	2	
12	Hexagon flange bolt M8×20	8	

CHASSIS

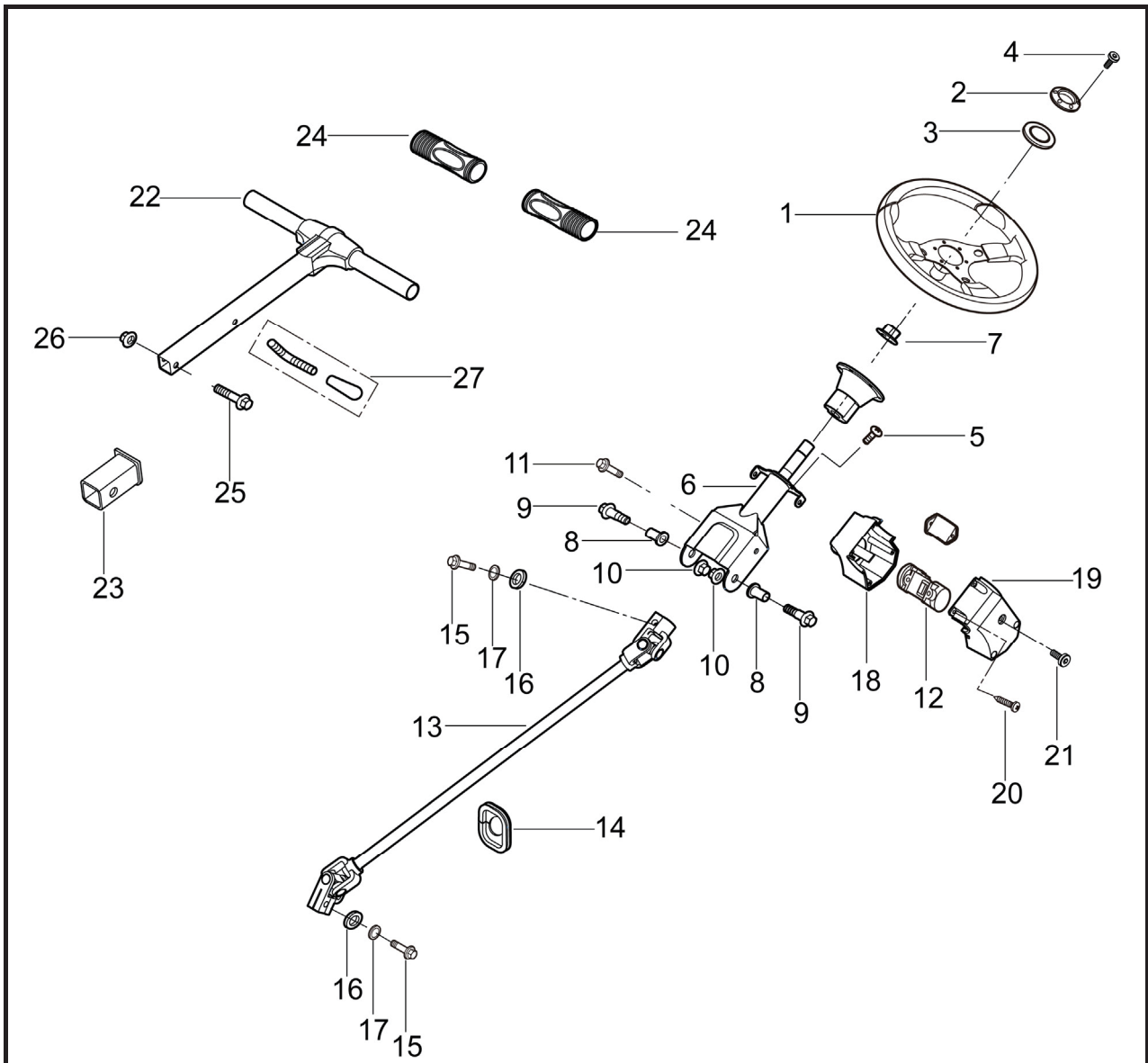
DIRECTION SYSTEM

Steering Wheel part



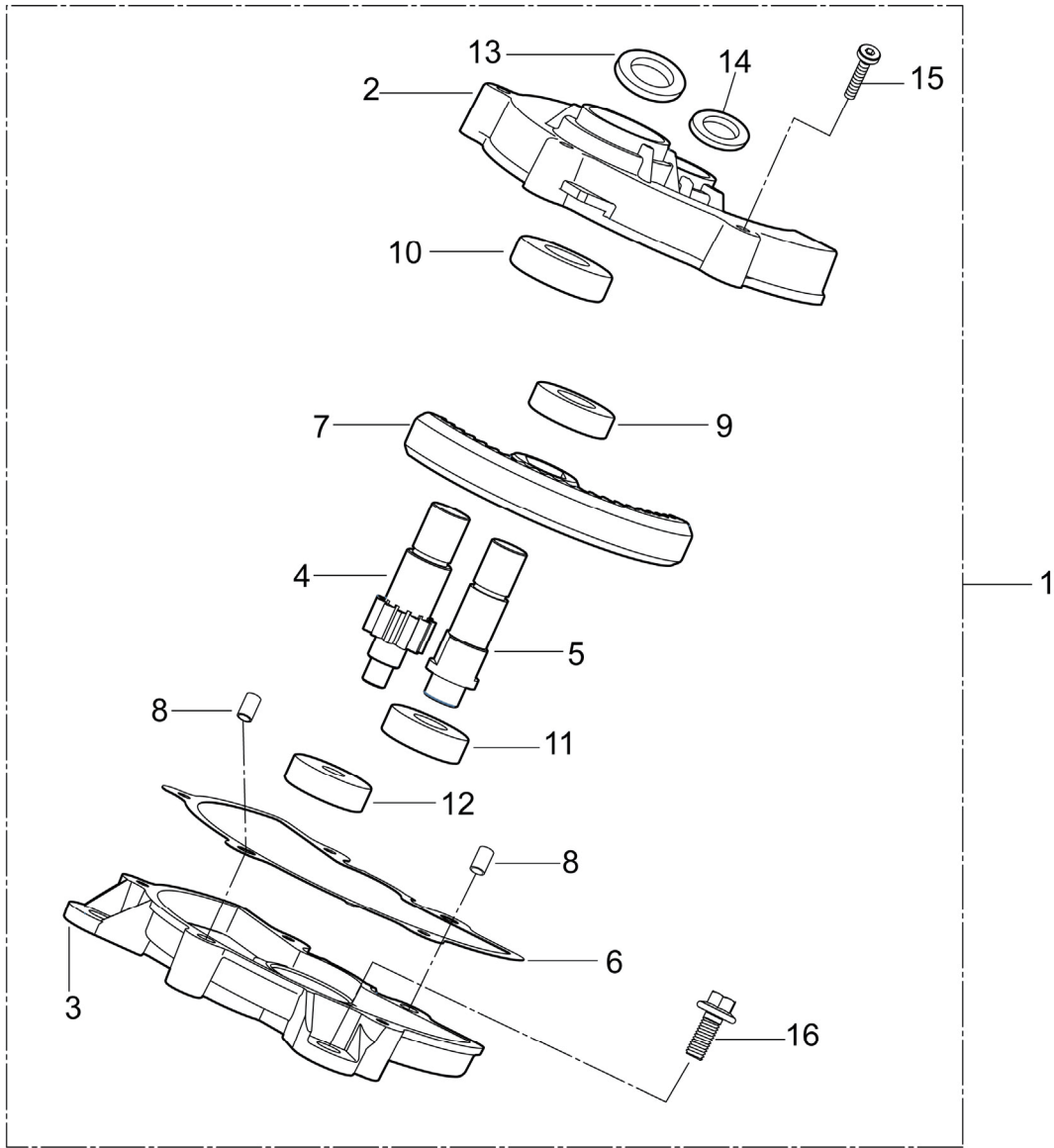
No.	Part Name	Qty	Remarks
	Removing the steering wheel		
1	Steering wheel body	1	
2	Decoration cover for steering wheel	1	
3	Horn assembly	1	
4	Hexagon socket head screw M6×16	6	
5	Screw M5×16	1	
6	Steering column	1	
7	Nut M12×1.25	1	
8	Nylon bushing II	2	
9	Hex flange step bolt M8×13-Φ12×12	2	

CHASSIS



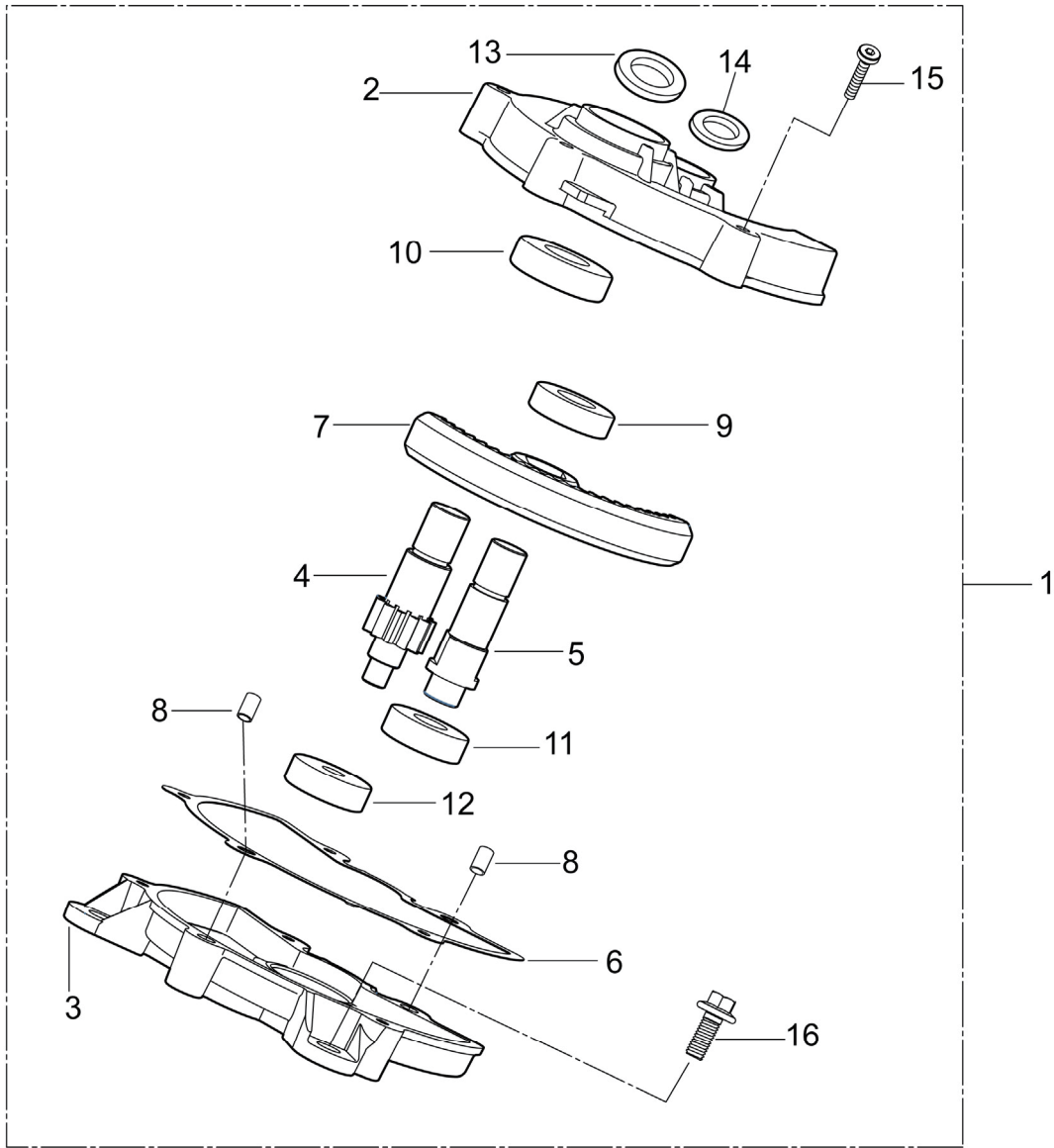
No.	Part Name	Qty	Remarks
21	Socket hexagon flat head screws M6×16	2	
22	Passenger handle bar assy.	1	
23	Handle bar locating seat	1	
24	Handle bar grip	2	
25	Hexagon flange bolt M8×35	1	
26	Hexagon flange self-locked nut M8	1	

CHASSIS



No.	Part Name	Qty	Remarks
1	Steering assembly	1	
2	Steering mechanism upper cover	1	
3	Steering mechanism base	1	
4	Steering mechanism shaft I	1	
5	Steering mechanism shaft II	1	
6	Paper gasket, steering mechanism	1	
7	Gear, steering mechanism	1	
8	Locating Sleeve	2	
9	Bearing 6003-2RZ	1	
10	Bearing 6004-2RZ	1	

CHASSIS



No.	Part Name	Qty	Remarks
11	Bearing 6202-2RZ	1	
12	Bearing 6300-2RZ	1	
13	Oil seal $\Phi 34 \times \Phi 20 \times 7$	1	
14	Oil seal $\Phi 34 \times \Phi 17 \times 5$	1	
15	Hexagon socket head bolt M6×40	5	
16	Bolt M10×1.25×22	3	

CHASSIS

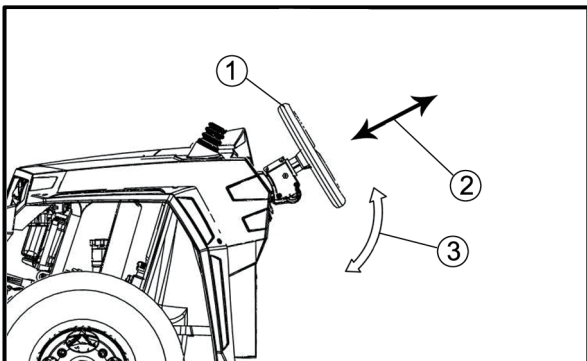
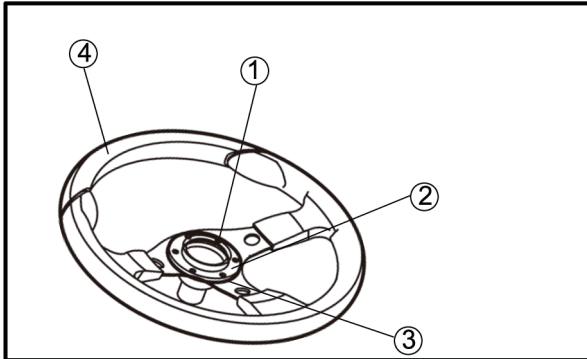
THE STRUCTURE OF STEERING WHEEL PART

DIASSEMBLING THE PARTS OF THE STEERING WHEEL

Remove:

- screw M6×16 ①
- Decoration cover for steering wheel ②
- Horn assembly ③

- a. Takes down the screw ①
- b. Takes down the decoration cover for steering wheel ② and horn assembly ③
- c. Use the special tools pull out the steering wheel ④.



CHECKING THE PARTS OF THE STEERING WHEEL

Check:

- steering wheel ①
- rocky ledge ②
- reverse turning clearance ③

crack/ break → Replace.

loose/play → Adjust.

the steering wheel to rotate whether nimble, do not have stagnation. → Adjust the torque of the steering wheel whether obviously increase → Adjust.

NOTE:

The steering force cutting which exerts to transfers in steering wheel outflow boundary is smaller than 245N.

The reverse running clearance whether does surpass the limited stipulation → Adjust

NOTE:

The reverse running clearance is less than 30mm.

The grip part which is covered by the foam whether has damaged, if it is, must replace a new steering wheel.

CHASSIS

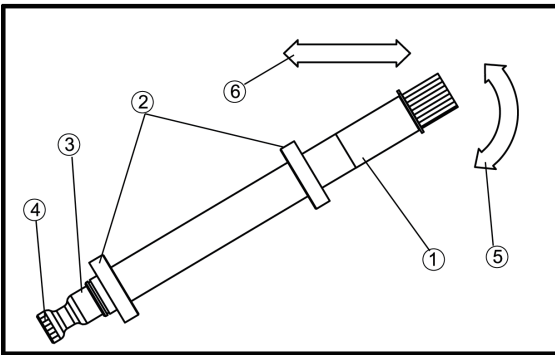
Inspect fastens nut of the steering wheel whether does have flaw and fissure , if it is, must replace.

Check the internal spline between the steering wheel and steering column whether have damaged, if the attrition is serious, must replace the steering wheel.

CHECKING AND SERVICE THE STEERING COLUMN PARTS

1. Check:

- steering column tube ①
- bearing ②
- central axis of the steering shaft ③
- spline ④
- loosening ⑤



The central axis of the steering shaft whether flexible and moves. If does, dismantle and check the axis, bearing and retaining ring whether ware or damaged, according to the inspection situation to instead the parts.

2. Check:

The two ends of the spline on the central axis whether is wear out, if so, instead the central axis.

3. Check:

The spline in the two ends of the central axis whether have wear, if dose, instead the central axis.

4. Check:

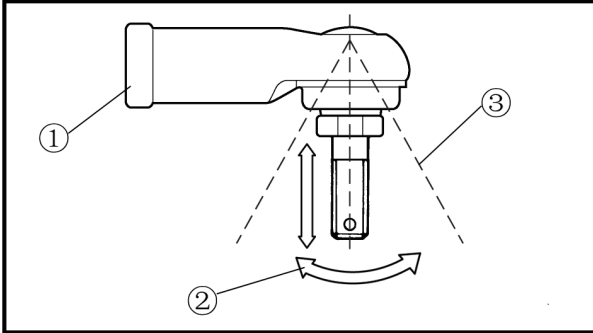
The steering shaft tube and welding line of the branch whether have crack and corrosion, if it does, instead the steering shaft tube.

DIASSEMBLING THE STEERING DRIVE AXLE

1. Loose the clamp one piece M8×30 flange bolt in the cross gimbal, internal spline on the top of the steering drive axle, pull out the top of the steering drive axle.
2. Loose the clamp one piece M8×30 flange bolt in the cross gimbal, spline on the bottom of the steering drive axle, pull out the lower of the steering drive axle.

CHASSIS

STEERING MACHINE PARTS THE STRUCTURE OF THE STEERING

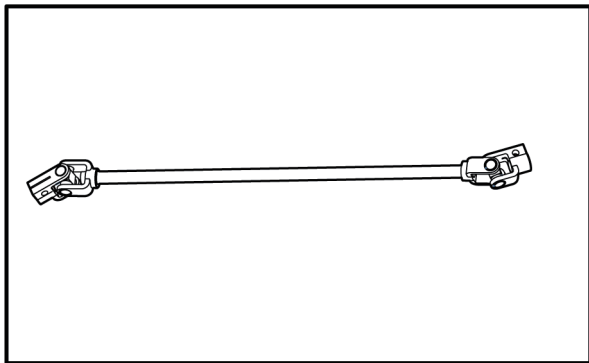


2. Check:

- tie-rod end ①
- turning ②
- rocky ledge ③

Free play → Replace the tie-rod end.

Turns roughly → Replace the tie-rod end.



3. Check:

- tie-rods
- Bends/damage → Replace.

4. Check:

- steering joint
- Crack/distortion → Replace.

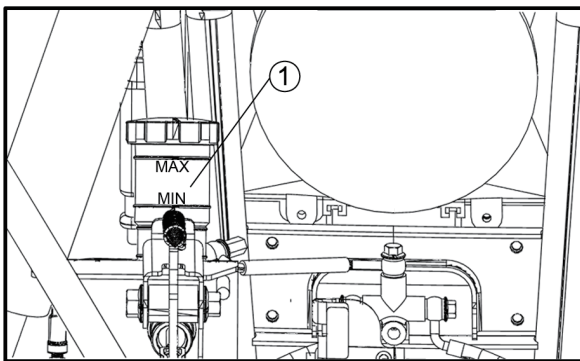
CHASSIS

BRAKE SYSTEM

PREPARATION FOR CHECKING BEFORE THE MAINTENANCE OF THE BRAKE SYSTEM.

Brake system is crucial to the life safety of the operator and therefore must be periodically inspected and maintained.

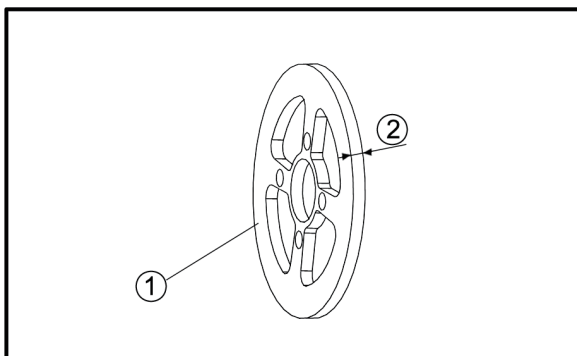
This vehicle uses the single return route hydraulic pressure disc brake system. Please follow the tips of inspection as below.



1. To check the amount of liquid in the oil cup. If it is lower than the minimum mark, refill the box with the same type of fluid as was recommended by the manufacturer, to ensure to fluid level is higher than the minimum mark.
2. The brake should be kept between 3mm-5mm, Otherwise, please adjust the screw to meet required travel distance.
3. Inspect the brake pedal does maintain the certain counter-tension

When checks disk brake plate, the saved liquid in the oil cup will pour automatically into the pressure pipe and the liquid level along with it to reduce, the periodic inspection the disk brake plate liquid volume will be an important project.

Must use DOT4 Brake



4.
 - rear disk brake plate ①
 - thickness ②

Periodical inspection of the wear condition of rear disk brake plate is also necessary. Disk brake plate must be replaced depending on its wear condition.

5. Disk brake plate uses hydraulic pressure of the brake fluid. Therefore, fuel pipe must be periodically inspected and replaced.

Inspection method: If the oil tubing has the aging, crack or distortion, must replace the oil tubing.