YAMAHA

OWNER'S MANUAL



Read this manual carefully before operating this vehicle.

APEX

RX10PA
RX10PSA
RX10PXTA

LIT-12628-02-97

8HG-28199-10

ESU10041

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

YAMAHA LIT-CALIF-65-01

⚠ Read this manual carefully before operating this vehicle. This manual should stay with this vehicle if it is sold.

ESU10121

Congratulations on your purchase of a Yamaha snowmobile. This model is the result of Yamaha's vast experience in the production of fine sporting and touring snowmobiles. It represents the high degree of craftsmanship and reliability that have made Yamaha a leader in these fields.

This manual will give you an understanding of the operation, inspection, and basic maintenance of this snowmobile. If you have any questions concerning the operation or maintenance of your snowmobile, please consult a Yamaha dealer.

Yamaha continually seeks advancements in product design and quality. Therefore, while this manual contains the most current product information available at the time of printing, there may be minor discrepancies between your snowmobile and this manual. If there is any question concerning this manual, please consult a Yamaha dealer.

EWS00670

⚠ WARNING

Please read this manual carefully before operating this snowmobile. Do not attempt to operate this snowmobile until you have attained adequate knowledge of its controls and operating features.

Regular inspections and careful maintenance, along with good operating techniques, will help ensure that you safely enjoy the capabilities and reliability of this snowmobile.

RX10PA
RX10PSA
RX10PXTA
OWNER'S MANUAL
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Printed in Japan.
P/N LIT-12628-02-97

Important manual information

ESU10151

Particularly important information is distinguished in this manual by the following notations.

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

EWS00021

⚠ WARNING

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

ECS00011

NOTICE

A NOTICE indicates special precautions that must be taken to avoid damage to the snowmobile or other property.

TIP

A TIP provides key information to make procedures easier or clearer.

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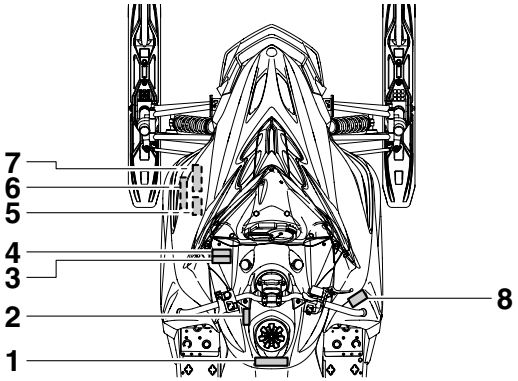
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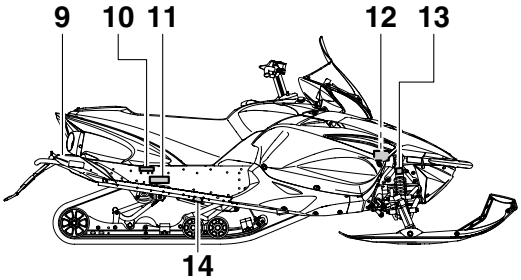
Location of the important labels

ESU10216

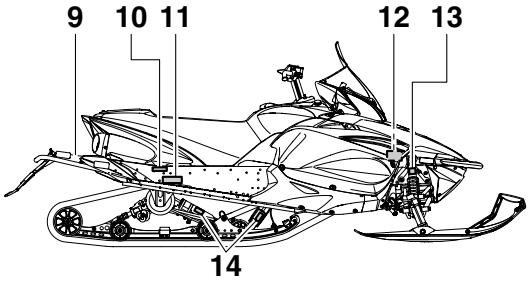
Read and understand all of the labels on your vehicle. They contain important information for safe and proper operation of your vehicle. Never remove any labels from your vehicle. If a label becomes difficult to read or comes off, a replacement label is available from your Yamaha dealer.



RX10P/RX10PS



RX10PXT



Location of the important labels

1

⚠ WARNING	⚠ AVERTISSEMENT
SEVERE INJURY OR DEATH MAY RESULT IF YOU IGNORE ANY OF THE FOLLOWING: • Read the Owner's Manual and all labels before operating this vehicle. • This vehicle is a high performance machine. It should be operated by an experienced operator. • Check throttle, brake, and steering for proper operation before starting engine. • Set parking brake before attempting to start engine. Never run this vehicle with the parking brake applied. • To stop engine in an emergency, push the engine stop switch down. • Do not operate engine without drive belt or drive guard. • Make sure the fuel tank cap is closed securely after refueling. • Do not operate this vehicle on public roads. You could collide with another vehicle. • This vehicle is designed for operator only – no passengers. • Check lever position (Forward or Reverse) before moving. • Wear an approved helmet, eye protection, and adequate clothing for snowmobiling.	AFIN D'ÉVITER TOUT RISQUE DE BLESSURE SÉRIEUSE OU MÊME MORTELLE, VEUILLEZ SUIVRE LES RECOMMANDATIONS SUIVANTES: • Avant d'utiliser ce véhicule, lire le manuel du propriétaire et toutes les étiquettes. • Ce véhicule est une machine à haute performance. Elle doit être conduite par un conducteur expérimenté. • Avant de démarrer le moteur, vérifier l'opération du frein, de l'accélérateur et de la direction. • Le frein de sécurité doit être appliqué lors du démarrage. Ne pas rouler avec le frein de sécurité actionné. • En cas d'urgence, utiliser l'interrupteur d'arrêt du moteur. • Ne pas laisser tourner le moteur sans la courroie ou sans son garde. • S'assurer que le bouchon du réservoir soit bien refermé après le remplissage. • Afin d'éviter tout risque de collision, ne pas rouler sur un chemin public. • Ce véhicule est conçu pour un conducteur seul – aucun passager. • Vérifier la position du levier (marche avant ou arrière) avant d'être en marche. • Toujours porter un casque approuvé et un habillement de motoneigiste. Prévoir une protection pour les yeux

8FR-77761-E0

2

- PREMIUM UNLEADED GASOLINE.
  MIN. OCTANE (PUMP : 91 RON : 95)
- ESSENCE SUPER SANS PLOMB.
  INDICE D'OCTANE MIN. (POMPE : 91 RON : 95)

8GC-2415E-E0

3

ATTENTION

- Eviter de nettoyer le pare-brise avec une solution alcaline ou acide ainsi qu'avec de l'essence ou un diluant.
- Utiliser un détergent neutre.

8ET-2815K-10

4

NOTICE

- Cleaning with alkaline or acid cleaner, gasoline or solvent will damage windshield.
- Use neutral detergent.

8ET-2815K-00

5

⚠ WARNING

DO NOT OPERATE ENGINE WITHOUT V-BELT OR DRIVE GUARD.

⚠ AVERTISSEMENT

NE PAS FAIRE FONCTIONNER LE MOTEUR SANS COURROIE EN V OU PROTECTEUR D'EMBRAYAGE.

YAMAHA 8B0-77782-00

6

TUNE-UP SPECIFICATIONS ENGINE		SPECIFICATIONS DE LA MISE AU POINT 8HG MOTEUR	
1.SPARK PLUG	CR9EB(NGK)	1.TYPE DE BOUGIE	CR9EB(NGK)
2.SPARK PLUG GAP	0.7 ~ 0.8 mm (0.028 ~ 0.031 in)	2.ECARTEMENT DES ÉLECTRODES	0.7 ~ 0.8 mm
3.IDLE SPEED	1600 ± 50 r/min	3.RÉGIME DE RALENTI	1600 ± 50 r/min

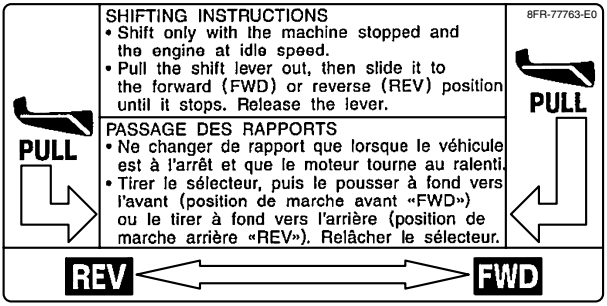
8HG-1417E-00

7

TUNE-UP SPECIFICATIONS	SPECIFICATIONS DE LA MISE AU POINT
DRIVE	ENTRAÎNEMENT
1. CHAIN CASE OIL Q'TY 250 cm³ (8.5 oz)	1. CAPACITÉ D'HUILE DU CARTER DE CHAÎNE 250 cm³
2. CHAIN CASE OIL TYPE GL-3 75W or 80W	2. TYPE D'HUILE DU CARTER DE CHAÎNE GL-3 75W or 80W
3. TRACK TENSION 30 ~ 35 mm (1.18 ~ 1.38 in)/100 N (10 kg, 22 lb)	3. FLÈCHE DE LA CHENILLE 30 ~ 35 mm/100 N (10 kg)
* FOR MORE INFO: SEE SERVICE MANUAL FOR THIS MODEL.	* POUR PLUS DE DÉTAIL: VOIR LE MANUEL D'ATELIER POUR CE MODÈLE.
* SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.	* LES CARACTÉRISTIQUE TECHNIQUES SONT SUSCEPTIBLES DE CHANGER SANS NOTIFICATION PRÉALABLE.

8ES-47578-00

8



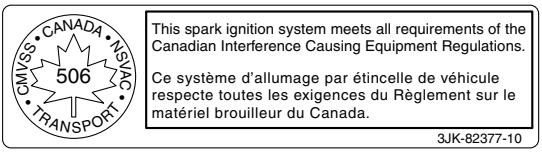
9

⚠ WARNING	⚠ AVERTISSEMENT
NO PASSENGERS OR CARGO ON THIS TRACK COVER. It was not designed to carry weight. It could bend or break under load. Anything placed here could block the view of the brake/tail light which could cause an accident.	**AUCUN PASSAGER OU MARCHANDISE SUR LE PROTECTEUR DE CHENILLE. Ce protecteur n'a pas été conçu pour supporter un poids. Il pourrait s'incurver ou se briser sous la charge. Tout objet ou personne placé à cet endroit pourrait bloquer la vue des feux d'arrêt/arrière et ainsi causer un accident.**

8HA-77762-E0

Location of the important labels

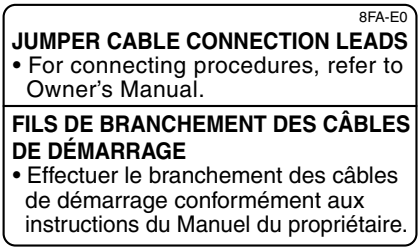
10



11



12



RX10P/RX10PXT
13,14

⚠ WARNING

This unit contains high pressure nitrogen gas.
Mishandling can cause explosion.
• Read owner's manual for instructions.
• Do not incinerate, puncture or open.

⚠ AVERTISSEMENT

Cette unité contient de l'azote à haute pression.
Une mauvaise manipulation peut entraîner d'explosion.
• Voir le manuel d'utilisateur pour les instructions.
• Ne pas brûler ni perforer ni ouvrir.

4AA-22259-70

RX10PS
13

⚠ WARNING

This unit contains high pressure nitrogen gas.
Mishandling can cause explosion.
• Read owner's manual for instructions.
• Do not incinerate, puncture or open.



⚠ AVERTISSEMENT	⚠ 警 告
Cette unité contient de l'azote à haute pression. Une mauvaise manipulation peut entraîner d'explosion. • Voir le manuel d'utilisateur pour les instructions. • Ne pas brûler ni perforer ni ouvrir.	高圧窒素ガス入りです。 取扱いを誤ると爆発する恐れがあります。 • 取扱説明書をよく読んでください。 • 火中への投入、孔あけ、分解はしないでください。

8HR-F2259-00

14

⚠ WARNING

This unit contains high pressure nitrogen gas.
Mishandling can cause explosion.
• Read owner's manual for instructions.
• Do not incinerate, puncture or open.



⚠ AVERTISSEMENT	⚠ 警 告
Cette unité contient de l'azote à haute pression. Une mauvaise manipulation peut entraîner d'explosion. • Voir le manuel d'utilisateur pour les instructions. • Ne pas brûler ni perforer ni ouvrir.	高圧窒素ガス入りです。 取扱いを誤ると爆発する恐れがあります。 • 取扱説明書をよく読んでください。 • 火中への投入、孔あけ、分解はしないでください。

8JC-22259-00

⚠ Safety information

ESU10183

As the vehicle's owner, you are responsible for the safe and proper operation of your snowmobile. When you ride your snowmobile, you must know and use the following for your safety. Severe injury or death may result if you ignore any of the following.

Before you operate your snowmobile

- Read the Owner's Manual and all labels. Become familiar with all of the operating controls and their function. Consult a Yamaha dealer about any control or function you do not understand.
- Wear protective clothing. Wear an approved helmet, and a face shield or goggles. Also, wear a good quality snowmobile suit, boots, and a pair of gloves or mittens that will permit use of your thumbs and fingers for operation of the controls.



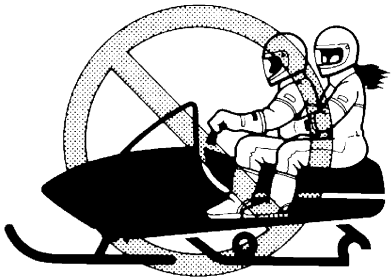
- Do not operate the snowmobile after or while drinking alcohol or taking drugs. Your ability to operate the snowmobile is reduced by the influence of alcohol or drugs.

Prepare your snowmobile

- Perform the pre-operation checks each time you use the vehicle to make sure it is in safe operating condition. Failure to inspect or maintain the vehicle properly increases the possibility of an accident or equipment damage. See page 35 for a list of pre-operation checks.
- Apply the parking brake before starting the engine. Never drive the snowmobile with the parking brake applied. This may overheat the brake disc and reduce braking ability.

While using your snowmobile

- This snowmobile was not manufactured for use on public streets, roads, or highways. Such use is prohibited by law, and you could collide with another vehicle.
- This snowmobile is designed to carry the OPERATOR ONLY. Passengers are prohibited. Carrying a passenger can cause loss of control.



- Be careful where you ride. There may be obstacles hidden beneath the snow. Stay on established trails to minimize your exposure to hazards. Ride slowly and cautiously when you ride off of established trails. Hitting a rock or stump, or running into wires could cause an accident and injury.
- This snowmobile is not designed for use on surfaces other than snow or ice. Use on dirt, sand, grass, rocks, or bare pavement may cause loss of control and may damage the snowmobile.
- Always ride with other snowmobilers when going on a ride. You may need help if you run out of fuel, have an accident, or damage your snowmobile.

- Many surfaces such as ice and hardpacked snow require much longer stopping distances. Be alert, plan ahead and begin decelerating early. The best braking method on most surfaces is to release the throttle and apply the brake gently—not suddenly.

Avoid carbon monoxide poisoning

All engine exhaust contains carbon monoxide, a deadly gas. Breathing carbon monoxide can cause headaches, dizziness, drowsiness, nausea, confusion, and eventually death. Carbon monoxide is a colorless, odorless, tasteless gas which may be present even if you do not see or smell any engine exhaust. Deadly levels of carbon monoxide can collect rapidly and you can quickly be overcome and be unable to save yourself. Also, deadly levels of carbon monoxide can linger for hours or days in enclosed or poorly-ventilated areas. If you experience any symptoms of carbon monoxide poisoning, leave the area immediately, get fresh air, and SEEK MEDICAL TREATMENT.

- Do not run the engine indoors. Even if you try to ventilate engine exhaust with fans or open windows and doors, carbon monoxide can rapidly reach dangerous levels.
- Do not run the engine in poorly ventilated or partially enclosed areas such as barns, garages, or carports.
- Do not run the engine outdoors where engine exhaust can be drawn into a building through openings such as windows and doors.

Genuine Yamaha Accessories

Choosing accessories for your snowmobile is an important decision. Genuine Yamaha Accessories, which are available only from a Yamaha dealer, have been designed, tested, and approved by Yamaha for use on your snowmobile. Many companies with no connection to Yamaha manufacture parts and accessories or offer other modifications for Yamaha vehicles. Yamaha is not in a position to test the products that these aftermarket companies produce. Therefore, Yamaha can neither endorse nor recommend the use of accessories not sold by Yamaha or modifications not specifically recommended by Yamaha, even if sold and installed by a Yamaha dealer.

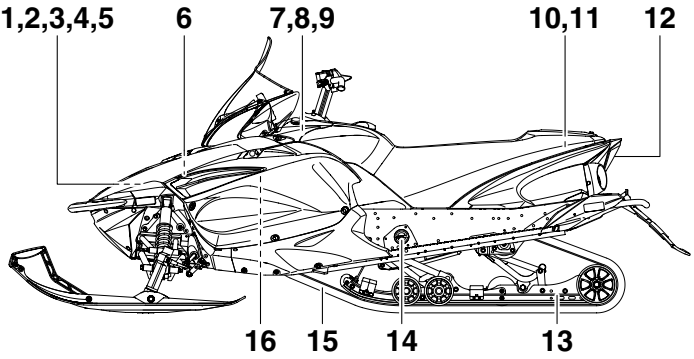
Maintenance and storage

- When laying the snowmobile on its side for maintenance, use a suitable stand to keep it in a stable and level position.
- Do not leave the snowmobile on its left side for an extended period of time. Fuel may leak out from the fuel breather hose.
- Do not allow anyone to stand behind the snowmobile when starting, inspecting, or adjusting the snowmobile. A broken track, track fittings, or debris thrown by the track could be dangerous to the operator or bystanders.
- Modifications made to the snowmobile not approved by Yamaha, or the removal of original equipment may render your snowmobile unsafe for use, which may cause severe personal injury. Modifications may also make the snowmobile illegal to use.
- Never store the snowmobile with fuel in the fuel tank inside a building where ignition sources are present such as hot water and space heaters, an open flame, sparks, clothes dryers, and the like. Allow the engine to cool off before storing the snowmobile in an enclosed space.

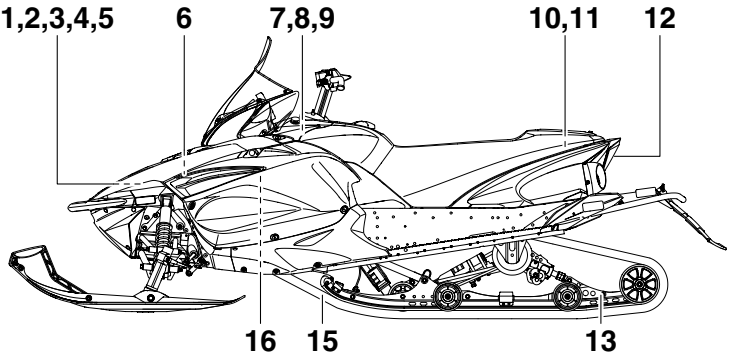
Description

ESU10261

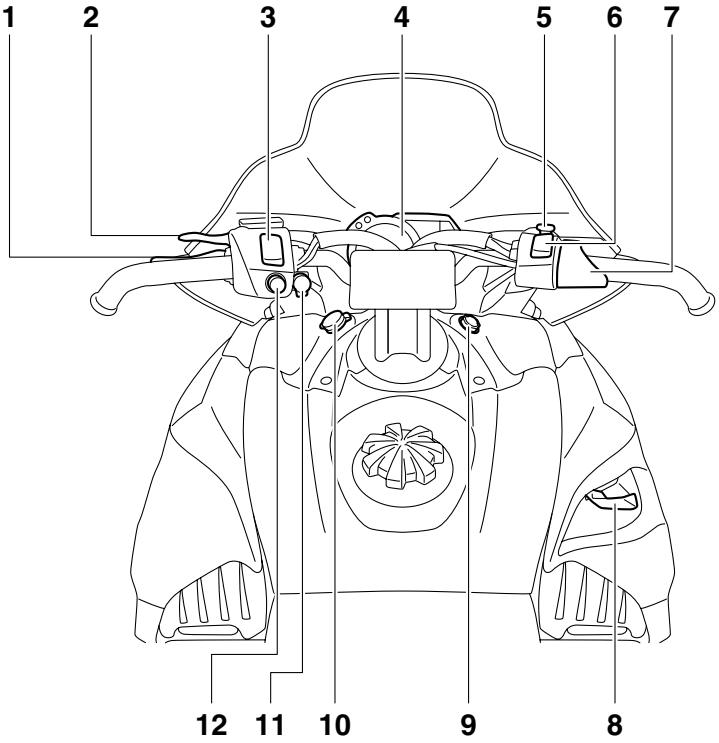
RX10P/RX10PS



RX10PXT



1. Battery
2. Main fuse
3. EPS fuse
4. Fuel injection system fuse
5. Air filter
6. Oil filler cap
7. Fuse box
8. Coolant reservoir
9. Coolant recovery tank
10. Tool kit
11. Storage compartment
12. Tail/brake light
13. Slide rail suspension
14. Rear shock absorber damping force remote adjusting dial (RX10P)
15. Drive track
16. V-belt holder



1. Brake lever
2. Parking brake lever
3. Grip warmer adjusting switch
4. Multi-function meter unit
5. Engine stop switch
6. Thumb warmer adjusting switch
7. Throttle lever
8. Shift lever
9. Main switch
10. Auxiliary DC jack
11. Helmet shield heater jack
12. Headlight beam switch

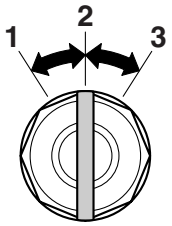
TIP

- The snowmobile you have purchased may differ slightly from those shown in the figures of this manual.
- Design and specifications are subjected to change without notice.

ESU10292

Main switch

The main switch controls the ignition and lighting systems. The various positions are described below.



1. Off
2. On
3. Start

Off

The ignition circuit is switched off.
The key can be removed only in this position.

On

The ignition circuit is switched on.

Start

The starting circuit is switched on.
The starter motor cranks the engine. ***NOTICE:*** **Release the switch immediately after the engine starts.** [ECS00021]

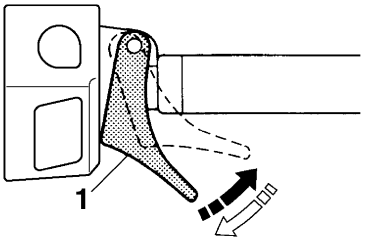
TIP

The headlights and taillight come on after the engine is started.

ESU10312

Throttle lever

Once the engine is running cleanly, squeezing the throttle lever will increase the engine speed and cause engagement of the drive train. Regulate the speed of the snowmobile by varying the throttle position. Because the throttle is spring-loaded, the snowmobile will decelerate, and the engine will return to idle when it is released.



1. Throttle lever

ESU13242

Throttle override system (T.O.R.S.)

EWS00041

⚠ WARNING

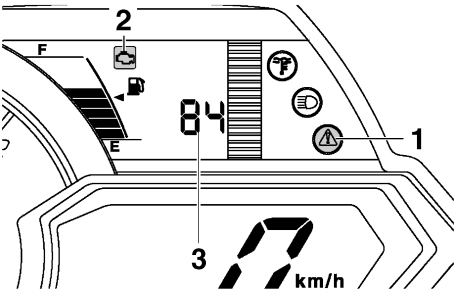
If the T.O.R.S. is activated, make sure that the cause of the malfunction has been corrected and that the engine can be operated without a problem before restarting the engine. Continuing to operate with a malfunction could cause loss of control or damage.

If the throttle valves or throttle cable malfunctions during operation, the T.O.R.S. will be activated when the throttle lever is released.
The T.O.R.S. is designed to override the fuel injection and limit the engine speed to less than the clutch engagement speed if the throttle valves fail to return to the idle position when the throttle lever is released. (See page 88 for the clutch engagement speed.)

	Idling	Riding	Malfunction
Throttle lever	Released	Squeezed	Released
Throttle valve	Closed	Open	Open
T.O.R.S.	Engine runs properly.	Engine runs properly.	T.O.R.S. will be activated.

TIP

If the T.O.R.S. is activated, the warning light and engine trouble warning indicator flash, and the two-digit code “84” displays in the meter display. If this occurs, have a Yamaha dealer check the system as soon as possible.



1. Warning light “⚠”
2. Engine trouble warning indicator “”
3. Two-digit code “84”

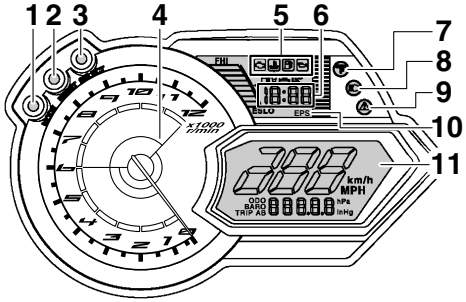
ESU10367

Multi-function meter unit

The multi-function meter unit is equipped with the following:

- a digital speedometer
- a tachometer
- an odometer
- two tripmeters (which show the distance traveled since they were last set to zero)
- a fuel reserve tripmeter (which shows the distance traveled since the fuel level warning indicator and the warning light came on)
- an oil change tripmeter (which shows the distance traveled since the periodic oil change interval was reached)
- a barometer (which shows the ambient barometric pressure)
- a clock
- warning indicators (which show engine trouble, coolant temperature, fuel level, oil level, and oil pressure warnings)
- indicator lights (which show high beam and low coolant temperature conditions)
- a warning light (which shows warnings together with the warning indicators)
- a fuel meter (which shows the fuel remaining in the fuel tank)
- a grip/thumb warmer level indicator (which shows the grip warmer level or the thumb warmer level)
- a display brightness control function
- an electric power steering warning indicator

When the key is turned to the on position, the tachometer needle makes one sweep, and the low coolant temperature indicator light, the warning light, and all segments of the meter unit display come on and go off.



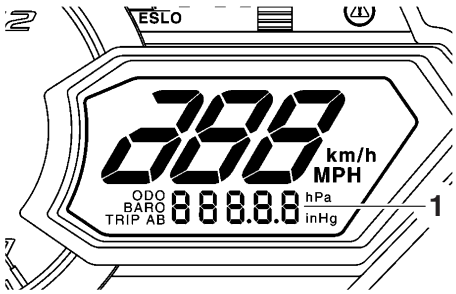
1. “MODE” button
2. “RESET” button
3. “SELECT” button
4. Tachometer
5. Warning indicators
6. Clock
7. Low coolant temperature indicator light “”
8. High beam indicator light “”
9. Warning light “⚠”
10. Electric power steering warning indicator “EPS”
11. Meter display

The grip warmer level is initially displayed for 5 seconds, then the display switches to the fuel meter.

TIP

- To switch the speedometer, odometer, and tripmeter displays between kilometers and miles, select the odometer mode “ODO”, and then push the “SELECT” button for at least 10 seconds while the snowmobile is stopped.
- To switch the barometer display between hectopascal “hPa” and inches of mercury “inHg”, select the barometer mode “BARO”, and then push the “SELECT” button for at least 3 seconds while the snowmobile is stopped.

Odometer, tripmeter, and barometer modes



1. Odometer/tripmeter/barometer

Pushing the “SELECT” button switches the display between the odometer mode “ODO”, tripmeter modes “TRIP A” and “TRIP B”, and barometer mode “BARO” in the following order:

ODO → TRIP A → TRIP B → BARO → ODO

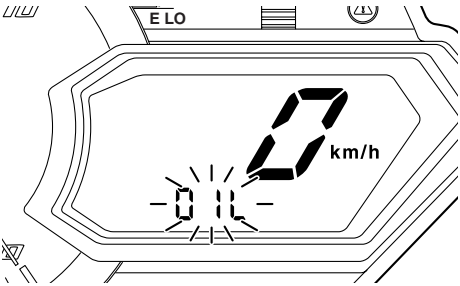
If the fuel level warning indicator and the warning light come on (see page 14), the odometer display will automatically change to the fuel reserve tripmeter mode “F-TRIP” and start counting the distance traveled from that point. In that case, push the “SELECT” button to switch the display between the various tripmeter and odometer modes in the following order:

F-TRIP → ODO → TRIP A → TRIP B → BARO →F-TRIP

To reset a tripmeter, select it by pushing the “SELECT” button, and then push the “RESET” button for at least 1 second. If you do not reset the fuel reserve tripmeter manually, it will reset itself automatically, and the display will return to the prior mode after the snowmobile has been refueled and traveled 5 km (3 mi).

Oil change tripmeter

When the periodic oil change interval is reached at the initial 800 km (500 mi), then at every 4000 km (2500 mi) thereafter, the oil change tripmeter and “OIL” flash alternately in the odometer display, and the tripmeter starts counting the distance traveled from that point. When this occurs, change the engine oil as soon as possible. (See page 56 for the oil change procedure.)



TIP

- The oil change tripmeter will flash only when the snowmobile is stopped.
- To return to the previous display mode, push the “SELECT” button. To display the oil change tripmeter again, turn the key to the off position, then back to the on position.

After changing the engine oil, reset the oil change tripmeter as follows.

To reset the oil change tripmeter (when the engine oil was changed after the oil change tripmeter appeared)

1. To display the oil change tripmeter, turn the key to the on position.
2. Push the “RESET” button for at least 1 second while the oil change tripmeter and “OIL” are flashing alternately in the odometer display. The distance traveled since the last oil change and “OIL” will flash alternately in the odometer display.
3. Push the “RESET” button for approximately 3 seconds. “00000” and “OIL” will flash alternately in the odometer display 3 times, and then the display will return to the previous display mode.

If the engine oil is changed before the oil change tripmeter appears in the display (i.e., before the periodic oil change interval has been reached), the tripmeter must be reset after the oil change for the next periodic oil change to be indicated at the correct time.

In that case, reset the oil change tripmeter as follows.

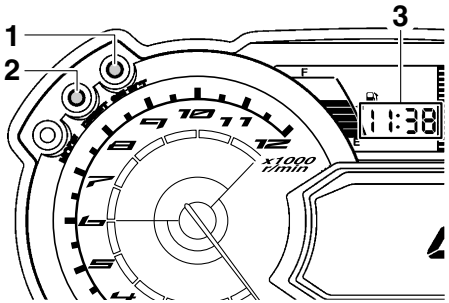
To reset the oil change tripmeter (when the engine oil was changed before the oil change tripmeter appeared)

1. Push the “SELECT” button until “ODO” is displayed, and then push the “RESET” button for at least 1 second. The distance traveled since the last oil change and “OIL” will flash alternately in the odometer display.
2. Push the “RESET” button for approximately 3 seconds. “00000” and “OIL” will flash alternately in the odometer display 3 times, and then the display will return to the previous display mode.

Clock

To set the clock

1. Push the “SELECT” button and “RESET” button simultaneously until the hour digits start flashing.



1. “SELECT” button
2. “RESET” button
3. Clock

2. Push the “RESET” button to change the hour setting, and then push the “SELECT” button. The minute digits will start flashing.
3. Push the “RESET” button to change the minute setting, and then push the “SELECT” button. The clock starts when the “SELECT” button is released.

TIP

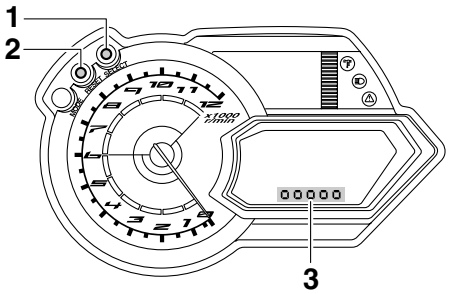
The clock must be set again when the battery is disconnected.

Display brightness control

This function allows you to adjust the brightness of the meter display to suit the outdoor lighting conditions.

To adjust the display brightness

1. Turn the key to the off position.
2. Push and hold down the “SELECT” button.



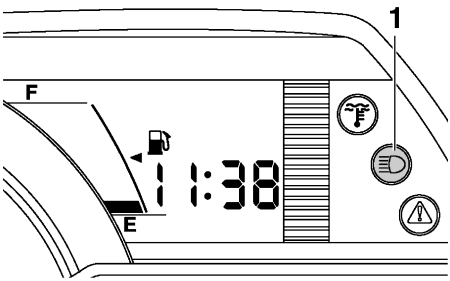
1. “SELECT” button
2. “RESET” button
3. Display brightness level

3. Turn the key to the on position, and then, after 5 seconds, release the “SELECT” button.
4. Push the “RESET” button to select the desired display brightness level, and then push the “SELECT” button. The normal display returns when the “SELECT” button is released.

ESU10411

High beam indicator light “ ”

The high beam indicator light comes on when the high beams of the headlights are switched on. (See page 18 for headlight beam switch operation.)



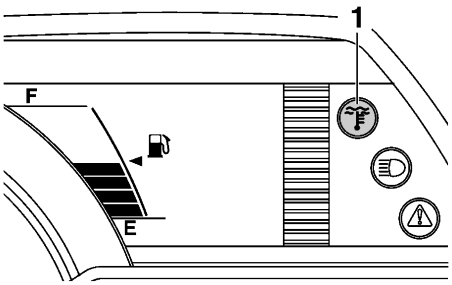
1. High beam indicator light “ ”

ESU10473

Low coolant temperature indicator light “ ”

The low coolant temperature indicator light comes on when the coolant temperature is low and informs the rider that the snowmobile should be warmed up. After the engine is started, warm it up until the indicator light goes off.

The snowmobile can be operated normally after the indicator light goes off.



1. Low coolant temperature indicator light “ ”

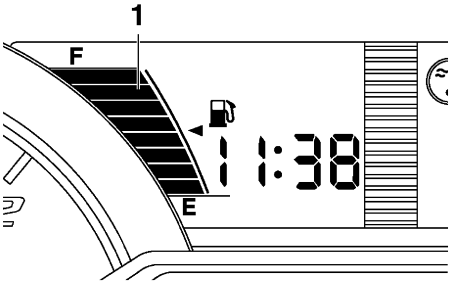
TIP

Drive the snowmobile at low speeds when the low coolant temperature indicator light is on. If the engine speed is too high, maximum engine speed is reduced to protect the engine.

ESU10425

Fuel meter and grip/thumb warmer level indicator

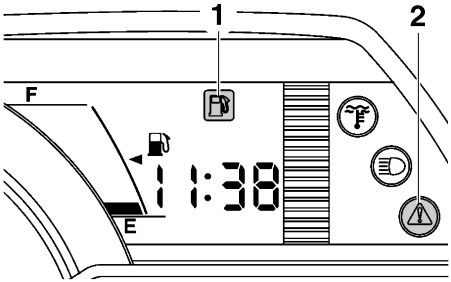
The fuel meter and grip/thumb warmer level indicator have eight segments which show the amount of fuel remaining in the fuel tank, the grip warmer level, or the thumb warmer level.



1. Fuel meter and grip/thumb warmer level indicator

Fuel meter

The display segments of the fuel meter disappear towards “E” (Empty) as the fuel level decreases. When only one segment is left near “E”, the fuel level warning indicator and the warning light come on.



1. Fuel level warning indicator “⛽”
2. Warning light “⚠”

If the fuel level warning indicator and the warning light come on, refuel as soon as possible.

TIP

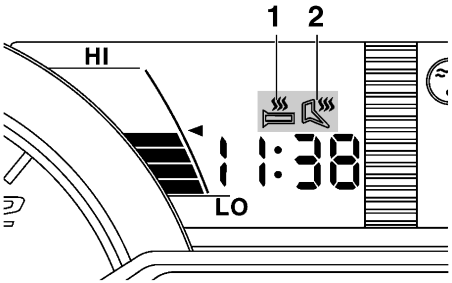
The snowmobile must be stopped on a level surface to obtain an accurate fuel meter reading, since the reading changes according to the movement and inclination of the snowmobile.

Grip/thumb warmer level indicator

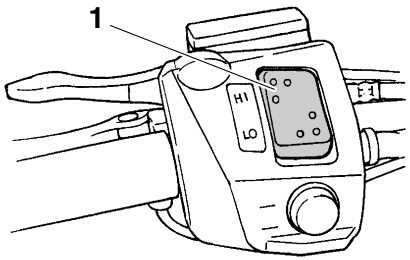
When the grip warmer adjusting switch is pressed, the grip warmer indicator comes on and the display switches to the grip warmer level.

When the thumb warmer adjusting switch is pressed, the thumb warmer indicator comes on and the display switches to the thumb warmer level.

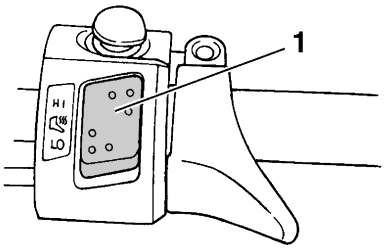
See “Grip/thumb warmer adjusting switch” on page 19 for detailed information.



1. Grip warmer indicator “♨”
2. Thumb warmer indicator “”



1. Grip warmer adjusting switch



1. Thumb warmer adjusting switch

TIP

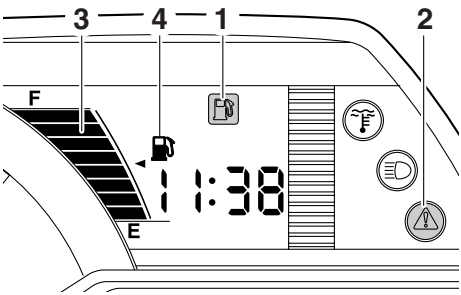
- The grip/thumb warmer level is displayed for 5 seconds after releasing the grip/thumb warmer adjusting switch, then the display switches to the fuel meter.
- The top segment of the grip/thumb warmer level indicator flashes once when the grip/thumb warmer adjustment reaches the maximum level. The bottom segment of the grip/thumb warmer level indicator flashes once when the grip/thumb warmer adjustment reaches the minimum level.
- When the engine is started, the grip/thumb warmer levels are set to the levels selected when the engine was last stopped.

ESU13252

Fuel level warning indicator "⛽"

The fuel level warning indicator and the warning light come on when the fuel level is low. (See page 14 for details.)

The fuel level warning indicator, the warning light, the fuel meter indicator, and all segments of the fuel meter start to flash when a malfunctioning sensor, disconnected coupler, broken lead, or short circuit is detected by the self-diagnosis device of the snowmobile to warn the rider of any of the above problems. If this occurs, have a Yamaha dealer inspect the snowmobile as soon as possible.



1. Fuel level warning indicator "⛽"
2. Warning light "⚠"
3. Fuel meter
4. Fuel meter indicator "⛽"

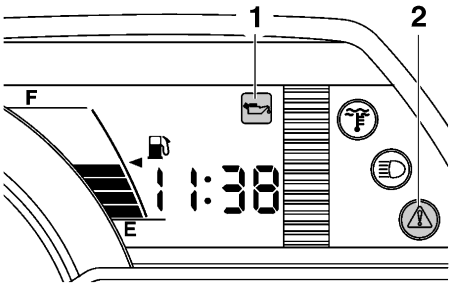
ESU13990

Oil level/pressure warning indicator "🛢"

The oil level/pressure warning indicator has two functions. The warning indicator comes on when the engine oil level is low and when the engine oil pressure is low. The functions are explained in the following sections.

Oil level warning

The warning indicator and the warning light come on when the engine oil level is low.



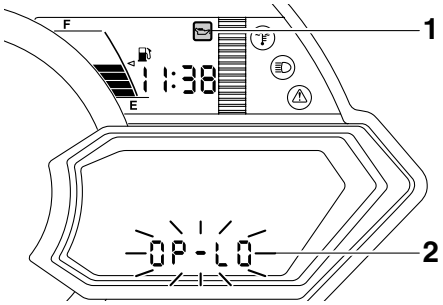
1. Oil level/pressure warning indicator "🛢"
2. Warning light "⚠"

If the warning indicator and the warning light come on, place the snowmobile on a level surface and allow it to idle for one minute.

If the warning indicator and the warning light go off, the engine oil level is sufficient, however it is getting low. Add engine oil as soon as possible.
If the warning indicator and the warning light do not go off, check the engine oil level in the oil tank (see page 56 for engine oil level checking procedures), and add engine oil if necessary.
If the warning indicator and the warning light still remain on, have a Yamaha dealer check the snowmobile.

Oil pressure warning

The warning indicator comes on and "OP-LO" (oil pressure low) appears in the odometer display if the engine oil pressure is low when the engine is started. At the same time, the engine speed is limited to less than the clutch engagement speed until the warning indicator goes off.
If the engine oil pressure remains low for one minute, the engine stops. If this occurs, have a Yamaha dealer check the snowmobile.



1. Oil level/pressure warning indicator ""
2. "OP-LO" (oil pressure low)

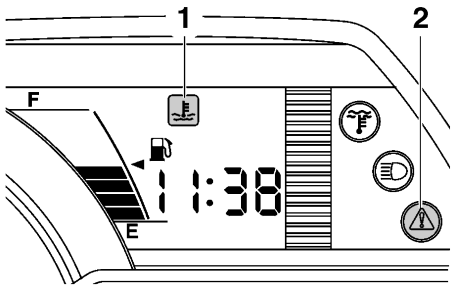
TIP

If there is no engine oil in the oil passages when the engine is started, such as after the engine oil is changed, the warning indicator may come on and "OP-LO" may appear in the odometer display for a few seconds until the oil circulates through the engine. The snowmobile can be operated normally after the warning indicator goes off.

ESU10513

Coolant temperature warning indicator ""

If the engine overheats, the coolant temperature warning indicator and the warning light come on. When this occurs, stop the engine immediately and allow the engine to cool down, and then check the coolant level in the coolant reservoir. (See page 60 for checking procedures.)



1. Coolant temperature warning indicator ""
2. Warning light ""

ECS00041

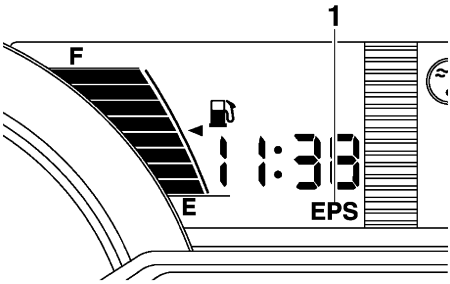
NOTICE

Do not continue to operate the engine if it is overheating.

ESU13811

Electric power steering warning indicator "EPS"

The electric power steering warning indicator comes on when the key is turned to the on position, and then goes off once the engine is started. If the warning indicator remains on or comes on after the engine is started, the EPS system may not be working correctly. When this occurs, have a Yamaha dealer check the EPS system.



1. Electric power steering warning indicator "EPS"

TIP

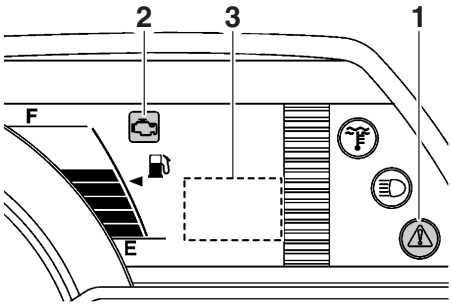
If the steering load is too heavy (i.e., excessive steering use when the snowmobile is traveling at a slow speed), the power assist is reduced to protect the EPS motor from overheating.

ESU13365

Self-diagnosis device

This model is equipped with a self-diagnosis device for various electrical circuits.

If a problem is detected in any of those circuits, the warning light and the engine trouble warning indicator flash, and an error code displays in the meter display. Note the error code, and then have a Yamaha dealer inspect the snowmobile as soon as possible. ***NOTICE:*** **Do not continue to operate the engine longer than necessary if there is an error code to avoid possible engine damage.** [ECS00820]

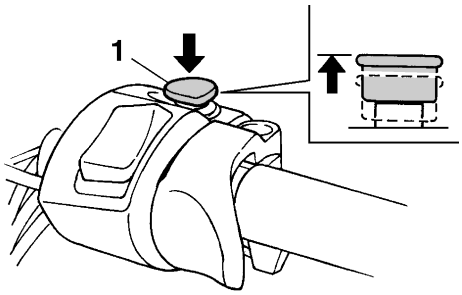


1. Warning light "⚠"
2. Engine trouble warning indicator "🔧"
3. Error code display

ESU10531

Engine stop switch "⊗"

The engine stop switch is used to stop the engine in an emergency. Simply push the stop switch to stop the engine. To start the engine, pull the stop switch and proceed with starting the engine. (See page 37 for engine starting procedures.)



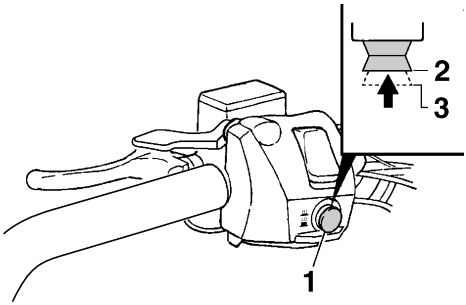
1. Engine stop switch "⊗"

During the first few rides, practice using the stop switch so that you can react quickly in an emergency.

ESU10661

Headlight beam switch "LIGHTS"

Push the headlight beam switch to change the headlight to high beam "HI" or to low beam "LO".

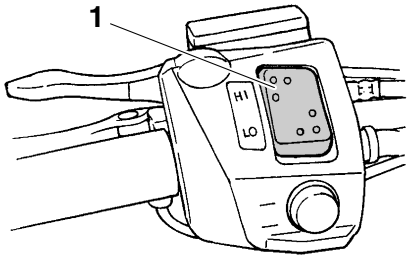


1. Headlight beam switch “LIGHTS”
2. High beam “HI”
3. Low beam “LO”

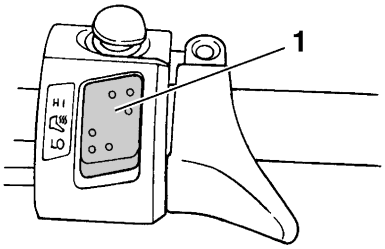
ESU12653

Grip/thumb warmer adjusting switch

The grip warmer adjusting switch and the thumb warmer adjusting switch control the electrically heated handlebar grips and throttle lever respectively.



1. Grip warmer adjusting switch



1. Thumb warmer adjusting switch

To raise the temperature, press the respective switch to “HI”. To lower the temperature, press the switch to “LO”. (See page 14 for more information.)

ESU10696

Auxiliary DC jack

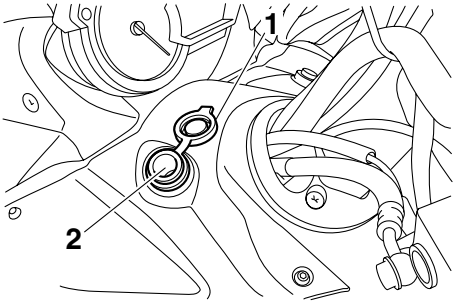
The auxiliary DC jack is located in the front panel and can be used for accessories.

TIP

The auxiliary DC jack can only be used if the engine is running.

To use the auxiliary DC jack

1. Start the engine.
2. Open the auxiliary DC jack cap, and then insert the accessory power plug into the jack.



1. Auxiliary DC jack cap
2. Auxiliary DC jack

3. After using the auxiliary DC jack, be sure to remove the accessory power plug from the jack and to close the auxiliary DC jack cap.

ECS00122

NOTICE

- **To avoid circuit overload and a possible fuse blowing, do not use accessories requiring more than the maximum rated capacity for the auxiliary DC jack. (See page 78 for the specified fuse amperage.)**

- **Do not use an automotive cigarette lighter or other accessory with a plug that gets hot because the jack can be damaged.**

Maximum rated capacity:
DC 12 V, 2.5 A (30 W)

ESU13264

Helmet shield heater jack

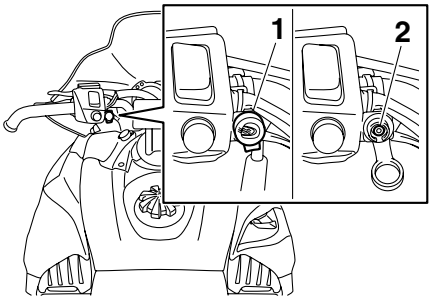
The helmet shield heater jack is located on the left side of the handlebar.

TIP

The helmet shield heater jack can only be used if the engine is running.

To use the helmet shield heater jack

1. Start the engine.
2. Open the helmet shield heater jack cap, and then insert the power plug of the helmet shield heater into the jack.



1. Helmet shield heater jack cap
2. Helmet shield heater jack

3. After using the helmet shield heater, be sure to remove its power plug from the jack and to close the jack cap.

ECS00892

NOTICE

To avoid circuit overload and a possible fuse blowing, do not use a helmet shield heater requiring more than the maximum rated capacity for the helmet shield heater jack. (See page 78 for the specified fuse amperage.)

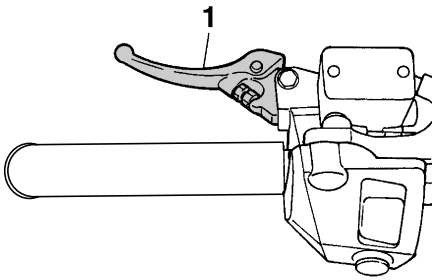
Maximum rated capacity:
DC 12 V, 1.5 A (18 W)

ESU13523

Brake lever

The snowmobile is stopped by braking the entire drive system.

Squeeze the brake lever towards the handlebar grip to stop the snowmobile.



1. Brake lever

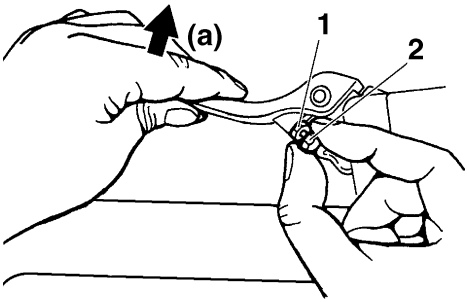
TIP

When the brake lever is squeezed, the brake light comes on.

The brake lever is equipped with a position adjuster.

To adjust the brake lever position

1. Loosen the locknut.
2. While lightly pushing the brake lever in direction (a), turn the adjusting bolt to set the brake lever to the desired position.



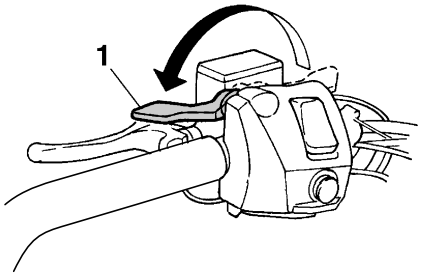
1. Locknut
2. Adjusting bolt

3. Tighten the locknut securely after adjusting the brake lever position.

ESU10581

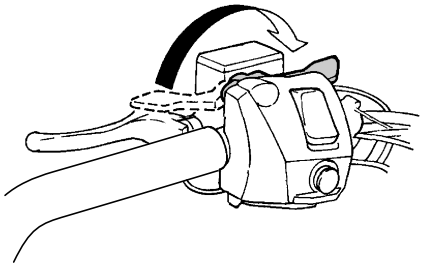
Parking brake lever

When parking the snowmobile or starting the engine, apply the parking brake by moving the parking brake lever to the left.



1. Parking brake lever

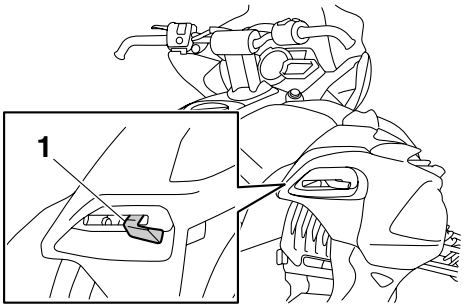
To release the parking brake, move the parking brake lever to the right.



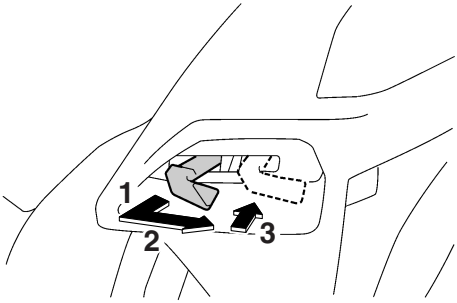
ESU10593

Shift lever

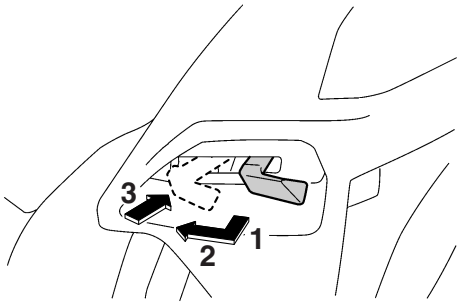
The shift lever is used to put the snowmobile into forward or reverse. After coming to a complete stop, pull the shift lever out, slide it to “FWD” or to “REV” until it stops, and then release it.



1. Shift lever



1. Pull out.
2. Slide to “FWD” (forward).
3. Release.



1. Pull out.
2. Slide to “REV” (reverse).
3. Release.

ECS00072

NOTICE

Do not use the shift lever while the snowmobile is moving, otherwise the drive train could be damaged.

ESU13314

Drive guard

EWS00402

⚠ WARNING

- **Coming in contact with the rotating V-belt or clutch parts can cause severe injury or death. Never run the engine with the drive guard removed.**
- **Make sure that the drive guard is installed securely before operating the snowmobile to protect against severe injury or death from a broken V-belt or other part should it come off the snowmobile while it is in operation.**

ECS00930

NOTICE

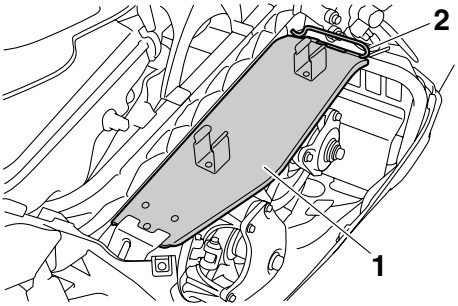
- **Never run the engine with the V-belt removed. Clutch components can be damaged.**
- **Be careful not to scratch the windshield when removing or installing the drive guard.**

The drive guard is designed to protect the V-belt clutch and V-belt in case parts break or come loose.

The drive guard is located behind the left side cover. (See page 49 for removal procedures.)

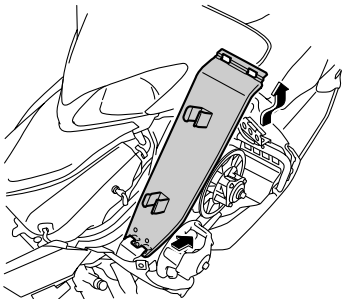
To remove the drive guard

1. Pull out the drive guard locking pin from the drive guard rear holder.



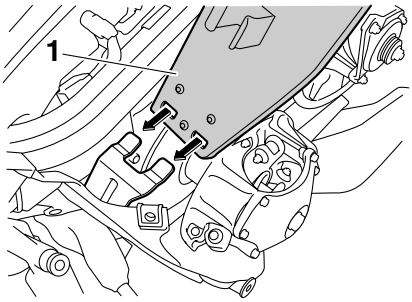
1. Drive guard
2. Drive guard locking pin

2. Lift up the rear of the drive guard as shown, and then pull the guard rearward to remove it.



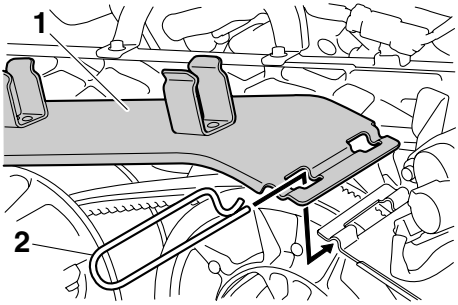
To install the drive guard

1. Fit the front slots in the drive guard over the projections on the drive guard front holder.



1. Drive guard

2. Align the slots in the rear of the drive guard with the projections on the drive guard rear holder, and then insert the drive guard locking pin into the holder as shown.

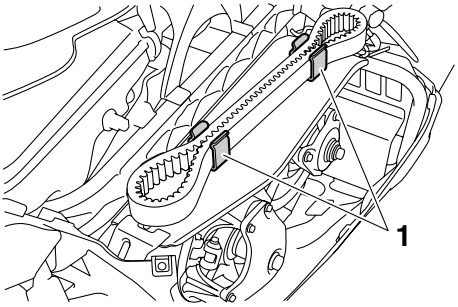


1. Drive guard
2. Drive guard locking pin

ESU10761

V-belt holders

Keep a spare V-belt for emergency use by placing it into the V-belt holders provided.



1. V-belt holder

ECS00180

NOTICE

Make sure that the V-belt is installed securely in the holders.

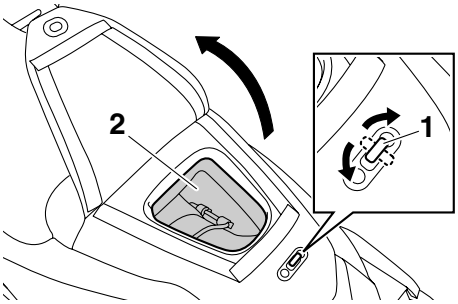
ESU10811

Storage compartment

The storage compartment is located behind the seat. Use the storage compartment to store the tool kit, manuals, spare parts, or other small items.

To open the storage compartment

Turn the fastener 1/2 turn in either direction, and then fold the storage compartment cover up.



1. Fastener
2. Storage compartment

To close the storage compartment

Fold the storage compartment cover down, and then turn the fastener to the original position.

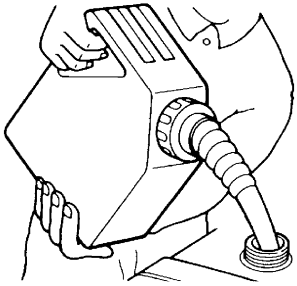
ESU10626
Fuel
EWS00071

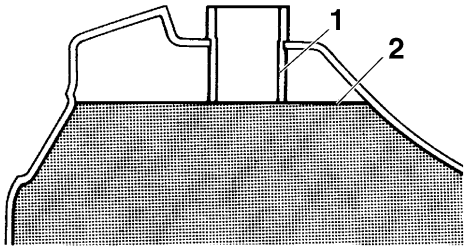
⚠ WARNING

Gasoline and gasoline vapors are extremely flammable. To avoid fires and explosions and to reduce the risk of injury when refueling, follow these instructions.

Make sure there is sufficient gasoline in the tank.

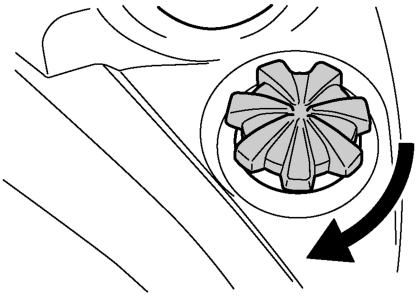
1. Before refueling, turn off the engine and be sure that nobody is on the snowmobile. Never refuel while smoking, or while in the vicinity of sparks, open flames, or other sources of ignition such as the pilot lights of water heaters and clothes dryers.
2. Do not overfill the fuel tank. Stop filling when the fuel reaches the bottom of the filler tube. Because fuel expands when it heats up, heat from the engine or the sun can cause fuel to spill out of the fuel tank.





1. Filler tube
2. Maximum fuel level

3. Wipe up any spilled fuel immediately.
4. Be sure the fuel tank cap is closed securely by turning it clockwise.



EWS00680

⚠ WARNING

Gasoline is poisonous and can cause injury or death. Handle gasoline with care. Never siphon gasoline by mouth. If you should swallow some gasoline or inhale a lot of gasoline vapor, or get some gasoline in your eyes, see your doctor immediately. If gasoline spills on your skin, wash with soap and water. If gasoline spills on your clothing, change your clothes.

Recommended fuel:
PREMIUM UNLEADED GASOLINE ONLY
Fuel tank capacity:
34.6 L (9.14 US gal, 7.61 Imp.gal)

Your Yamaha engine has been designed to use premium unleaded gasoline with a pump octane number [(R+M)/2] of 91 or higher, or a research octane number of 95 or higher.
If the recommended fuel is not used, the engine may not perform as it should.

ECS00084

NOTICE

- **Oxygenated fuels (gasohol) containing a maximum 10% of ethanol (E10) can be used, although richer jetting may be required to prevent engine damage. Consult a Yamaha dealer. Gasohol containing methanol is not recommended.**
- **Make sure that snow or ice does not enter the fuel tank when refueling.**
- **Do not use alcohol deicers or water absorbing additives with oxygenated fuel.**
- **The fuel tank should be filled with the recommended gasoline. The use of other gasoline will cause severe damage to internal engine parts, such as the valves and piston rings, as well as to the exhaust system.**

ESU14000

Suspension

The suspension can be adjusted to suit rider preference. Softer settings, for example, may provide greater rider comfort, while harder settings may allow more precise handling and control over certain types of terrain or riding conditions.
If you are not familiar with suspension adjustments, have a Yamaha dealer make these adjustments.

EWS00151

⚠ WARNING

Read and understand the following information before handling shock absorbers that contain highly pressurized nitrogen gas.

- **Do not tamper with or attempt to open the cylinder assemblies.**
- **Do not subject the shock absorbers to an open flame or other high heat source. This may cause the unit to explode due to excessive gas pressure.**
- **Do not deform or damage the cylinders in any way. Cylinder damage will result in poor damping performance.**
- **Do not dispose of a damaged or worn out shock absorber yourself. Take the shock absorber to a Yamaha dealer for any service.**

TIP

Use the special wrench included in the owner's tool kit to make the suspension adjustments. If the tool kit for your model does not include the special wrench, the special wrench can be obtained at a Yamaha dealer.

ESU10894

Adjusting the spring preload of the front shock absorbers (RX10P / RX10PXT)

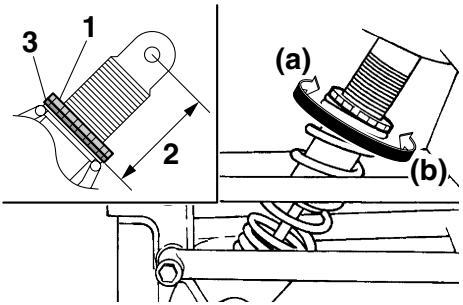
EWS00720

⚠ WARNING

The spring preload of the left and right shock absorbers must be adjusted to the same setting. Uneven settings can cause poor handling and loss of stability.

The spring preload can be adjusted by turning the adjusting nuts.
Adjust the spring preload as follows.

1. Loosen the locknut.
2. To increase the spring preload and thereby harden the suspension, turn the adjusting nut in direction (a). To decrease the spring preload and thereby soften the suspension, turn the adjusting nut in direction (b).



1. Locknut
2. Distance A
3. Spring preload adjusting nut

TIP

The spring preload setting is determined by measuring distance A, shown in the illustration. The longer distance A is, the higher the spring preload; the shorter distance A is, the lower the spring preload.

Spring preload setting*:
Minimum (soft):
RX10P 122.5 mm (4.82 in)
RX10PXT 130.0 mm (5.12 in)
Standard:
RX10P 134.5 mm (5.30 in)
RX10PXT 130.0 mm (5.12 in)
Maximum (hard):
RX10P 144.5 mm (5.69 in)
RX10PXT 140.0 mm (5.51 in)
* Distance A changes 1.5 mm (0.06 in) with each full turn of the adjusting nut.

3. Tighten the locknut to the specified torque. ***NOTICE:*** **Always tighten the locknut against the adjusting nut, and then tighten the locknut to the specified torque.** [ECS00860]

Tightening torque:
Locknut:
42 Nm (4.2 m·kgf, 30 ft·lbf)

ESU13622

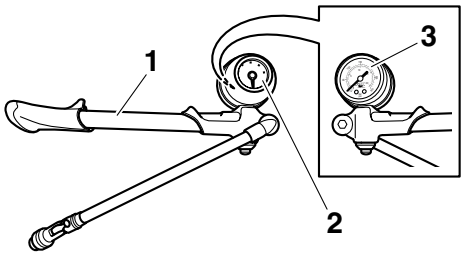
Adjusting the air pressure of the front shock absorbers (RX10PS)

EWS00730

⚠ WARNING

The air pressure of the left and right shock absorbers must be adjusted to the same setting. Uneven settings can cause poor handling and loss of stability.

A shock absorber pump is provided with your snowmobile to adjust the air pressure of the shock absorbers. This pump is equipped with an air pressure gauge. One side of the gauge has a low-pressure meter and the other side of the gauge has a high-pressure meter. Use the low-pressure meter to adjust the front shock absorbers.



1. Shock absorber pump
2. Pressure gauge (low-pressure meter)
3. Pressure gauge (high-pressure meter)

To adjust the air pressure

EWS00621

⚠ WARNING

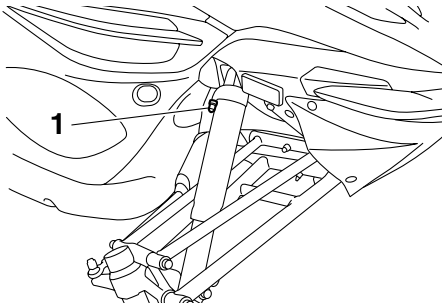
Support the snowmobile securely on a suitable stand before adjusting the shock absorbers. Otherwise, the snowmobile could fall and cause injury.

ECS00710

NOTICE

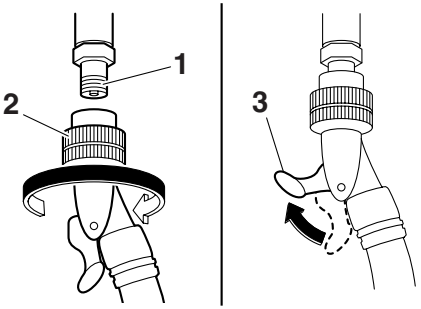
Make sure that there is no load on the shock absorbers and that they are fully extended before making any air pressure adjustments.

1. Place the snowmobile on a level surface and apply the parking brake.
2. Lift the front of the snowmobile onto a suitable stand to raise the skis off the ground.
3. Remove the air valve cap from the shock absorber.



1. Air valve cap

4. Install the hose connector of the shock absorber pump onto the air valve of the shock absorber, tighten it approximately six turns until the pressure registers on the pump gauge, and then pull the hose connector lock lever up. ***NOTICE:*** **Do not overtighten the connector onto the air valve as this will damage the connector seal.** [ECS00721]

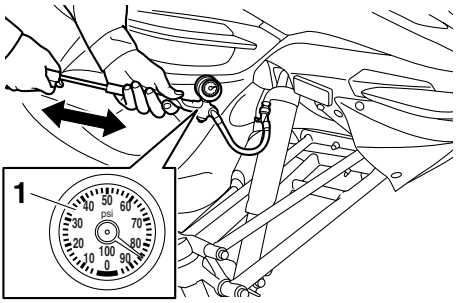


1. Air valve
2. Hose connector
3. Hose connector lock lever

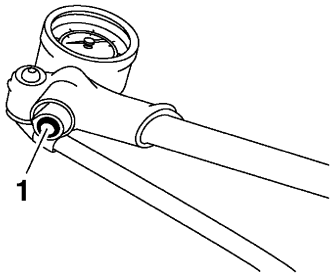
TIP

If the shock absorber has no air pressure, the gauge reading will be zero.

5. To increase the air pressure, operate the pump a few times. The pressure should increase slowly. If the pressure increases rapidly, check to make sure that the pump is properly connected and tightened onto the air valve. To decrease the air pressure, push the black bleed valve button. ***NOTICE:*** **Do not exceed 1034 kPa (10.3 kgf/cm², 150 psi).** [ECS00733]



1. Pressure gauge (low-pressure meter)



1. Bleed valve button

Air pressure range:
448–1034 kPa (4.5–10.3 kgf/cm², 65–150 psi)
Recommended air pressure:
586 kPa (5.9 kgf/cm², 85 psi)

TIP

To allow pressure to escape from the pump and the shock absorber, push the button halfway down and hold it. To allow only a small amount of pressure to escape, push the button all the way down and quickly release it.

6. Push the hose connector lock lever down, and then remove the hose connector from the air valve.

TIP

When removing the connector, the sound of air escaping may be heard, but this is from the pump hose, not the shock absorber.

7. Install the air valve cap.

TIP

If the front shock absorber bottoms too easily or rolls too much during cornering, increase the air pressure by 34 kPa (0.3 kgf/cm², 5 psi). If the shock absorber is too firm and you want a more compliant ride, decrease the air pressure by 34 kPa (0.3 kgf/cm², 5 psi).

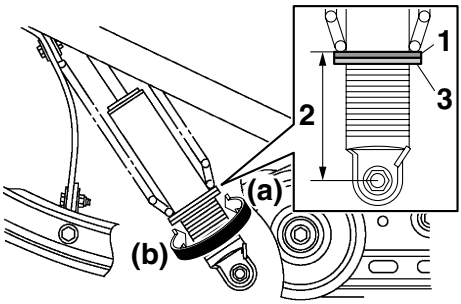
ESU10975

Adjusting the spring preload of the center shock absorber and the rear torsion springs (RX10PXT), or the rear shock absorber (RX10P)

The spring preload can be adjusted by turning the adjusting nut on the center shock absorber and the adjusters on the rear torsion springs (RX10PXT), or adjusting ring (RX10P) on the rear shock absorber. Adjust the spring preload as follows.

Center shock absorber (RX10PXT)

1. Loosen the locknut.
2. To increase the spring preload and thereby harden the suspension, turn the adjusting nut in direction (a). To decrease the spring preload and thereby soften the suspension, turn the adjusting nut in direction (b).



1. Spring preload adjusting nut
2. Distance A
3. Locknut

TIP

The spring preload setting is determined by measuring distance A, shown in the illustration. The longer distance A is, the higher the spring preload; the shorter distance A is, the lower the spring preload.

Spring preload setting*:
Minimum (soft):
106.1 mm (4.18 in)
Standard:
122.1 mm (4.81 in)
Maximum (hard):
132.1 mm (5.20 in)
* Distance A changes 1.5 mm (0.06 in) with each full turn of the adjusting nut.

3. Tighten the locknut to the specified torque. ***NOTICE:*** **Always tighten the locknut against the adjusting nut, and then tighten the locknut to the specified torque.** [ECS00860]

Tightening torque:
Locknut:
42 Nm (4.2 m·kgf, 30 ft·lbf)

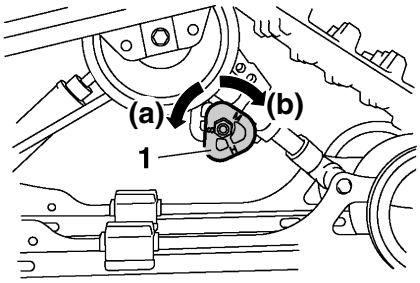
Rear torsion springs (RX10PXT)

EWS00750

⚠ WARNING

The left and right spring preloads must be adjusted to the same setting. Uneven settings can cause poor handling and loss of stability.

To increase the spring preload and thereby harden the suspension, turn the adjuster in direction (a). To decrease the spring preload and thereby soften the suspension, turn the adjuster in direction (b).

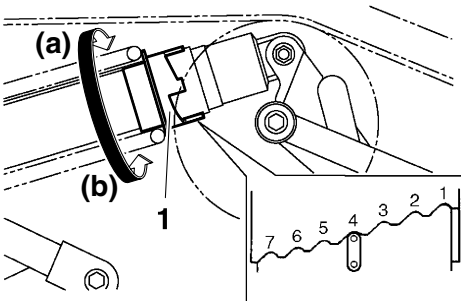


1. Spring preload adjuster

Spring preload setting:
Minimum (soft):
S
Standard:
M
Maximum (hard):
H

Rear shock absorber (RX10P)

To increase the spring preload and thereby harden the suspension, turn the adjusting ring in direction (a). To decrease the spring preload and thereby soften the suspension, turn the adjusting ring in direction (b).



1. Spring preload adjusting ring

Spring preload setting:
Minimum (soft):
1
Standard:
4
Maximum (hard):
7

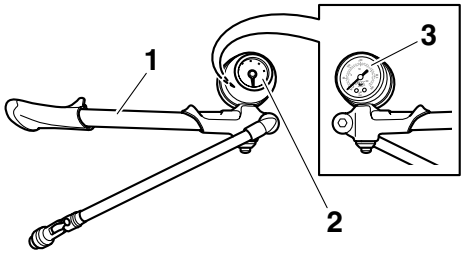
TIP

The spring preload can be further adjusted by changing the position of the spring seat.
Have a Yamaha dealer make this adjustment as it requires special tools.

ESU13831

Adjusting the air pressure of the rear shock absorber (RX10PS)

A shock absorber pump is provided with your snowmobile to adjust the air pressure of the shock absorber. This pump is equipped with an air pressure gauge. One side of the gauge has a low-pressure meter and the other side of the gauge has a high-pressure meter. Use the high-pressure meter to adjust the rear shock absorber.



1. Shock absorber pump
2. Pressure gauge (low-pressure meter)
3. Pressure gauge (high-pressure meter)

EWS00800

⚠ WARNING

Support the snowmobile securely on a suitable stand before adjusting the shock absorber. Otherwise, the snowmobile could fall and cause injury.

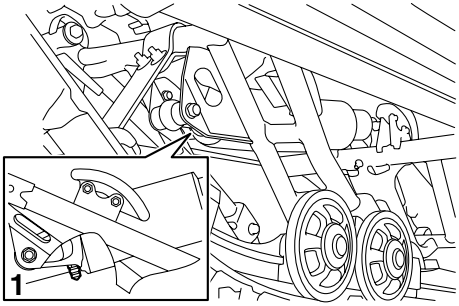
ECS01030

NOTICE

Make sure that there is no load on the shock absorber and that it is fully extended before making any air pressure adjustments.

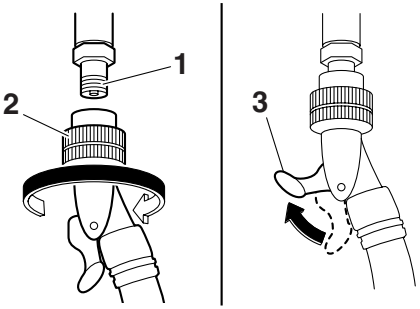
To adjust the air pressure

1. Place the snowmobile on a level surface and apply the parking brake.
2. Lift the rear of the snowmobile onto a suitable stand to raise the drive track off the ground.
3. Remove the air valve cap from the shock absorber.



1. Air valve cap

4. Install the hose connector of the shock absorber pump onto the air valve of the shock absorber, tighten it approximately six turns until the pressure registers on the pump gauge, and then pull the hose connector lock lever up. ***NOTICE:*** **Do not overtighten the connector onto the air valve as this will damage the connector seal.** [ECS00721]

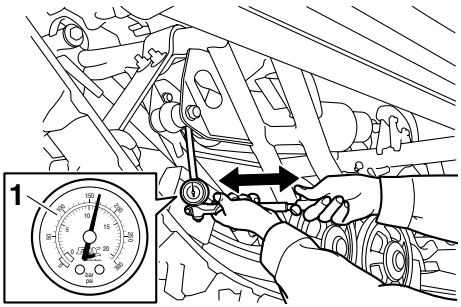


1. Air valve
2. Hose connector
3. Hose connector lock lever

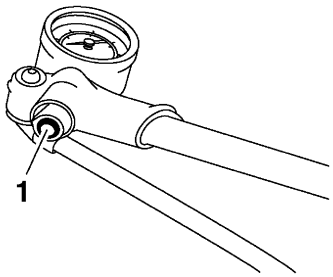
TIP

If the shock absorber has no air pressure, the gauge reading will be zero.

5. To increase the air pressure, operate the pump a few times. The pressure should increase slowly. If the pressure increases rapidly, check to make sure that the pump is properly connected and tightened onto the air valve. To decrease the air pressure, push the black bleed valve button. ***NOTICE:*** **Do not exceed 1551 kPa (15.5 kgf/cm², 225 psi).** [ECS00981]



1. Pressure gauge (high-pressure meter)



1. Bleed valve button

Air pressure range:
965–1551 kPa (9.7–15.5 kgf/cm², 140–225 psi)
Recommended air pressure:
1138 kPa (11.4 kgf/cm², 165 psi)

TIP

To allow pressure to escape from the pump and the shock absorber, push the button halfway down and hold it. To allow only a small amount of pressure to escape, push the button all the way down and quickly release it.

6. Push the hose connector lock lever down, and then remove the hose connector from the air valve.

TIP

When removing the connector, the sound of air escaping may be heard, but this is from the pump hose, not the shock absorber.

7. Install the air valve cap.

TIP

If the shock absorber bottoms too easily or rolls too much during cornering, increase the air pressure by 34 kPa (0.3 kgf/cm², 5 psi). If the shock absorber is too firm and you want a more compliant ride, decrease the air pressure by 34 kPa (0.3 kgf/cm², 5 psi).

ESU14010

Adjusting the rebound damping force of the rear shock absorber (RX10P)

EWS00161

⚠ WARNING

Do not turn the remote adjusting dial while the snowmobile is moving as this could cause loss of control, an accident, and injury.

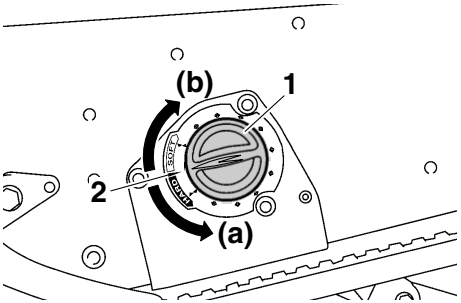
ECS00291

NOTICE

Be sure to stop the remote adjusting dial at a marked position around the dial where there is a click.

The rebound damping force can be adjusted by turning the rear shock absorber damping force remote adjusting dial.

To increase the rebound damping force, turn the adjusting dial in direction (a). To decrease the rebound damping force, turn the adjusting dial in direction (b).



1. Rear shock absorber damping force remote adjusting dial
2. Standard position

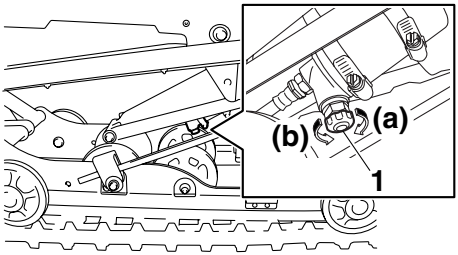
Rebound damping setting:
Minimum (soft):
11 click(s) in direction (b)*
Standard:
Adjusting dial aligned with standard position match mark
Maximum (hard):
11 click(s) in direction (a)*
* With the adjusting dial in the standard position

ESU13290

Adjusting the compression damping force of the rear shock absorber (RX10PXT)

The compression damping force can be adjusted by turning the adjusting knob.

To increase the compression damping force, turn the adjusting knob in direction (a). To decrease the compression damping force, turn the adjusting knob in direction (b). ***NOTICE:*** **Do not continue to turn the adjusting knob in direction (a) after it stops. The shock absorber could be damaged and damping force adjustments will not be able to be made. Do not turn the adjusting knob in direction (b) more than 12 click(s). Even if the adjusting knob is continually turned after 12 click(s), there will be no change in the damping force. Be sure to stop the adjusting knob at a position where there is a click.** [ECS00910]



1. Compression damping force adjusting knob

Compression damping force setting:
Minimum (soft):
12 click(s) in direction (b)*
Standard:
6 click(s) in direction (b)*
Maximum (hard):
2 click(s) in direction (b)*
* With the adjusting knob fully turned in direction (a)

ESU11046

Adjusting the control rods

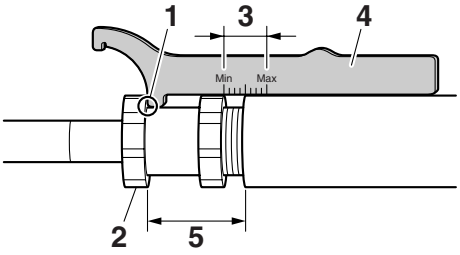
The weight transfer can be adjusted by turning the adjuster on the control rod (RX10P / RX10PS) or the adjusting nuts on the control rods (RX10PXT).

RX10P / RX10PS

1. Check the control rod length using the scale on the special wrench as shown.

TIP

In order to obtain a precise measurement, the special wrench corner should touch the control rod adjuster, and the locknut must be turned so that one of its notches aligns with the wrench allowing the wrench to fit horizontally on the control rod.



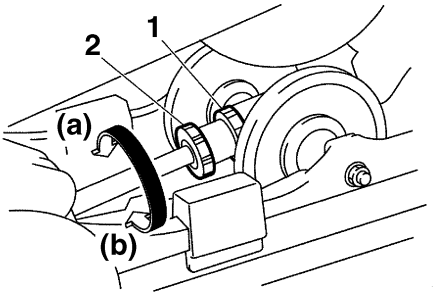
1. Special wrench corner
2. Control rod adjuster
3. Scale range
4. Special wrench
5. Control rod length

TIP

Use the special wrench in the owner's tool kit to make this adjustment.

2. Loosen the locknut.
3. To increase weight transfer, turn the adjuster in direction (a), and to decrease weight transfer, turn it in direction (b). **WARNING! Never adjust the control rod beyond the range of the scale on the special wrench, otherwise the control rod could be damaged, which could lead to an accident or injury.**

[EWS00181]

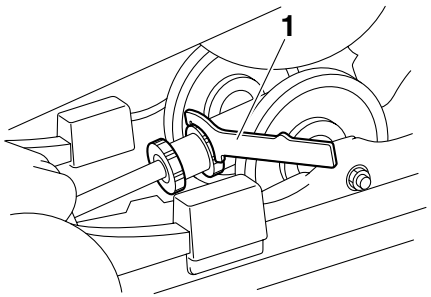


1. Locknut
2. Control rod adjuster

4. Tighten the locknut while holding the adjuster in place.

TIP

Make sure that the special wrench is securely fitted on the locknut.



1. Special wrench

Locknut tightening torque:
35 Nm (3.5 m·kgf, 25 ft·lbf)

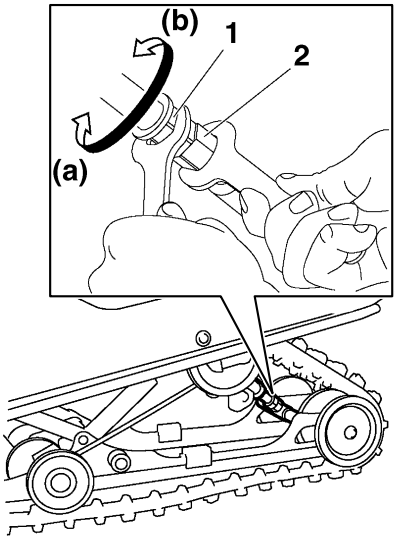
RX10PXT

EWS00770

⚠ WARNING

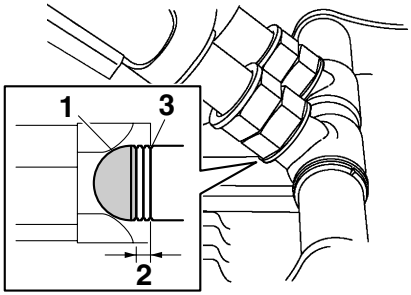
The left and right adjusting nuts must be set to the same position. Uneven settings can cause poor handling and loss of stability.

1. Loosen the locknut while holding the adjusting nut.



1. Locknut
2. Control rod adjusting nut

2. To increase weight transfer, turn the adjusting nut in direction (a), and to decrease weight transfer, turn it in direction (b). **WARNING! Never adjust the control rods beyond the maximum setting, indicated by red paint; otherwise, they could be damaged, which could lead to an accident or injury.** [EWS00173]



1. Red paint area
2. Adjustable range
3. Standard position

3. Tighten the locknut while holding the adjusting nut in place. ***NOTICE:*** **Always tighten the locknut against the adjusting nut, and then tighten the locknut to the specified torque.** [ECS00860]

Locknut tightening torque:
25 Nm (2.5 m·kgf, 18 ft·lbf)

ESU13820

EXUP system

This model is equipped with Yamaha's EXUP (EXhaust Ultimate Power valve) system. This system boosts engine power by means of a valve that regulates the inner diameter of the exhaust pipe. The EXUP system valve is constantly adjusted in accordance with the engine speed by a computer-controlled servomotor.

ECS01020

NOTICE

The EXUP system has been set and extensively tested at the Yamaha factory. Changing these settings without sufficient technical knowledge may result in poor performance of or damage to the engine.

ESU11071

Inspect your vehicle each time you use it to make sure the vehicle is in safe operating condition. Always follow the inspection and maintenance procedures and schedules described in the Owner's Manual.

EWS00191

⚠ WARNING

Failure to inspect or maintain the vehicle properly increases the possibility of an accident or equipment damage. Do not operate the vehicle if you find any problem. If a problem cannot be corrected by the procedures provided in this manual, have the vehicle inspected by a Yamaha dealer.

ESU11081

Pre-operation check list

ITEM	CHECKS	PAGE
Fuel	• Check fuel level. • Refuel if necessary. • Check fuel line for leakage.	24
Engine oil	• Check oil level in engine. • If necessary, add recommended oil to specified level. • Check vehicle for oil leakage.	56
Coolant	• Check coolant level. • Add if necessary.	60
V-belt	• Check for wear and damage. • Replace if necessary.	62
Drive guard	• Make sure the drive guard is installed securely. • Check the drive guard mounts for damage.	22
Brake	• Check operation. • If soft or spongy, have Yamaha dealer bleed hydraulic system. • Check brake pads for wear. • Replace if necessary. • Check fluid level in master cylinder. • If necessary, add recommended brake fluid to specified level. • Check hydraulic system for leakage.	66
Air filter	• Check that there is no snow under the air filter element. • If necessary, brush off the snow.	55
Tool kit and recommended equipment	• Check for proper placement.	49
Shroud and covers	• Make sure that the shroud and covers are securely fastened.	49
Skis and ski runners	• Check for wear and damage. • If necessary, have Yamaha dealer replace skis or ski runners.	68

Pre-operation checks

ITEM	CHECKS	PAGE
Shock absorbers (RX10PS)	• Check air pressure. • Adjust if necessary.	26, 30
Drive track	• Check the deflection. • Adjust if necessary. • Check for wear and damage. • If necessary, have a Yamaha dealer replace track.	69
Slide runners	• Check for wear and damage. • If necessary, have Yamaha dealer replace slide runners.	69
Steering	• Check for excessive free play.	69
Lights, signals and switches	• Check operation. • Correct if necessary.	18, 75, 77
Throttle lever	• Make sure that operation is smooth and spring back to its original position when released.	10
Throttle override system (T.O.R.S.)	• Check the T.O.R.S. for proper operation. • If system is not functioning properly, have Yamaha dealer check vehicle.	54

ESU13500

Read the Owner's Manual carefully to become familiar with all controls. If there is a control or function you do not understand, ask your Yamaha dealer.

EWS00201

⚠ WARNING

Failure to familiarize yourself with the controls can lead to loss of control, which could cause an accident or injury.

ESU13212

TIP

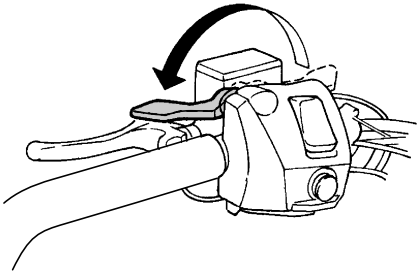
This model is equipped with:

- an engine oil pressure switch to stop the engine in case an engine oil pressure drop is detected. To start the engine after this system has stopped the engine, be sure to place the snowmobile on a level surface, and then turn the key in the main switch to the off position, and then to the on position. Failing to do so will prevent the engine from starting even though the engine will crank when turning the key to the start position. If the engine does not start or if it stops again, ask a Yamaha dealer to inspect the snowmobile.
- an engine overheating prevention system, which prevents overheating when the engine is idling. When the engine has been idling for 3 minutes or longer and the coolant temperature has risen above 100 °C (212 °F), the engine automatically stops to prevent overheating. The engine can be started after it stops.

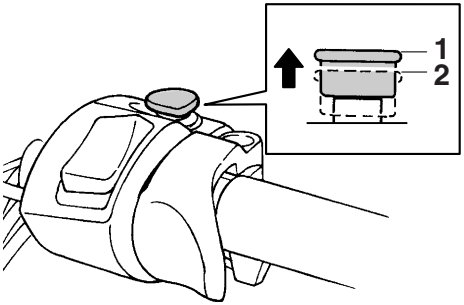
ESU11303

Starting the engine

1. Apply the parking brake.

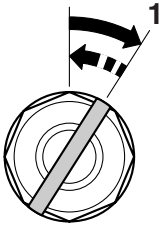


2. Be sure the engine stop switch is in the run position. The starter motor cannot be operated when the engine stop switch is in the off position.



1. Run position
2. Off position

3. Turn the main switch to the start position and release it when the engine starts. ***NOTICE:*** **Release the switch immediately after the engine starts. If the engine fails to start, release the switch, wait a few seconds, then try again. Each attempt should be as short as possible to preserve the battery. Do not crank the engine more than 10 seconds on any one attempt.** [ECS00331]



1. Start

4. Warm up the engine until it runs smoothly.
5. Be sure the low coolant temperature indicator light has gone out before operation. (See page 14 for detailed information about the indicator light.)

ESU11310

Break-in

There is never a more important period in the life of your engine than the period between 0 and 500 km (300 mi). For this reason, you should read the following material carefully.

Since the engine is brand new, do not put an excessive load on it for the first 500 km (300 mi). The various parts in the engine wear and polish themselves to the correct operating clearances. During this period, prolonged full-throttle operation or any condition that might result in engine overheating must be avoided.

Operating your snowmobile for the first time

Start the engine and let it idle for 15 minutes.

0–160 km (0–100 mi)

Avoid prolonged operation above 6000 r/min.

160–500 km (100–300 mi)

Avoid prolonged operation above 8000 r/min.

500 km (300 mi) and beyond

The snowmobile can now be operated normally.

ECS00340

NOTICE

- **After 800 km (500 mi) of operation, the engine oil must be changed and the oil filter cartridge replaced.**
- **If any engine trouble should occur during the engine break-in period, immediately have a Yamaha dealer check the snowmobile.**

ESU11333

Riding your snowmobile

Getting to know your snowmobile

EWS00211

⚠ WARNING

To avoid severe injury or death:

- **Keep both hands on the handlebar during operation.**
- **Never put your feet outside the running boards.**
- **Avoid higher speeds or more difficult maneuvers until you have become thoroughly familiar with your snowmobile and all of its controls.**

A snowmobile is a rider active vehicle, and your riding position and your balance are the two basic factors of maneuvering your snowmobile.

Riding your snowmobile requires skills acquired through practice over a period of time. Take the time to learn the basic techniques well before attempting more difficult maneuvers.

Riding your new snowmobile can be a very enjoyable activity, providing you with hours of pleasure. However, it is essential to familiarize yourself with the operation of the snowmobile to achieve the skill necessary to enjoy riding safely. Before operating the snowmobile, read this Owner's Manual completely and understand the operation of the controls.

Pay particular attention to the safety information on page 6.

Please read all warning and notice labels on your snowmobile. Also, read the Snowmobiler's Safety Handbook that is supplied with your snowmobile.

Learning to ride your snowmobile

Before you ride, always perform the pre-operation checks listed on page 35. The short time spent checking the condition of the snowmobile will be rewarded with added safety and a more reliable snowmobile. Always wear the proper clothing for both warmth and to help protect you from injury if an accident occurs.

Become familiar with operating your snowmobile at low speeds, even if you are an experienced rider. Do not attempt to operate at maximum performance until you are totally familiar with the snowmobile's handling and performance characteristics.

The beginning operator should select a large flat area to become familiar with the snowmobile. Make sure that this area is free of obstacles and other traffic. You should practice control of the throttle and brake, and master turning techniques in this area before trying more difficult terrain.

Set the parking brake and follow the instructions on page 37 to start the engine. Once the engine has warmed up, you are ready to begin riding your snowmobile.

To start out and accelerate

1. With the engine idling, release the parking brake.
2. Apply the throttle slowly and smoothly. The V-belt clutch will engage and you will start to accelerate. **WARNING! Do not allow anyone to stand behind the snowmobile when starting the engine. A broken track, track fittings, or debris thrown by the track could be dangerous to bystanders.** [EWS00690]

Braking

EWS00220

⚠ WARNING

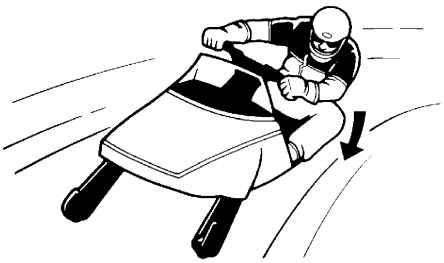
- **Many surfaces such as ice and hard-packed snow require much longer stopping distances. Be alert, plan ahead, and begin decelerating early.**
- **Improper use of the brake can cause the drive track to lose traction, reduce control, and increase the possibility of an accident.**

When slowing down or stopping, release the throttle and apply the brake gently—not suddenly.

Turning

For most snow surfaces, "body English" is the key to turning.

As you approach a curve, slow down and begin to turn the handlebar in the desired direction. As you do so, put your weight on the running board to the inside of the turn and lean your upper body into the turn.



This procedure should be practiced at low speeds many times, in a large flat area with no obstacles. Once you have learned this technique, you should be able to perform it at higher speeds or in tighter curves. Lean more as the turn gets sharper or is made at higher speeds.

Improper riding techniques such as abrupt throttle changes, excessive braking, incorrect body movements, or too much speed for the sharpness of the turn may cause the snowmobile to tip.

If your snowmobile begins to tip while turning, lean more into the turn to regain balance. If necessary, gradually let off on the throttle or steer to the outside of the turn.

Remember:

Avoid higher speeds until you are thoroughly familiar with the operation of your snowmobile.

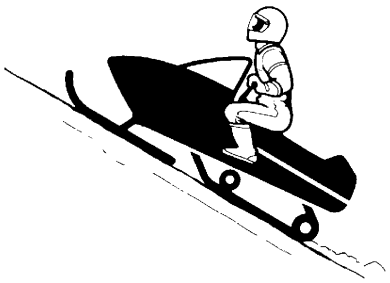
Riding uphill

EWS00231

⚠ WARNING

Operation on slopes can lead to loss of control if proper techniques are not used. Follow these instructions to reduce your risk of an accident. Do not try steeper or more difficult inclines until you have developed your skill on gentle slopes.

You should practice first on gentle slopes. Try more difficult climbs only after you have developed your skill. As you approach a hill, accelerate before you start the climb, and then reduce the throttle to prevent track slippage. It is also important to keep your weight on the uphill side at all times. On climbs straight up the hill, this can be accomplished by leaning forward and, on steeper inclines, standing on the running boards and leaning forward over the handlebar. (Also see “Traversing a slope”.)



Slow down as you reach the crest of the hill, and be prepared to react to obstacles, sharp drops, or other vehicles or people which may be on the other side. If you are unable to continue up a hill, do not spin the track. Stop the engine and set the parking brake. Then pull the rear of the snowmobile around to point the snowmobile back down the hill. When the snowmobile is pointed downhill, mount your snowmobile from the uphill side. Restart the engine, release the parking brake, and descend the hill.

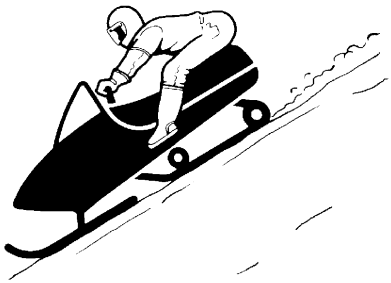
Riding downhill

EWS00240

⚠ WARNING

Use extra caution when applying the brake during a descent. Excessive braking will cause the drive track to lock, causing a loss of control.

When riding downhill, keep speed to a minimum. It is important to apply just enough throttle to keep the clutch engaged while descending the hill. This will allow you to use engine compression to help slow the snowmobile, and to keep the snowmobile from rolling freely down the hill. Also apply the brake frequently, with light pressure.



Traversing a slope

EWS00251

⚠ WARNING

Driving across the face of a slope ("side-hilling") can lead to overturn or loss of control if proper techniques are not used. Follow these instructions to reduce your risk of an accident. Do not try steeper or more difficult inclines until you have developed your skill on gentle slopes.

Traversing a slope requires you to properly position your weight to maintain proper balance. As you travel across the slope, lean your body to position your weight towards the uphill side. A recommended riding position is to kneel with the knee of your downhill leg on the seat and the foot of your uphill leg on the running board. This position will make it easier for you to shift your body weight as needed.



Snow and ice are slippery, so be prepared for the possibility that your snowmobile could begin to slip sideways on the slope. If this happens, steer in the direction of the slide if there are no obstacles in your path. As you regain proper balance, gradually steer again in the direction you wish to travel.

If your snowmobile starts to tip, steer down the hill to regain balance. **WARNING! If you are unable to maintain correct balance, and your snowmobile is going to tip over, dismount your snowmobile immediately on the uphill side to avoid being hit or caught under the snowmobile as it tips over.** [EWS00261]

Ice or icy surface

EWS00270

⚠ WARNING

When you have to operate on ice or icy surfaces, drive slowly and cautiously. Avoid accelerating, turning, and braking rapidly. Steering is minimal and uncontrolled spins are an ever-present danger.

Operating on ice or icy surfaces can be very dangerous. Traction for turning, stopping, and starting is much less than that on snow.

Hard-packed snow

It can be more difficult to negotiate on hard-packed snow as both the skis and drive track do not have as much traction as when the snowmobile is operated on fresh snow. Avoid rapid acceleration, turning, and braking.

Operation on surfaces other than snow or ice

Operation of your snowmobile on surfaces other than snow or ice should be avoided. Operation under such conditions will damage or result in rapid wear of the ski runners, drive track, slide runners, and drive sprockets. Operation of the snowmobile on the following surfaces should be avoided at all times:

- Dirt

- Sand
- Rocks
- Grass
- Bare pavement

Other surfaces that should be avoided for the sake of drive track and slide runner life are:

- Glare ice surfaces
- Snow mixed with a lot of dirt and sand

All of the above surfaces have one thing in common in regard to drive track and slide runners: little or no lubricating ability. Drive track and all slide rail systems require lubrication (snow or water) between the slide runners and the slide metal. In the absence of lubrication, the slide runners will rapidly wear and in severe cases, literally melt away, and the drive track will be subject to damage or failure. Also traction aids such as studs, cleats, etc., may cause further track damage or failure.

EWS00280

⚠ WARNING

Drive track damage or failure could result in loss of braking ability and snowmobile control, which could cause an accident.

- **Always check the drive track for damage or maladjustment before operating the snowmobile.**
- **Do not operate the snowmobile if you find damage to the drive track.**

ECS00350

NOTICE

Ride on fresh snow frequently. Operating on ice or hard-packed snow will rapidly wear the slide runners.

ESU11350

Maximizing drive track life

Recommendations

Track tension

During initial break-in, the new drive track will tend to stretch quickly as the track settles. Be sure to correct the track tension and alignment frequently. (See page 69 for adjustment procedures.) A loose track can slip (ratchet), derail or catch on suspension parts causing severe damage. Do not overtighten the drive track, otherwise it may increase the friction between the track and the slide runners, resulting in the rapid wear of both components. Also, this may put an excessive load on the suspension components, resulting in component failure.

Marginal snow

The drive track and the slide runners are lubricated and cooled by snow and water. To prevent the drive track and slide runners from overheating, avoid sustained high-speed usage in areas such as icy trails, frozen lakes and rivers that have minimal snow coverage. An overheated track will be weakened internally, which may cause failure or damage.

Off-trail riding

Avoid off-trail riding until there is sufficient snow coverage. It generally takes several feet of snow to provide a good overall base to properly cover debris, such as rocks, logs, etc. If snow coverage is not sufficient, stay on trails to avoid impact damage to the drive track.

Studded track

In general, track life will be shortened when studs are installed. Drilling stud holes into the drive track will cut the internal fibers, which weakens the track. Avoid spinning the drive track. Studs may catch on an object and pull out of the track, leaving tears and damage around the already weakened area. To minimize possible damage, consult your stud manufacturer for installation and stud pattern recommendations.

Yamaha does not recommend track studding.

ESU11394
Driving

EWS00300
⚠ WARNING

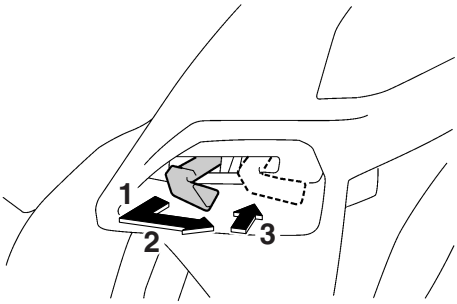
Be sure to read the "SAFETY INFORMATION" section on page 6 and the "Riding your snowmobile" section on page 38 carefully before operating the snowmobile.

TIP
Make sure that the engine is warmed up enough before riding.

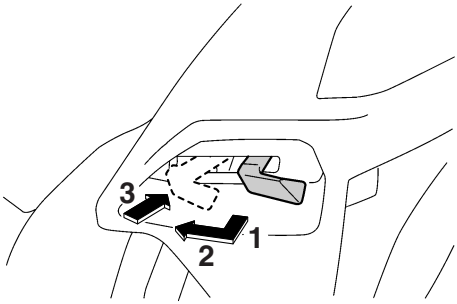
EWS00310
⚠ WARNING

- **Make sure that the throttle lever is fully released and the snowmobile is at a full stop before shifting.**
- **Be sure to slide the shift lever to "FWD" or "REV" until it stops completely and only while the engine is idling.**
- **Make sure that the area behind the snowmobile is clear before reversing. Watch behind.**
- **Reduce speed and avoid sharp turning when operating the snowmobile in reverse.**

1. To select the desired operating position, pull the shift lever out, slide it to "FWD" or to "REV" until it stops, and then release it. ***NOTICE:*** **Do not shift from "FWD" to "REV" or from "REV" to "FWD" while the snowmobile is moving, as the drive train could be damaged.** [ECS00811]



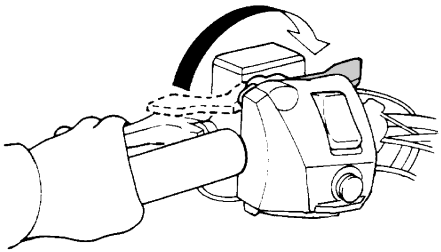
1. Pull out.
2. Slide to "FWD" (forward).
3. Release.

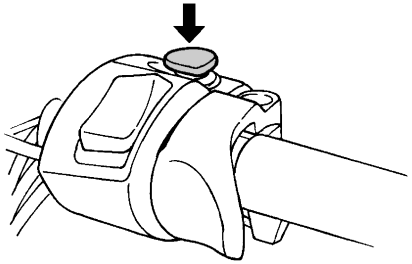


1. Pull out.
2. Slide to "REV" (reverse).
3. Release.

TIP
The reverse buzzer beeps while the shift lever is in reverse.

2. While squeezing the brake lever, release the parking brake by moving the parking brake lever to the right, and then release the brake lever.



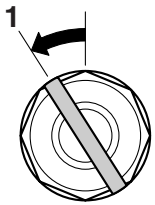


3. Squeeze the throttle lever slowly to start out.
4. Turn the handlebar in the desired direction.
5. Squeeze the brake lever to stop the snowmobile.
6. Apply the parking brake by moving the parking brake lever to the left.

ESU11411

Stopping the engine

- Turn the main switch to the off position to stop the engine.



1. Off

- Push down the engine stop switch to stop the engine in an emergency.

ESU11430

Transporting

When transporting your snowmobile on a trailer or in a truck, observe the following recommendations to help protect it from damage:

- If transporting the snowmobile in an open trailer or truck, put a tight fitting cover on the snowmobile. A cover specifically designed for your snowmobile is best. This will help keep foreign objects out of the cooling vents, and also help protect the snowmobile against damage from debris on the road.
- If transporting the snowmobile in an open trailer or truck in areas where road salt is used, coat metal suspension surfaces lightly with oil or another protectant. This will help protect against corrosion. Be sure to clean the snowmobile when you get to your destination to remove any corrosive salts.

ESU11452

Periodic inspection, adjustment, and lubrication will keep your snowmobile in the safest and most efficient condition possible. Safety is an obligation of the vehicle owner/operator. The most important points of vehicle inspection, adjustment, and lubrication are explained on the following pages.

EWS00341

⚠ WARNING

Failure to properly maintain the snowmobile or performing maintenance activities incorrectly may increase your risk of injury or death during service or while using the snowmobile. If you are not familiar with snowmobile service, have a Yamaha dealer perform service.

EWS00700

⚠ WARNING

Turn off the engine when performing maintenance unless otherwise specified.

- **A running engine has moving parts that can catch on body parts or clothing, and electrical parts that can cause shocks or fires.**
- **Running the engine while servicing can lead to eye injury, burns, fire, or carbon monoxide poisoning–possibly leading to death. See page 6 for more information about carbon monoxide.**

EWS00790

⚠ WARNING

Brake discs, calipers, and linings can become very hot during use. To avoid possible burns, let brake components cool before touching them.

Maintenance, replacement, or repair of the emission control devices and systems may be performed by any repair establishment or individual that is certified (if applicable).

Proper periodic maintenance of your snowmobile is important in order to enjoy long, pleasurable use. Especially important are the maintenance services related to emission control. These controls not only function to ensure cleaner air, but are also vital to proper engine operation and maximum performance. In the following periodic maintenance charts, the services related to emission control are grouped separately. These services require specialized data, knowledge, and equipment. Yamaha dealers are trained and equipped to perform these particular services.

ESU11461

Periodic maintenance chart for the emission control system

Items marked with an asterisk should be performed by a Yamaha dealer as they require special tools, data and technical skills.

	ITEM	REMARKS	INITIAL	EVERY	PAGE
			1 month or 800 km (500 mi) (40 hr)	Seasonally or 4000 km (2500 mi) (200 hr)	
	Spark plugs	• Check condition. • Adjust gap and clean. • Replace if necessary.		●	51
*	**Valve clearance**	• Check and adjust valve clearance when engine is cold.	Every 40000 km (25000 mi)		56
*	**Crankcase breather system**	• Check breather hose for cracks or damage. • Replace if necessary.		●	—
*	**Fuel line**	• Check fuel hose for cracks or damage. • Replace if necessary.		●	—
*	**Fuel injection**	• Check synchronization. • Adjust if necessary.	●	●	—
*	**Exhaust system**	• Check for leakage. • Tighten or replace gasket if necessary.	●	●	—

ESU11564

General maintenance and lubrication chart

	ITEM	REMARKS	INITIAL	EVERY	PAGE
			1 month or 800 km (500 mi) (40 hr)	Seasonally or 4000 km (2500 mi) (200 hr)	
	Engine oil	• Change (warm engine before draining).	●	●	56
*	**Engine oil filter cartridge**	• Replace.	●	Every 20000 km (12000 mi)	56
*	**Cooling system**	• Check coolant level. • Bleed the cooling system if necessary.		●	60
*	**EXUP system**	• Check operation, cable free play and pulley position.	●	●	—
*	**Primary and secondary clutches**	• Check engagement and shift speed. • Adjust if necessary.		●	—
			Whenever operating elevation is changed.		—
		• Inspect sheaves for wear and damage. • Inspect weights/rollers and bushings for wear for primary. • Inspect ramp shoes/bushings for wear for secondary. • Replace if necessary.		●	—
		• Lubricate with specified grease.		●	—
*	**Drive chain**	• Check chain slack. • Adjust if necessary.	Initial at 500 km (300 mi) and every 800 km (500 mi) thereafter.		64
*	**Drive chain oil**	• Check oil level.	●	●	64
		• Change.		●	64
*	**Brake and parking brake**	• Adjust free play and/or replace pads if necessary.		●	66
		• Change brake fluid.	See TIP following this chart.		66
	Control cables	• Make sure that operation is smooth. • Lubricate if necessary.		●	73
*	**Disc brake installation**	• Check for slight free play. • Lubricate shaft with specified grease as required.	Every 1600 km (1000 mi)		—
*	**Extrovert drive sprocket**	• Check for wear and damage. • Replace if necessary.	●	●	68

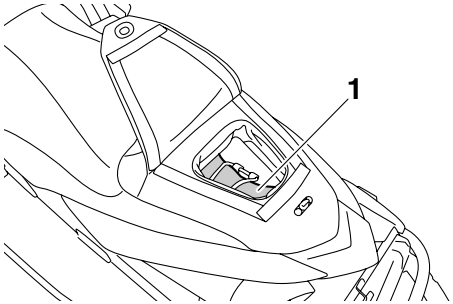
	ITEM	REMARKS	INITIAL	EVERY	PAGE
			1 month or 800 km (500 mi) (40 hr)	Seasonally or 4000 km (2500 mi) (200 hr)	
*	**Slide runners**	• Check for wear and damage. • Replace if necessary.		●	69
*	**Skis and ski runners**	• Check for wear and damage. • Replace if necessary.		●	68
*	**Steering system**	• Check toe-out. • Adjust if necessary.		●	69
*	**Steering bearings**	• Check bearing assemblies for looseness. • Lubricate with specified grease.		●	—
*	**Skis and front shock absorbers**	• Lubricate with specified grease.		●	73
*	**Suspension component**	• Lubricate with specified grease.		●	73
*	**Drive track**	• Check the deflection. • Adjust if necessary.	Initial at 500 km (300 mi) and every 800 km (500 mi) thereafter.		69
	Fittings and fasteners	• Make sure that all nuts, bolts and screws are properly tightened. • Tighten if necessary.	●	●	77
*	**Battery**	• Check condition. • Charge if necessary.		●	77

TIP

Brake system:

- After disassembling the master cylinder or caliper cylinder, always change the brake fluid. Regularly check the brake fluid level and add fluid if necessary.
- Replace the oil seals of the master cylinder and caliper cylinder every two years.
- Replace the brake hose every four years, or if cracked or damaged.

ESU11742
Tool kit
The service information included in this manual and the tools provided in the owner's tool kit are intended to assist you in the performance of preventive maintenance and minor repairs. However, additional tools such as a torque wrench may be necessary to perform certain maintenance work correctly.



1. Tool kit

ECS00360
NOTICE

Before starting the engine, make sure that the tool kit is properly seated in its holder and is securely fastened.

TIP

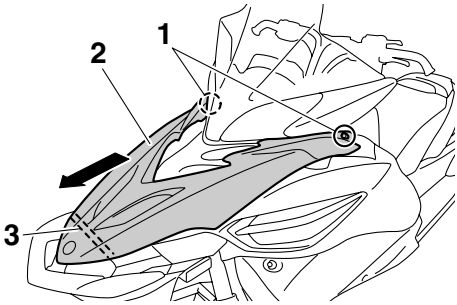
If you do not have a torque wrench available during a service operation requiring one, take your snowmobile to a Yamaha dealer to check the torque settings and adjust them if necessary.

ESU12896
Removing and installing the shroud and covers
EWS00091
⚠ WARNING

Be sure shroud and covers are secured before operation. A loose shroud or cover could move and cause loss of control.

Shroud
To remove the shroud

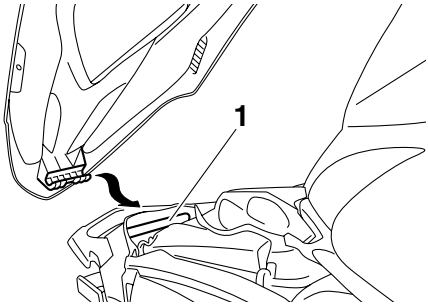
Loosen the fasteners, slowly raise the shroud, and then unhook the shroud from the shroud stay.



1. Fastener
2. Shroud
3. Shroud stay

To install the shroud

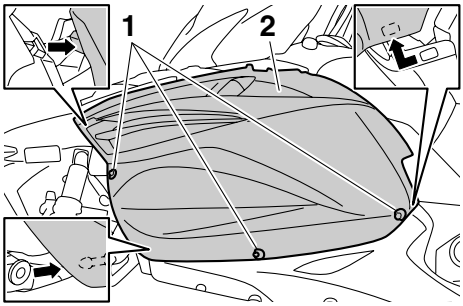
Hook the end of the shroud onto the shroud stay, slowly lower it to the original position, and then tighten the fasteners.



1. Shroud stay

Left and right side covers
To remove a side cover

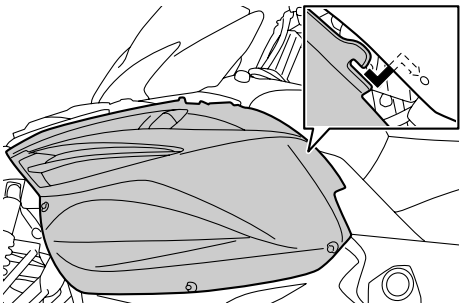
1. Remove the shroud. (See the above procedure.)
2. Loosen the fasteners, pull outward on the areas shown, and then slide the side cover forward to remove it.



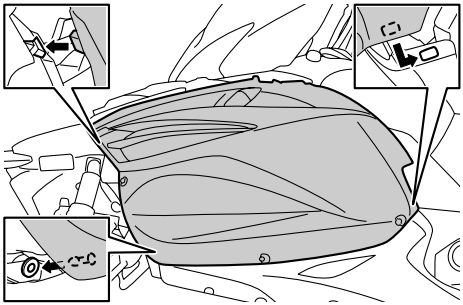
1. Fastener
2. Left side cover

To install a side cover

1. Fit the projection on the rear of the side cover into the hole in the fuel tank cover.



2. Fit the projections on the side cover into the slots as shown.

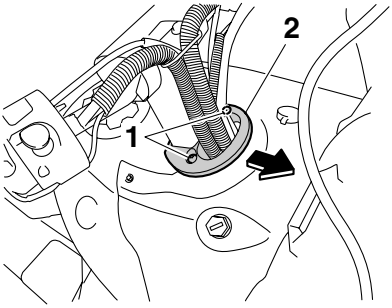


3. Tighten the fasteners.
4. Install the shroud.

Top cover

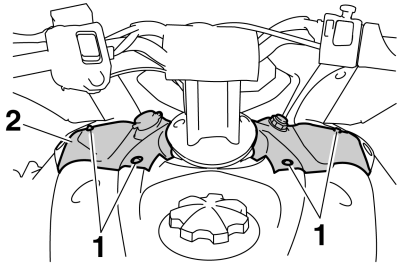
To remove the top cover

1. Remove the shroud and the left side cover. (See the above procedure.)
2. Remove the screws, and then remove the cable guide.



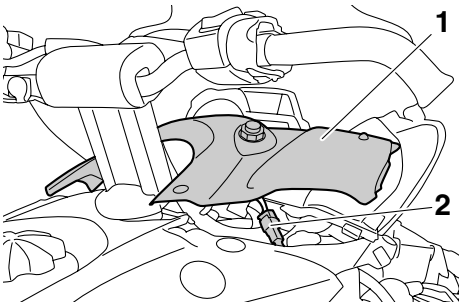
1. Screw
2. Cable guide

3. Loosen the quick fastener screws.

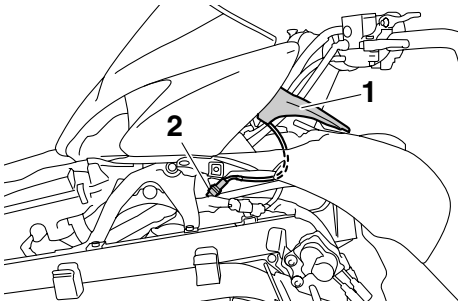


1. Quick fastener screw
2. Top cover

4. Lift up the rear of the top cover, disconnect the main switch coupler and the auxiliary DC jack coupler, and then remove the cover.



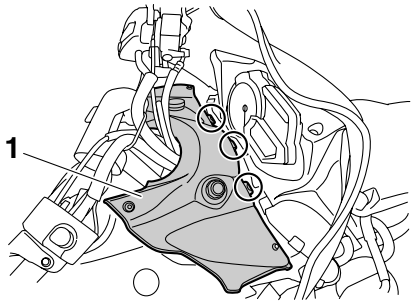
1. Top cover
2. Main switch coupler



1. Top cover
2. Auxiliary DC jack coupler

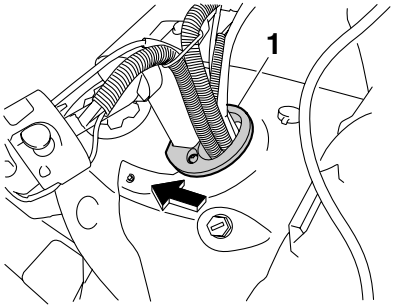
To install the top cover

1. Connect the main switch coupler and auxiliary DC jack coupler.
2. Place the top cover in the original position, making sure to fit the projections on the cover into the slots in the headlight unit.



1. Top cover

3. Tighten the quick fastener screws.
4. Pass the brake hose, throttle cable, parking brake cable and wire harness through the cable guide, place the cable guide in the original position, and then install the screws.



1. Cable guide

5. Install the left side cover and the shroud.

ECS00372

NOTICE

- **Make sure that all cables, hoses and leads are routed properly before installing the shroud and covers.**
- **When installing the shroud and covers, be sure to tighten the fasteners securely.**

ESU11784

Checking the spark plugs

The spark plugs are important engine components and are easy to inspect. The condition of the spark plugs can indicate the condition of the engine.

Check the coloration on the white porcelain insulator around the center electrode. The ideal coloration at this point is a medium-to-light tan color for a snowmobile that is being ridden normally. If any spark plug shows a distinctly different color, there could be something wrong with the engine. For example, a very white center electrode porcelain color could indicate an intake track air leak or carburetion problem for that cylinder. Do not at-

tempt to diagnose such problems yourself. Instead, take the snowmobile to a Yamaha dealer for inspection and possible repairs.
You should periodically remove and inspect the spark plugs because heat and deposits will cause any spark plug to slowly break down and erode. Consult a Yamaha dealer before changing to a different type of spark plug.

Specified spark plug:
Manufacturer:
NGK
Model:
CR9EB

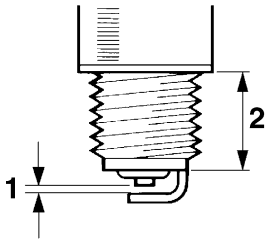
EWS00710

⚠ WARNING

Be sure to use the specified spark plug and spark plug cap. Otherwise, the T.O.R.S. may not work properly.

Spark plugs are produced in several different thread lengths. The thread length or reach is the distance from the spark plug gasket seat to the end of the threaded portion. If the reach is too long, overheating and engine damage may result. If the reach is too short, spark plug fouling and poor performance may result. Also, if the reach is too short, carbon will form on the exposed threads resulting in combustion chamber hot spots and thread damage. Always use a spark plug with the specified reach.

Spark plug reach:
19.0 mm (0.75 in)



1. Spark plug gap
2. Spark plug reach

Before installing any spark plug, measure the spark plug gap with a wire thickness gauge and adjust to specification.

Spark plug gap:
0.7–0.8 mm (0.028–0.031 in)

When installing the spark plug, always clean the gasket surface. Wipe off any grime from the threads and tighten the spark plug to the specified torque.

Spark plug tightening torque:
13 Nm (1.3 m·kgf, 9.4 ft·lbf)

ECS00382

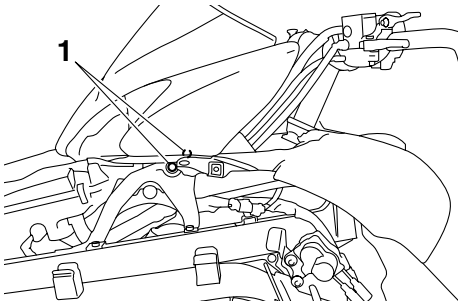
NOTICE

Make sure that the spark plug caps are securely installed. Otherwise the spark plug caps could be damaged due to engine vibration.

ESU11838

Adjusting the throttle lever free play

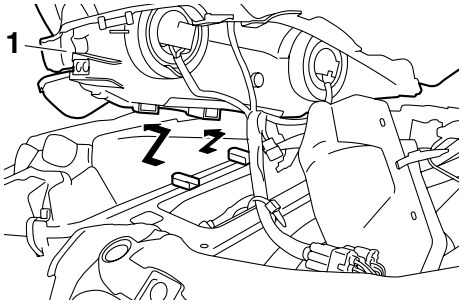
1. Place the snowmobile on a level surface and apply the parking brake.
2. Remove the shroud, the left and right side covers, and the top cover. (See page 49 for removal procedures.)
3. Remove the headlight unit bolt on each side of the snowmobile.



1. Headlight unit bolt

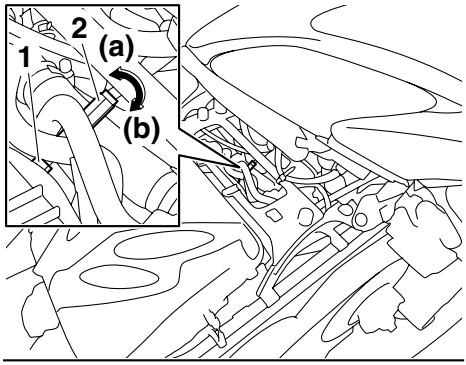
4. Unhook the headlight unit as shown, then lift it up and move it forward, away from the air filter case cover. ***NOTICE:*** **Be careful not to scratch the snowmobile when moving the headlight unit.**

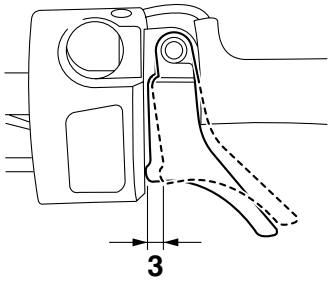
[ECS00920]



1. Headlight unit

5. Loosen the locknut.
6. To increase the throttle lever free play, turn the adjusting bolt in direction (a). To decrease the throttle lever free play, turn the adjusting bolt in direction (b).

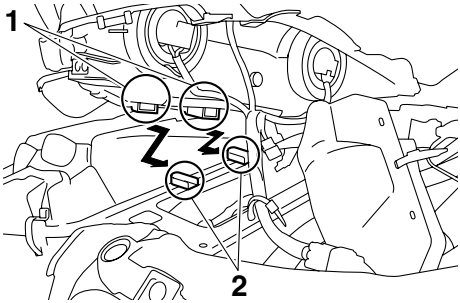




1. Locknut
2. Throttle lever free play adjusting bolt
3. Throttle lever free play

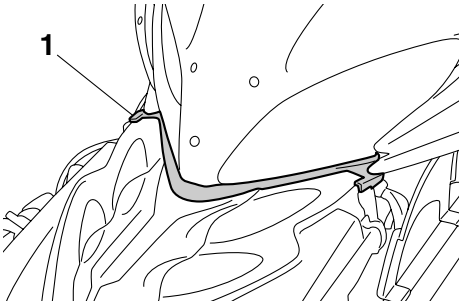
Throttle lever free play:
2.0–3.0 mm (0.08–0.12 in)

7. Tighten the locknut.
8. Install the headlight unit, making sure to fit the slots on its bottom over the projections on its stay.



1. Slot
2. Projection

9. Fit the weatherstrip on the headlight unit into the recess in the top of the air filter case cover.



1. Weatherstrip

10. Install the headlight unit bolts, and then tighten them to the specified torque.

Headlight unit bolt tightening torque: 3.0 Nm (0.30 m·kgf, 2.2 ft·lbf)

11. Install the top cover, the left and right side covers, and the shroud.

ESU11863

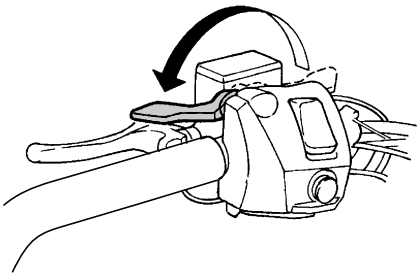
Checking the throttle override system (T.O.R.S.)

EWS00352

⚠ WARNING

When checking the T.O.R.S., take precautions to avoid snowmobile movement which could cause an accident:

- **Make sure that the throttle lever moves smoothly with the engine off before checking the T.O.R.S.**
- **Make sure that the parking brake is applied.**
- **Do not rev the engine to the point that the clutch engages.**



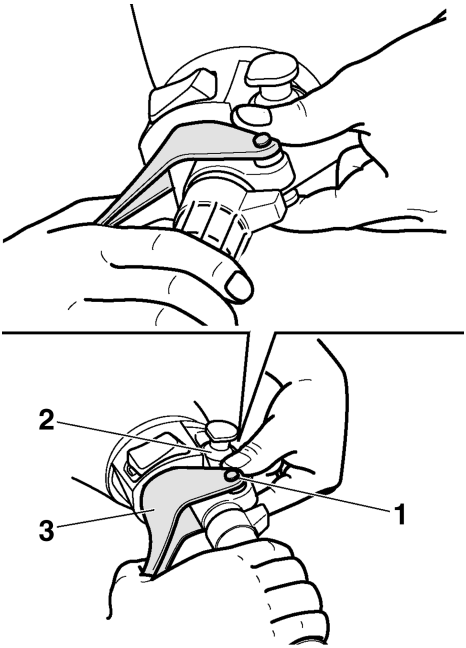
Check the T.O.R.S. for proper operation.

1. Start the engine.

TIP

Refer to the “Starting the engine” section on page 37.

2. Hold the pivot point of the throttle lever away from the throttle switch by putting your thumb (above) and forefinger (below) between the throttle lever pivot and the engine stop switch housing.
   While holding the pivot point as described above, squeeze the throttle lever gradually.



1. Throttle lever pivot
2. Engine stop switch housing
3. Throttle lever

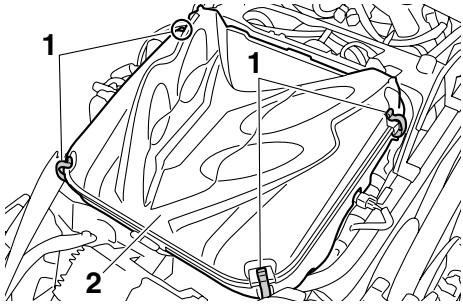
The T.O.R.S. will be activated and the engine speed will be limited to less than the clutch engagement speed. (See page 88 for the clutch engagement speed.) **WARNING! If the engine speed does not decrease to less than the clutch engagement speed, stop the engine by turning the main switch to the off position and consult a Yamaha dealer. Operating the snowmobile with a malfunctioning T.O.R.S. could result in loss of control.** [EWS00362]

ESU11887

Checking the air filter

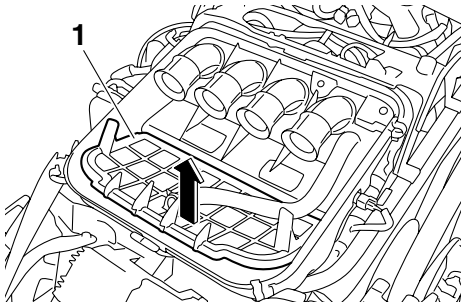
Check that there is no snow under the air filter element frame after each ride. In addition, snow may need to be cleaned during a ride depending on the riding conditions.

1. Place the snowmobile on a level surface and apply the parking brake.
2. Remove the shroud, the left and right side covers, and the top cover. (See page 49 for removal procedures.)
3. Remove the headlight unit bolt on each side of the snowmobile, and then unhook the headlight unit. (See page 52.)
4. Remove the air filter case cover by unhooking the fasteners.

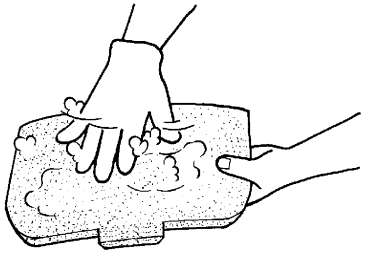


1. Air filter case cover fastener
2. Air filter case cover

5. Lift up the air filter element frame and check the air filter element. If there is any snow on the air filter element, remove the element, brush off the snow, and then install the air filter element.



1. Air filter element frame



6. Place the air filter element frame in the original position, and then install the air filter case cover by hooking the fasteners.
7. Install the headlight unit.
8. Install the top cover, the left and right side covers, and the shroud.

ESU11931

High-altitude settings

Operating at high altitude reduces the performance of a gasoline engine about 3% for every 305 m (1000 ft) of elevation. This is because there is less air as altitude increases. Less air means less oxygen available for combustion.

Your snowmobile utilizes an electronic fuel injection system that delivers the optimal air/fuel ratio required by the engine. Therefore, the fuel injection system does not need to be adjusted, even for operation at high altitude.

Remember:

Less air at higher altitude means there is less horsepower available, even with the optimal air/fuel ratio. Expect acceleration and top speed to be reduced at higher altitudes.

To overcome operating with less power at high altitudes, your snowmobile may also require different settings for the drive chain gears and V-belt clutch to avoid poor performance and rapid wear. If you plan to operate your snowmobile at an altitude different from the area where you bought it, be sure to consult a Yamaha dealer. The dealer can tell you if there are any changes necessary for the altitude where you plan to ride. ***NOTICE:*** **The drive chain gears and V-belt clutch should be adjusted when operating above a high altitude of 900 m (3000 ft). Consult a Yamaha dealer.** [ECS00431]

ESU11950

Valve clearance

The valve clearance changes with use, resulting in improper air-fuel mixture and/or engine noise. To prevent this from occurring, the valve clearance must be adjusted by a Yamaha dealer at the intervals specified in the periodic maintenance chart.

ESU1196A

Engine oil and oil filter cartridge

The engine oil level should be checked before each use. In addition, the oil must be changed and the oil filter cartridge replaced at the intervals specified in the periodic maintenance and lubrication chart.

EWS00370

⚠ WARNING

Engine oil is extremely hot immediately after the engine is turned off. Coming into contact with or getting any engine oil on your clothes could result in burns.

ECS00441

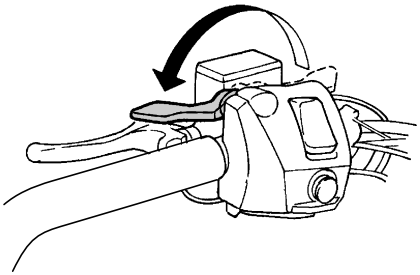
NOTICE

- **Do not run the engine with too much or not enough oil in the oil tank. Oil could spray out or the engine could be damaged.**
- **Be sure to change the engine oil after the first 800 km (500 mi) of operation, and every 4000 km (2500 mi) thereafter or at the start of a new season, otherwise the engine will wear quickly.**
- **The oil filter cartridge should be replaced after the first 800 km (500 mi) of operation, and every 20000 km (12000**

mi) of operation thereafter. Have a Yamaha dealer replace the oil filter cartridge.

To check the engine oil level

1. Place the snowmobile on a level surface and apply the parking brake.

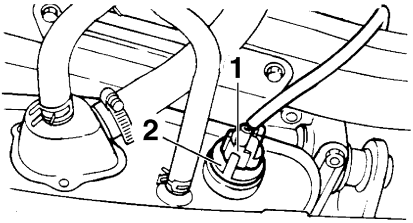


2. Start the engine, warm it up for 10–15 minutes, and then turn it off.

TIP

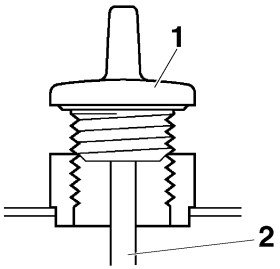
- The engine can also be warmed up by operating the snowmobile for 10–15 minutes.
- After operating the snowmobile, allow the engine to idle for at least 10 seconds before turning it off.

3. Remove the shroud and the right side cover. (See page 49 for removal procedures.)
4. Disconnect the oil level gauge coupler. ***NOTICE:*** **Disconnect the oil level gauge coupler before removing the oil filler cap, otherwise the cable could twist and break.** [ECS00452]



1. Oil level gauge coupler
2. Oil filler cap

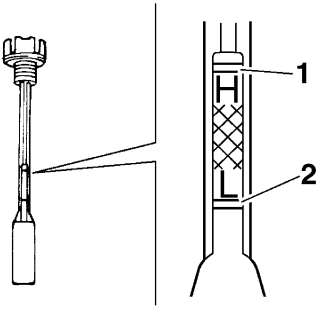
5. Remove the oil filler cap, wipe the dipstick clean, insert it back into the oil filler hole (without screwing it in), and then remove it again to check the oil level.



1. Oil filler cap
2. Dipstick

TIP

The engine oil should be between the “H” and “L” level marks on the dipstick.

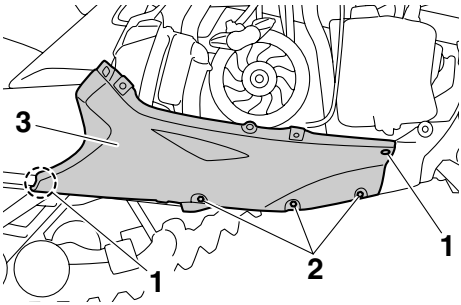


1. "H" level mark
2. "L" level mark

6. If the engine oil is below the "L" level mark, add sufficient oil of the recommended type to raise it to the "H" level mark. (See page 88 for the recommended oil.) ***NOTICE:*** **When adding the engine oil, be careful not to fill above the "H" level mark on the dipstick. Use only the recommended oil. (See page 88.) Make sure that no foreign material enters the engine oil tank.** [ECS00462]
7. Insert the dipstick into the oil filler hole, and then tighten the oil filler cap.
8. Connect the oil level gauge coupler.
9. Install the right side cover and the shroud.

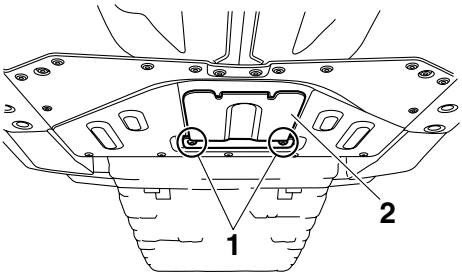
To change the engine oil

1. Place the snowmobile on a level surface and apply the parking brake.
2. Start the engine, warm it up for several minutes, and then turn it off.
3. Remove the shroud and the right side cover. (See page 49 for removal procedures.)
4. Remove the screws and bolts, and then pull the right lower cover outward to remove it.



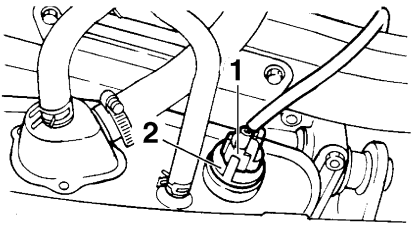
1. Screw
2. Bolt
3. Right lower cover

5. Remove the bottom panel by removing the bolts.



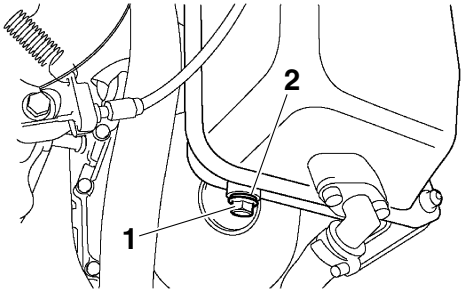
1. Bolt
2. Bottom panel

6. Place an oil pan under the oil tank to collect the used oil.
7. Disconnect the oil level gauge coupler.



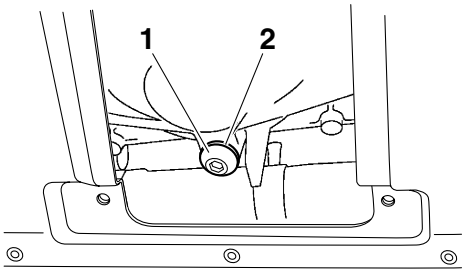
1. Oil level gauge coupler
2. Oil filler cap

8. Remove the oil filler cap, and then remove the engine oil drain bolt and its gasket to drain the oil from the oil tank.



1. Engine oil drain bolt (oil tank)
2. Gasket

9. Place an oil pan under the engine to collect the used oil.
10. Remove the engine oil drain bolt and its gasket to drain the oil from the crankcase.



1. Engine oil drain bolt (crankcase)
2. Gasket

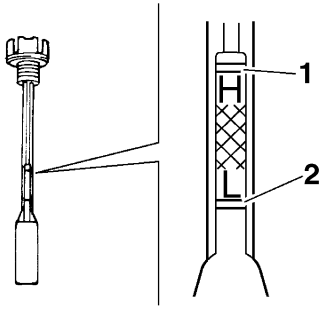
TIP

Dispose of used oil according to local regulations.

11. Install the engine oil drain bolts and their new gasket, and then tighten the bolts to the specified torques.

Tightening torques:
Engine oil drain bolt (crankcase):
30 Nm (3.0 m·kgf, 22 ft·lbf)
Engine oil drain bolt (oil tank):
16 Nm (1.6 m·kgf, 12 ft·lbf)

12. Add 2.0 L (2.11 US qt, 1.76 Imp.qt) of the recommended engine oil to the oil tank, and then install and tighten the oil filler cap.
13. Start the engine, warm it up for several minutes, and then turn it off.
14. Remove the oil filler cap, and then add sufficient oil of the recommended type to raise it to the "H" level mark on the dipstick. (See above for checking procedures.) ***NOTICE:*** **When adding the engine oil, be careful not to fill above the "H" level mark on the dipstick. Use only the recommended oil. (See page 88.) Make sure that no foreign material enters the engine oil tank.** [ECS00462]



1. "H" level mark
2. "L" level mark

Recommended engine oil:
See page 88.
Oil quantity:
With oil filter cartridge replacement:
3.0 L (3.17 US qt, 2.64 Imp.qt)
Without oil filter cartridge replacement:
2.8 L (2.96 US qt, 2.46 Imp.qt)
Total amount:
3.8 L (4.02 US qt, 3.34 Imp.qt)

15. Install and tighten the oil filler cap.
16. Start the engine, and then let it idle for several minutes while checking it for oil leakage. If oil is leaking, immediately turn the engine off and make sure that the engine oil drain bolt, oil tank drain bolt, and the oil filler cap are installed correctly.
17. Turn the engine off, and then connect the oil level gauge coupler.
18. Install the bottom panel and the right lower cover, and then install the right side cover and the shroud. ***NOTICE:*** **If oil is leaking or the oil level warning indicator comes on when the engine is running, immediately turn the engine off and have a Yamaha dealer check the snowmobile. Continuing to operate the engine under such conditions could cause severe engine damage.** [ECS00471]

ESU13871

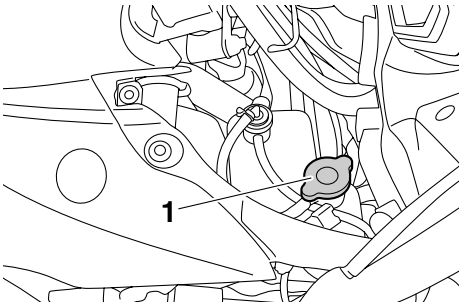
Cooling system

The coolant level should be checked before each ride. In addition, the cooling system must be bled at the intervals specified in the periodic maintenance and lubrication chart.

EWS00380

⚠ WARNING

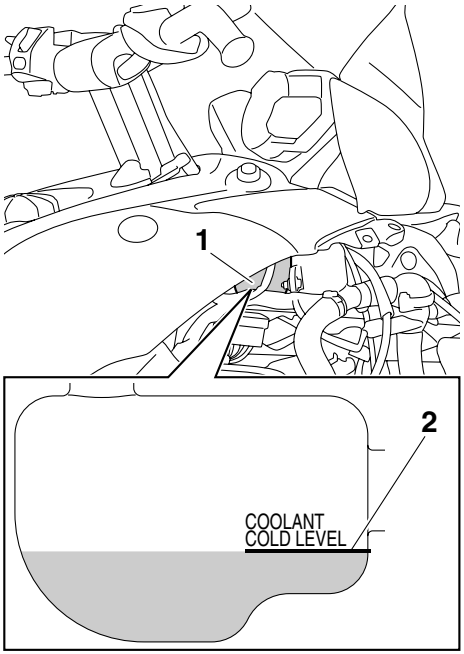
Do not remove the coolant reservoir cap when the engine is hot. Scalding hot fluid and steam may be blown out under pressure, which could cause serious injury.
When the engine has cooled, place a thick rag or towel over the coolant reservoir cap, and slowly rotate the cap counterclockwise to the detent. This procedure allows any residual pressure to escape. When the hissing sound has stopped, press down on the cap while turning counterclockwise and remove it.



1. Coolant reservoir cap

To check the coolant level

1. Place the snowmobile on a level surface and apply the parking brake.
2. Remove the right side cover. (See page 49 for removal procedures.)
3. Check the coolant level in the coolant recovery tank when the engine is cold. If the coolant level is below the “COLD LEVEL” mark, add coolant until it reaches the “COLD LEVEL” mark. (See the following section “Replenishing the coolant” for more details.) ***NOTICE:*** **If coolant is not available, use distilled water or soft tap water instead. Do not use hard water or salt water since it is harmful to the engine. If water has been used instead of coolant, replace it with coolant as soon as possible, otherwise the cooling system will not be protected against frost and corrosion. If water has been added to the coolant, have a Yamaha dealer check the antifreeze content of the coolant as soon as possible, otherwise the effectiveness of the coolant will be reduced.** [ECS00492]



1. Coolant recovery tank
2. "COLD LEVEL" mark

4. Install the right side cover.

Bleeding the cooling system

The cooling system must be bled if the coolant reservoir becomes empty, if air can be seen in the cooling system, or if there is a cooling system leak. Consult a Yamaha dealer.

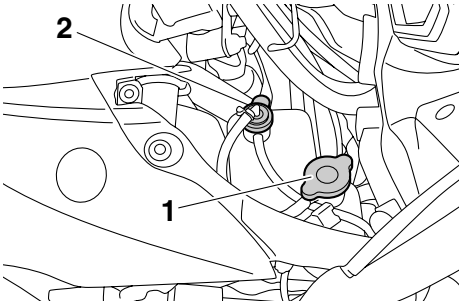
ECS00500

NOTICE

Operating the engine with an improperly bled cooling system can cause overheating and severe engine damage.

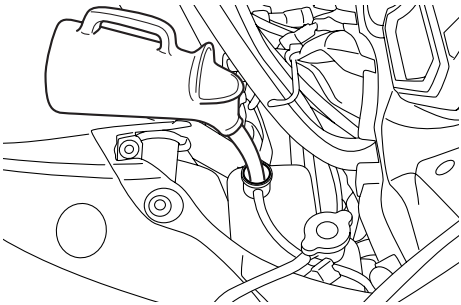
Replenishing the coolant

1. Place the snowmobile on a level surface and apply the parking brake.
2. Remove the shroud, the left and right side covers, and the top cover. (See page 49 for removal procedures.)
3. Remove the coolant reservoir cap, fill the reservoir with the recommended coolant, and then install the cap.



1. Coolant reservoir cap
2. Coolant recovery tank cap

4. Remove the coolant recovery tank cap, add the recommended coolant until it reaches the "COLD LEVEL" mark, and then install the cap.



Recommended antifreeze:
High-quality ethylene glycol antifreeze containing corrosion inhibitors
Antifreeze and water mixing ratio:
3:2
Total amount:
RX10P 6.20 L (6.55 US qt, 5.46 Imp.qt)
RX10PS 6.20 L (6.55 US qt, 5.46 Imp.qt)
RX10PXT 6.30 L (6.66 US qt, 5.54 Imp.qt)

5. Start the engine, allow it to idle for several minutes, and then turn it off.

6. Check for any coolant leakage. If coolant is leaking, check for the cause.

TIP

If you find any leaks, consult a Yamaha dealer.

7. Check the coolant level in the coolant reservoir. If it is not full, remove the coolant reservoir cap, fill the reservoir with the recommended coolant, and then install the cap.
8. Install the top cover, the left and right side covers, and the shroud.

ESU12067

V-belt

EWS00402

⚠ WARNING

- **Coming in contact with the rotating V-belt or clutch parts can cause severe injury or death. Never run the engine with the drive guard removed.**
- **Make sure that the drive guard is installed securely before operating the snowmobile to protect against severe injury or death from a broken V-belt or other part should it come off the snowmobile while it is in operation.**

ECS00830

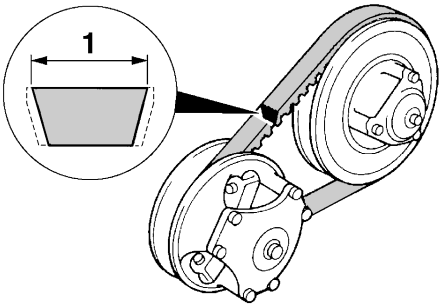
NOTICE

Never run the engine with the V-belt removed. Clutch components can be damaged.

The V-belt should be checked before each ride.

To check the V-belt

1. Remove the shroud and the left side cover, and then remove the drive guard. (See pages 22 and 49 for removal procedures.)
2. Check the V-belt for wear and damage. Replace if necessary.



1. V-belt wear limit

New V-belt width:
34.5 mm (1.36 in)
V-belt wear limit width:
32.5 mm (1.28 in)

3. Install the drive guard, and then install the left side cover and the shroud.

To replace and adjust the V-belt

EWS00411

⚠ WARNING

When installing a new V-belt, make sure that it is positioned properly. Otherwise, the V-belt clutch engagement speed will be changed and the snowmobile may move unexpectedly when the engine is started, which could cause an accident.

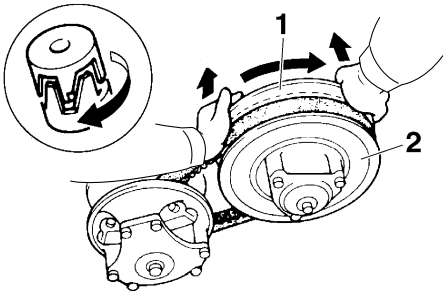
ECS00511

NOTICE

As the V-belt wears, the position of the V-belt will change. If the V-belt position is out of specification, it must be adjusted to ensure proper clutch performance.
Have a Yamaha dealer make this adjustment.

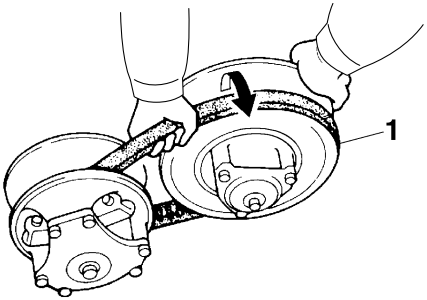
1. Place the snowmobile on a level surface and apply the parking brake.
2. Remove the shroud and the left side cover, and then remove the drive guard. (See pages 22 and 49 for removal procedures.)

3. Rotate the secondary sliding sheave clockwise and push it so that it separates from the secondary fixed sheave.



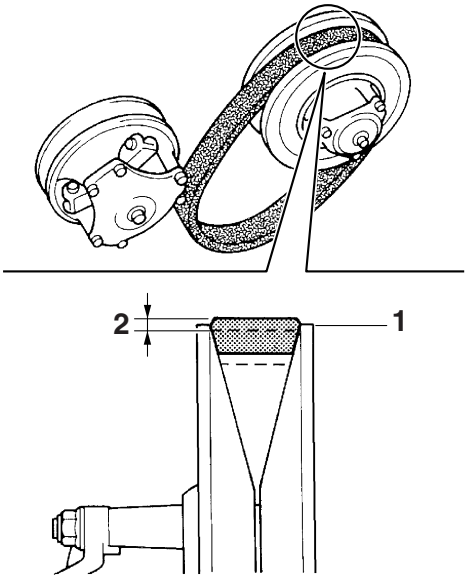
1. Secondary sliding sheave
2. Secondary fixed sheave

4. Pull the V-belt up over the secondary fixed sheave.



1. V-belt

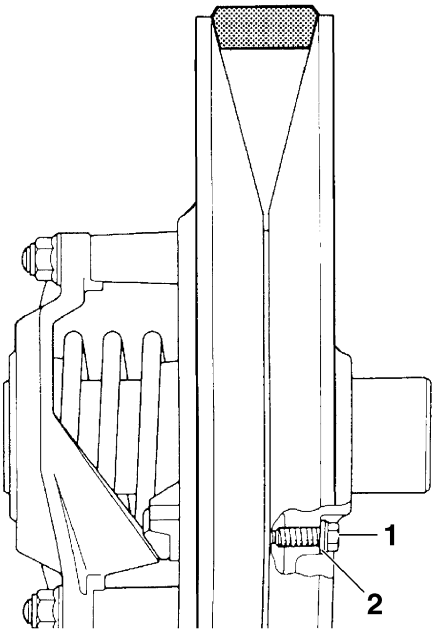
5. Remove the V-belt from the secondary sheave assembly and primary sheave assembly.
6. Temporarily install the new V-belt on the secondary sheave assembly only, and then measure the V-belt position. Do not force the V-belt between the sheaves; the secondary sliding and fixed sheaves must touch each other.



1. Edge of the secondary sheave assembly
2. Standard V-belt position

Standard V-belt position:
From 1.5 mm (0.06 in) above the edge of the secondary sheave assembly to 0.5 mm (0.02 in) below the edge

7. If the V-belt position is incorrect, adjust it by removing or adding a spacer on each V-belt position adjusting bolt.



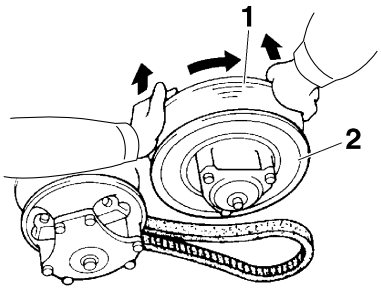
1. V-belt position adjusting bolt
2. Spacer

V-belt position	Adjustment
More than 1.5 mm (0.06 in) above the edge	Remove a spacer.
From 1.5 mm (0.06 in) above the edge to 0.5 mm (0.02 in) below the edge	Not necessary (it is correct).
More than 0.5 mm (0.02 in) below the edge	Add a spacer.

8. Tighten the V-belt position adjusting bolts.

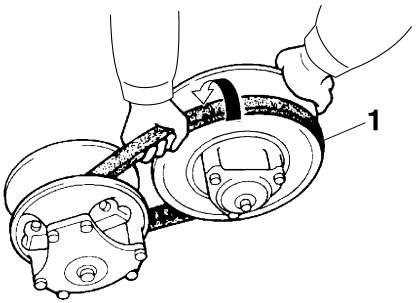
V-belt position adjusting bolt tightening torque:
10 Nm (1.0 m·kgf, 7.2 ft·lbf)

9. Install the V-belt over the primary sheave assembly.
10. Rotate the secondary sliding sheave clockwise and push it so that it separates from the secondary fixed sheave.



1. Secondary sliding sheave
2. Secondary fixed sheave

11. Install the V-belt between the secondary sliding and fixed sheaves.



1. V-belt

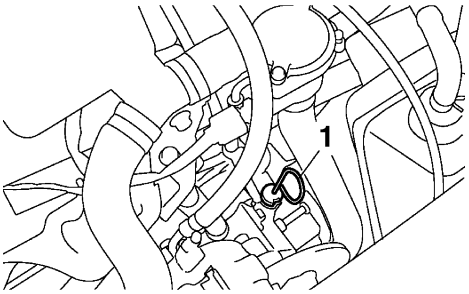
12. Install the drive guard, and then install the left side cover and the shroud.

ESU12106

Drive chain housing

To check the drive chain housing oil level

1. Place the snowmobile on a level surface and apply the parking brake.
2. Remove the shroud and the right side cover. (See page 49 for removal procedures.)
3. Remove the dipstick, wipe it off with a clean rag, and then insert it back into the filler hole.

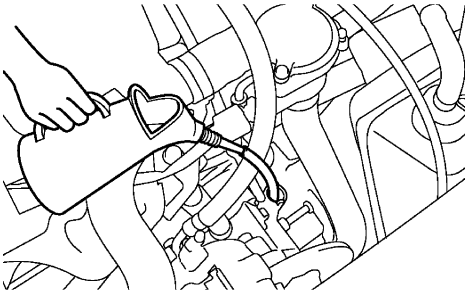


1. Dipstick

4. Remove the dipstick and check that the oil is between the maximum and minimum level marks on the "REVERSE" side of the dipstick. If the oil is below the minimum level mark, add sufficient oil of the recommended type to raise it to the maximum level mark. ***NOTICE:*** **Make sure that no foreign material enters the drive chain housing.** [ECS00531]

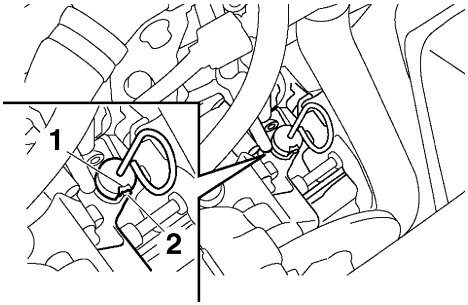


1. Maximum level mark
2. Minimum level mark



Recommended drive chain oil:
SAE 75W or 80W API GL-3 Gear oil

5. Install the dipstick, making sure to align the notch in the dipstick handle with the projection on the drive chain housing.

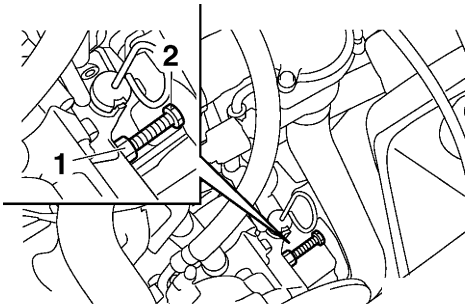


1. Notch
2. Projection

6. Install the right side cover and the shroud.

To adjust the chain tension

1. Remove the shroud and the right side cover. (See page 49 for removal procedures.)
2. Loosen the locknut.
3. Turn the chain tension adjusting bolt clockwise until it is finger tight, and then loosen it 1/4 turn.



1. Locknut
2. Chain tension adjusting bolt

4. While holding the chain tension adjusting bolt with a wrench, tighten the locknut to the specified torque.

Tightening torque:
Locknut:
25 Nm (2.5 m·kgf, 18 ft·lbf)

5. Install the right side cover and the shroud.

ESU13540

Brake and parking brake

EWS00440

⚠ WARNING

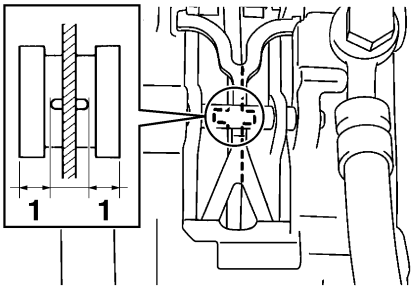
- **A soft, spongy feeling in the brake lever indicates a failure in the brake system.**
- **Do not operate the snowmobile if you find any problems in the brake system. You could lose braking ability, which could lead to an accident. Ask a Yamaha dealer to inspect and repair the brake system.**

Test the brake at a low speed when starting out to make sure that it is working properly. If the brake does not provide proper braking performance, inspect the brake for wear or brake fluid leakage. (See the following section for more details.)

Checking the brake pads

Check the brake pads for wear according to the following procedure.

1. Place the snowmobile on a level surface and apply the parking brake.
2. Remove the shroud and the right side cover. (See page 49 for removal procedures.)
3. Check the brake pads for wear.
   If the brake pads reach the wear limit, ask a Yamaha dealer to replace them.



1. Brake pad wear limit

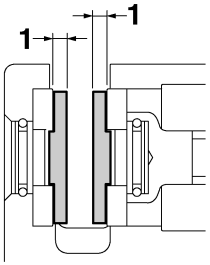
Brake pad wear limit:
4.7 mm (0.19 in)

4. Install the right side cover and the shroud.

Checking the parking brake pads

Check the parking brake pads for wear according to the following procedure.

1. Remove the shroud and the right side cover. (See page 49 for removal procedures.)
2. Check the parking brake pads for wear by measuring the thickness of the pads. If the parking brake pads reach the wear limit, ask a Yamaha dealer to replace them.



1. Parking brake pad wear limit

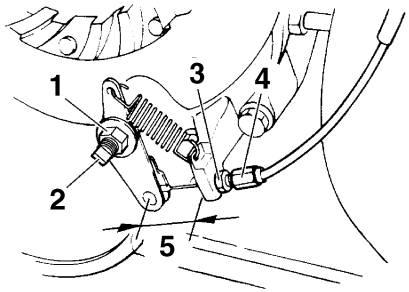
Parking brake pad wear limit:
1.2 mm (0.047 in)

3. Install the right side cover and the shroud.

To adjust the parking brake

As the parking brake pads wear, adjustment may be necessary to ensure proper brake performance.

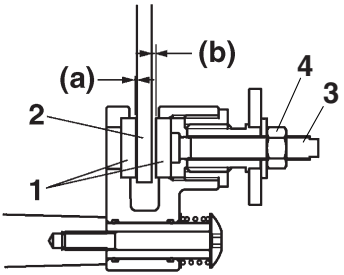
1. Remove the shroud and the right side cover. (See page 49 for removal procedures.)
2. Loosen the parking brake pad adjusting bolt locknut and the parking brake pad adjusting bolt.
3. Loosen the parking brake cable locknut.
4. Turn the parking brake cable adjusting bolt in or out to adjust the cable length.



1. Parking brake pad adjusting bolt locknut
2. Parking brake pad adjusting bolt
3. Parking brake cable locknut
4. Parking brake cable adjusting bolt
5. Parking brake cable length

Parking brake cable length:
43.5–46.5 mm (1.713–1.831 in)

5. Tighten the parking brake cable locknut.
6. Turn the parking brake pad adjusting bolt in or out to adjust the clearance between the parking brake pads and the brake disc.



1. Parking brake pad
2. Brake disc
3. Parking brake pad adjusting bolt
4. Parking brake pad adjusting bolt locknut

Parking brake pad to brake disc clearance (a) + (b):
1.5–2.0 mm (0.059–0.079 in)

7. Tighten the parking brake pad adjusting bolt locknut.
8. Install the right side cover and the shroud.

Checking the brake fluid level

EWS00460

⚠ WARNING

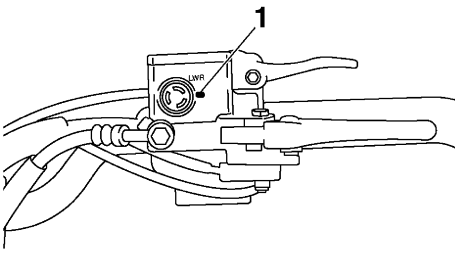
Be careful that water does not enter the master cylinder when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.
If the brake fluid level goes down, consult a Yamaha dealer.

ECS00550

NOTICE

Brake fluid may deteriorate painted surfaces or plastic parts. Never spill any fluid. If any is spilled, clean it up immediately.

Place the snowmobile on a level surface and apply the parking brake. Check that the brake fluid is above the lower level and replenish when necessary.



1. Lower level

Specified brake fluid:
DOT 4

Changing the brake fluid

EWS00471

⚠ WARNING

Make sure that the brake fluid and the following parts are replaced by a Yamaha dealer.

Brake fluid replacement is necessary when the following components are replaced during the periodic maintenance or if they are damaged or leaking.

- All oil seals of the master cylinder and caliper cylinder
- The brake hose

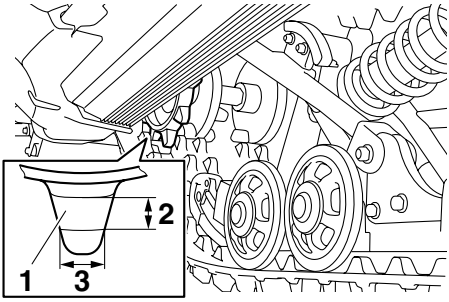
ESU13612

Extrovert drive sprocket

Check the extrovert drive sprocket for wear and damage. Replace if necessary.

To measure the drive sprocket wear

1. Measure 20 mm (0.79 in) up from the bottom of a drive sprocket tooth.
2. Measure the drive sprocket tooth width at the height measured in step 1. If the tooth width is less than 13 mm (0.51 in), replace the drive sprocket.

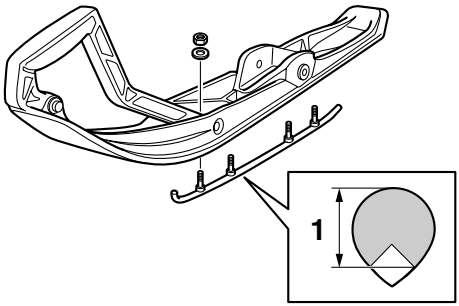


1. Drive sprocket tooth
2. Measuring point height: 20 mm (0.79 in)
3. Drive sprocket tooth width

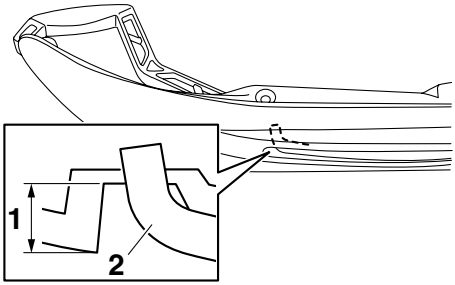
ESU12144

Skis and ski runners

Check the skis and ski runners for wear and damage. Replace if necessary.



1. Ski runner wear limit



1. Ski wear limit
2. Ski runner

Ski runner wear limit: 8.0 mm (0.31 in) Ski wear limit: 13 mm (0.5 in)

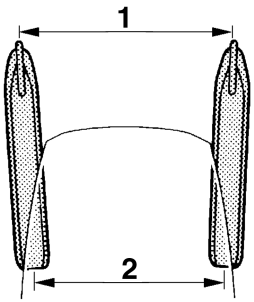
ECS00560

NOTICE

Avoid scratching the skis when loading and unloading the snowmobile, when riding in areas with little or no snow, or on sharp edges such as concrete, curbs, etc. This will wear or damage the skis.

To align the skis

1. Turn the handlebar so the skis face straight ahead.
2. Check the following for ski alignment:
   - Skis are facing forward.
   - Ski toe-out (distance A – distance B) is within specification.



1. Distance A
2. Distance B

Ski toe-out (distance A – distance B): 0.0–15.0 mm (0.00–0.59 in)

TIP

Move the front tip of each ski fully inward before measuring or aligning.

3. If the alignment is not correct, consult a Yamaha dealer.

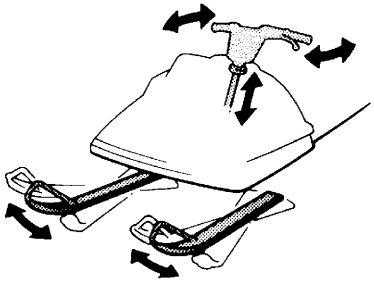
ESU12152

Steering system

Check the handlebar for excessive free play.

To check the handlebar

1. Push the handlebar up and down and back and forth.
2. Turn the handlebar slightly to the right and left.



If excessive free play is felt, consult a Yamaha dealer.

ESU13702

Drive track and slide runners

Drive track

EWS00481

⚠ WARNING

A broken track, track fittings or debris thrown by the drive track could be dangerous to an operator or bystanders. Observe the following precautions:

- **Do not allow anyone to stand behind the snowmobile when the engine is running.**
- **When the rear of the snowmobile is raised to allow the drive track to spin, a suitable stand must be used to support the rear of the snowmobile. Never allow anyone to hold the rear of the snowmobile off the ground to allow the drive track to spin. Never allow anyone near a rotating drive track.**
- **Inspect the drive track condition frequently. Replace any damaged slide metal. Replace the drive track if it is damaged to the depth where fabric rein-**

forcement material is visible or support rods are broken. Otherwise, track damage or failure could result in loss of braking ability and snowmobile control, which could cause an accident.

Checking the drive track

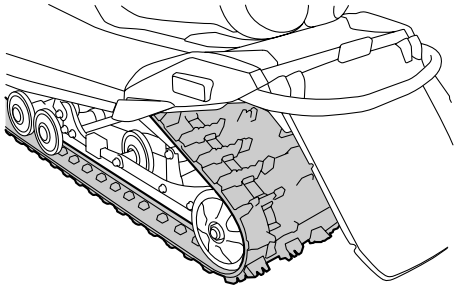
EWS00490

⚠ WARNING

Do not operate the snowmobile if you find damage to the drive track, or if it has been maladjusted. Drive track damage or failure could result in loss of braking ability and snowmobile control, which could cause an accident.

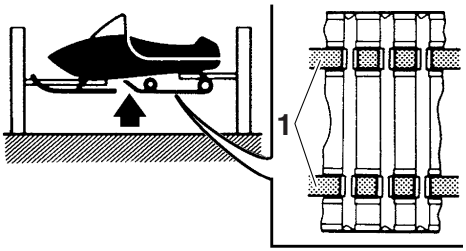
Check the drive track alignment and deflection, and check the track for wear and damage.

Adjust or replace if necessary. (See the following section for more details.)



Checking the drive track alignment

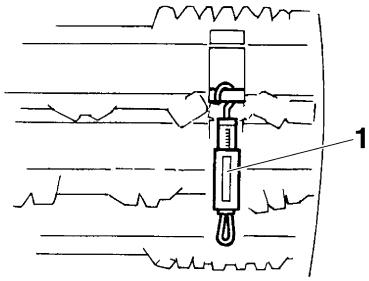
1. Lift the rear of the snowmobile onto a suitable stand to raise the drive track off the ground.
2. Start the engine and rotate the drive track one or two turns. Stop the engine.
3. Check the drive track alignment with the slide runners. If the alignment is incorrect, adjust the drive track.



1. Slide runner

Measuring the drive track deflection

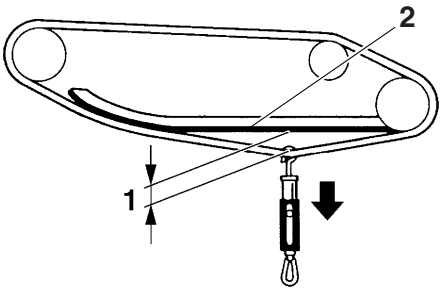
1. Lay the snowmobile on its side.
2. Measure the drive track deflection with a spring scale. Pull at the center of the drive track with a force of 100 N (10 kgf, 22 lbf).



1. Spring scale

TIP

Measure the gap between the slide runner and the edge of the track window on both sides.



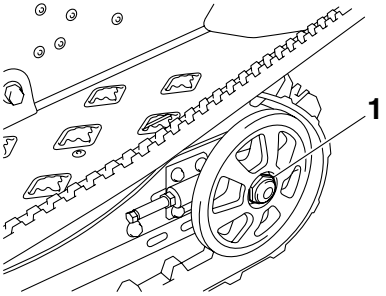
1. Drive track deflection
2. Slide runner

Standard drive track deflection:
30.0–35.0 mm (1.18–1.38 in)

3. If the deflection is incorrect, adjust the drive track.

Adjusting the drive track alignment and deflection (RX10P / RX10PS)

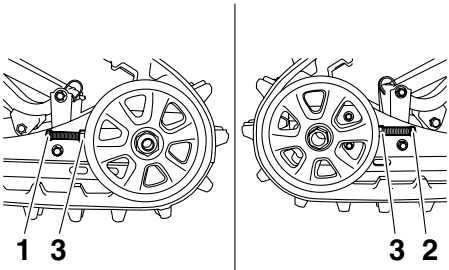
1. Loosen the rear axle nut.



1. Rear axle nut

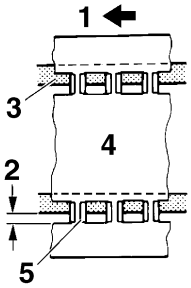
2. Lift the rear of the snowmobile onto a suitable stand to raise the drive track off the ground.
3. Start the engine and rotate the drive track one or two turns. Stop the engine.
4. Loosen the locknut on the left and the right sides of the snowmobile, then align the drive track by turning the adjusting bolt on each side.

Drive track alignment	Shifted to right	Shifted to left
Left adjusting bolt	Turn out	Turn in
Right adjusting ing bolt	Turn in	Turn out



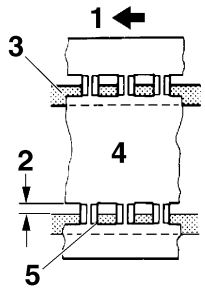
1. Left adjusting bolt
2. Right adjusting bolt
3. Locknut

Shifted to right



1. Forward
2. Gap
3. Slide runner
4. Drive track
5. Slide metal

Shifted to left



1. Forward
2. Gap
3. Slide runner
4. Drive track
5. Slide metal

5. Adjust the drive track deflection to specification. ***NOTICE:*** **The right and left adjusting bolts should be turned an equal amount.** [ECS00970]

Drive track deflection	More than specified	Less than specified
Left adjusting bolt	Turn in	Turn out
Right adjusting bolt	Turn in	Turn out

6. Tighten the locknuts to their specified torque.

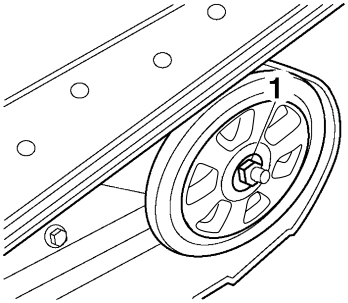
Locknut tightening torque:
59 Nm (5.9 m·kgf, 43 ft·lbf)

7. Recheck alignment and deflection. If necessary, repeat steps 3 to 6 until the proper adjustment is achieved.
8. Lower the snowmobile to the ground.
9. Tighten the rear axle nut.

Rear axle nut tightening torque:
75 Nm (7.5 m·kgf, 54 ft·lbf)

Adjusting the drive track alignment and deflection (RX10PXT)

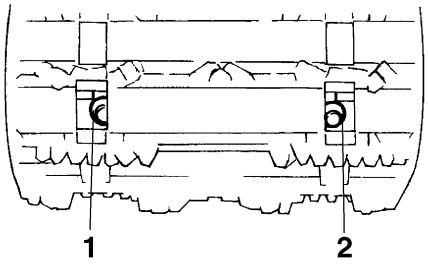
1. Loosen the rear axle nut.



1. Rear axle nut

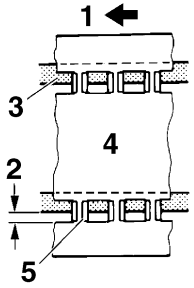
2. Lift the rear of the snowmobile onto a suitable stand to raise the drive track off the ground.
3. Start the engine and rotate the drive track one or two turns. Stop the engine.
4. Align the drive track by turning the left and right adjusting nuts.

Drive track alignment	Shifted to right	Shifted to left
Left adjusting nut	Turn out	Turn in
Right adjusting nut	Turn in	Turn out



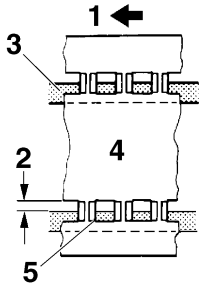
1. Left adjusting nut
2. Right adjusting nut

Shifted to right



1. Forward
2. Gap
3. Slide runner
4. Drive track
5. Slide metal

Shifted to left



1. Forward
2. Gap
3. Slide runner
4. Drive track
5. Slide metal

5. Adjust the drive track deflection to specification. ***NOTICE:*** **The right and left adjusting nuts should be turned an equal amount.** [ECS00592]

Drive track deflection	More than specified	Less than specified
Left adjusting nut	Turn in	Turn out
Right adjusting nut	Turn in	Turn out

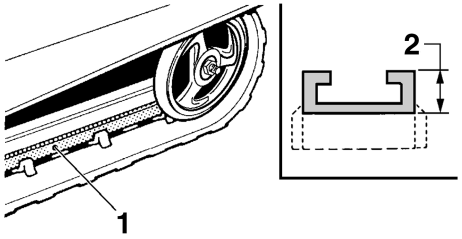
6. Recheck alignment and deflection. If necessary, repeat steps 3 to 5 until the proper adjustment is achieved.
7. Lower the snowmobile to the ground.
8. Tighten the rear axle nut.

Rear axle nut tightening torque:
75 Nm (7.5 m·kgf, 54 ft·lbf)

Slide runners

Check the slide runners for wear and damage.

If the slide runners reach the wear limit, they should be replaced.



1. Slide runner
2. Wear limit height

Slide runner wear limit height:
10.5 mm (0.41 in)

ECS00350

NOTICE

Ride on fresh snow frequently. Operating on ice or hard-packed snow will rapidly wear the slide runners.

ESU12198

Lubrication

Lubricate the following points with the specified grease.

EWS00511

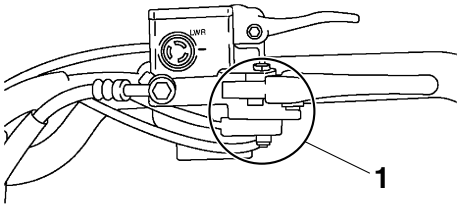
⚠ WARNING

Do not grease the throttle cable because it could become frozen, which could cause loss of control. Apply a dab of grease onto the cable end only.

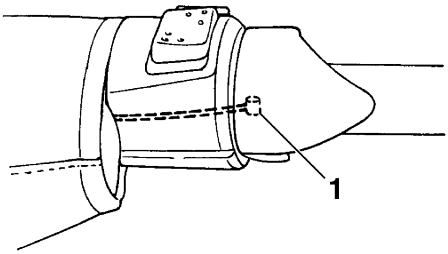
TIP

For parts equipped with a grease nipple, use a grease gun.

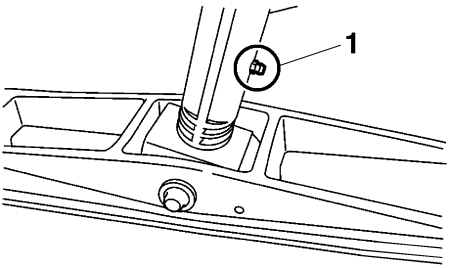
Lubricants:
- Brake lever:
  - Silicone grease
- Other lubrication points:
  - Low-temperature grease



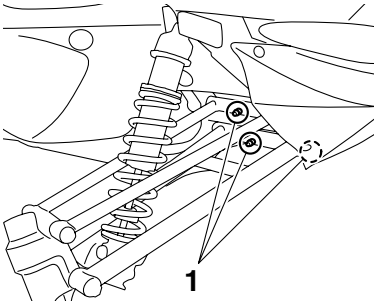
1. Lubrication point



1. Throttle cable end

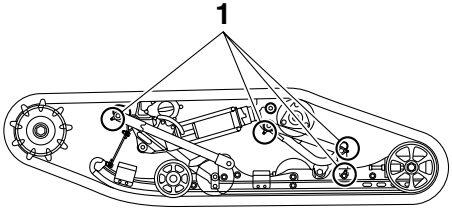


1. Grease nipple



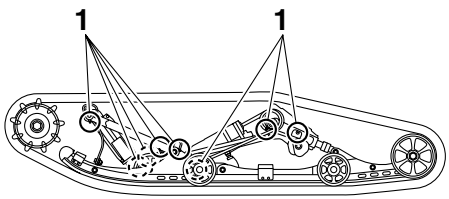
1. Grease nipple

RX10P / RX10PS



1. Grease nipple

RX10PXT

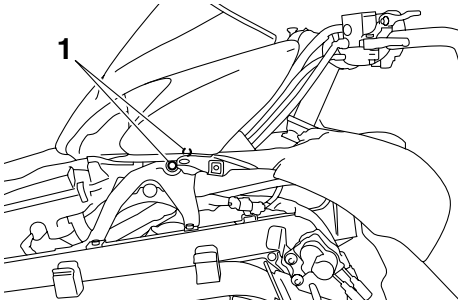


1. Grease nipple

ESU13882

Replacing a headlight bulb

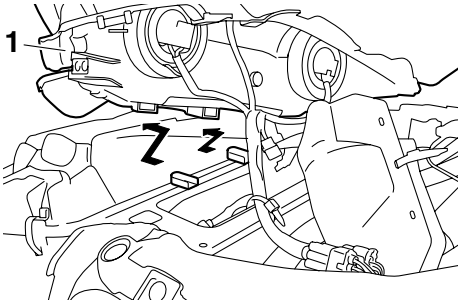
1. Remove the shroud, the left and right side covers, and the top cover. (See page 49 for removal procedures.)
2. Remove the headlight unit bolt on each side of the snowmobile.



1. Headlight unit bolt

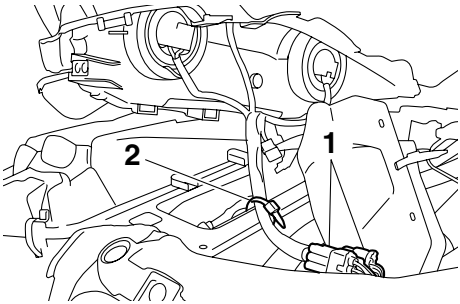
3. Unhook the headlight unit as shown, then lift it up and move it forward. ***NOTICE:*** **Be careful not to scratch the snowmobile when moving the headlight unit.**

[ECS00920]



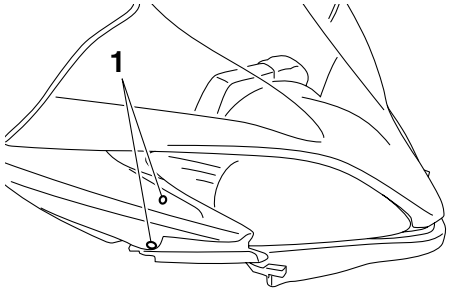
1. Headlight unit

4. Remove the plastic band, and then disconnect the headlight unit couplers.

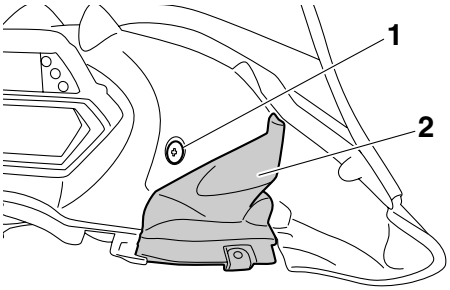


1. Headlight unit coupler
2. Plastic band

5. Remove the screws, and then remove the headlight access panel.

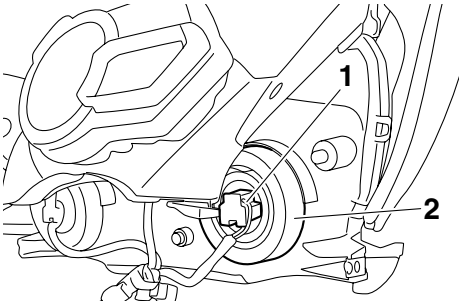


1. Screw



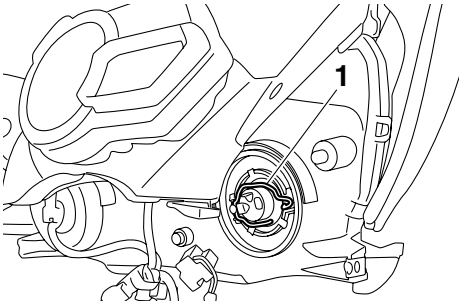
1. Screw
2. Headlight access panel

6. Disconnect the headlight coupler.
7. Remove the bulb holder cover.



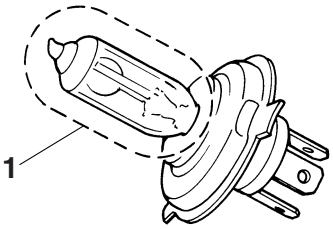
1. Headlight coupler
2. Bulb holder cover

8. Unhook the bulb holder, and then remove the burnt-out bulb.



1. Bulb holder

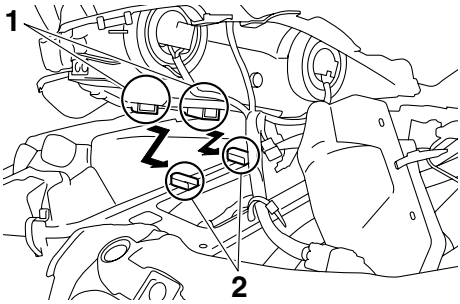
9. Install the new bulb, and then hook the bulb holder onto the headlight unit. ***NOTICE:*** **Keep oil and your hands away from the glass part of the bulb or its life and illumination will be affected. If the glass is oil stained, thoroughly clean it with a cloth moistened with alcohol or lacquer thinner.** [ECS00621]



1. Do not touch the glass part of the bulb.

Bulb type:
Halogen bulb

10. Install the bulb holder cover, and then connect the headlight coupler.
11. Install the headlight access panel.
12. Connect the headlight unit couplers, and then install the plastic band.
13. Install the headlight unit, making sure to fit the slots on its bottom over the projections on its stay.



1. Slot
2. Projection

14. Fit the weatherstrip on the headlight unit into the recess in the top of the air filter case cover.



1. Weatherstrip

15. Install the headlight unit bolts, and then tighten them to the specified torque.

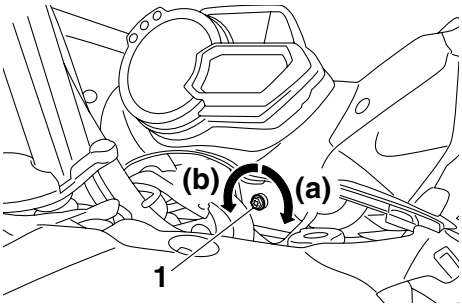
Tightening torque:
Headlight unit bolt:
3.0 Nm (0.30 m·kgf, 2.2 ft·lbf)

16. Install the top cover, the left and right side covers, and the shroud.

ESU12270

Adjusting the headlight beams

1. Remove the top cover. (See page 49 for removal procedures.)
2. Use a Phillips screwdriver to turn the headlight beam adjusting screw and adjust the headlight beams. To lower the headlight beams, turn the headlight beam adjusting screw in direction (a). To raise the headlight beams, turn the headlight beam adjusting screw in direction (b).



1. Headlight beam adjusting screw

3. Install the top cover.

ESU12290

Fittings and fasteners

Check the tightness of the fittings and fasteners.

Tighten in proper sequence and torque if necessary.

ESU14020

Battery

The battery is located under the air filter case. (See page 78.)

This model is equipped with a VRLA (Valve Regulated Lead Acid) battery. There is no need to check the electrolyte or to add distilled water. However, the battery lead connections need to be checked and, if necessary, tightened.

EWS00540

⚠ WARNING

Battery electrolyte is poisonous and dangerous. It contains sulfuric acid and can cause severe burns. Avoid contact with skin, eyes, or clothing.

ANTIDOTE:

- **EXTERNAL: Flush with water.**
- **INTERNAL: Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call physician immediately.**
- **EYES: Flush with water for 15 minutes and get prompt medical attention.**

Batteries produce explosive gases. Keep sparks, flame, cigarettes, etc. away. Ventilate when charging or using in an enclosed space. Always shield your eyes when working near batteries.

KEEP OUT OF THE REACH OF CHILDREN.

Charge or have a Yamaha dealer charge the battery as soon as possible if it seems to have discharged. Keep in mind that the battery

tends to discharge more quickly if the snowmobile is equipped with electrical accessories.

EWS00610

⚠ WARNING

- **Never smoke around the battery while it is being charged. Sparks may ignite the hydrogen gas created by the battery.**
- **Disconnect the negative lead first, then the positive lead from the battery.**
- **Connect the positive lead first, then the negative lead to the battery when installing the battery.**
- **Never connect the battery to or disconnect it from the snowmobile while it is being charged. Sparks may ignite the hydrogen gas created by the battery.**
- **Make sure that the battery terminals are tight.**

ECS00843

NOTICE

- **To charge a VRLA (Valve Regulated Lead Acid) battery, a special (constant-voltage) battery charger is required. Using a conventional battery charger will damage the battery.**
- **Do not charge the battery quickly.**

ESU12338

Replacing a fuse

EWS00550

⚠ WARNING

Be sure to use the specified fuse. A wrong fuse could cause electrical system damage or A FIRE HAZARD.

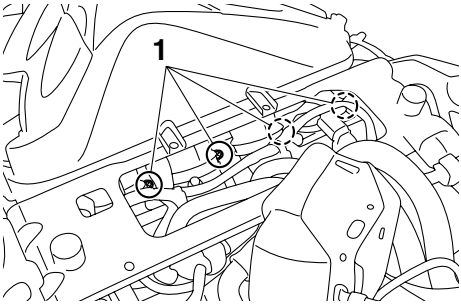
ECS00631

NOTICE

Be sure to turn the main switch to the off position and disconnect the negative battery lead to prevent accidental short-circuiting.

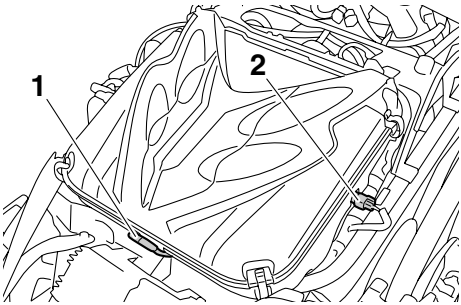
The main fuse, the EPS fuse, and the fuel injection system fuse are located under the air filter case. The fuse box, which contains the fuses for the individual circuits, is located behind the right side cover.

1. Remove the shroud, the left and right side covers, and the top cover. (See page 49 for removal procedures.)
2. Remove the headlight unit. (See page 75.)
3. Loosen the joint clamp bolts.



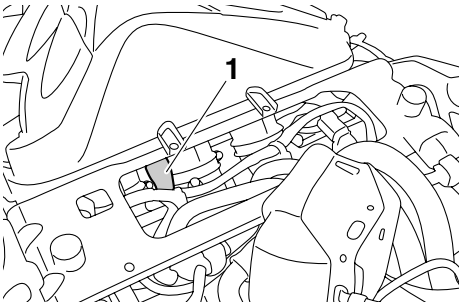
1. Joint clamp bolt

4. Unhook the air filter case fastener and disconnect the air temperature sensor coupler.

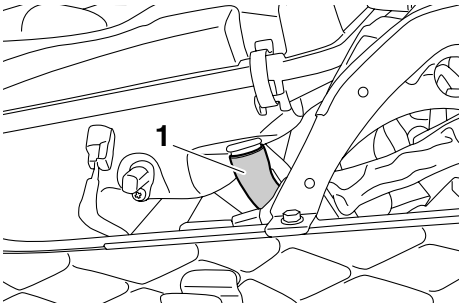


1. Air filter case fastener
2. Air temperature sensor coupler

5. Disconnect the crankcase breather hose and the bypass air hose.

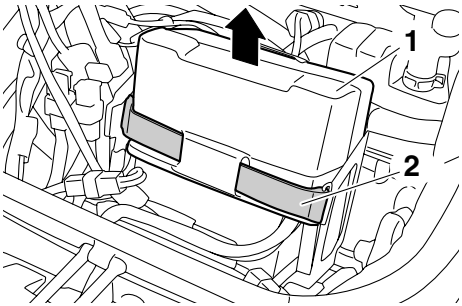


1. Bypass air hose



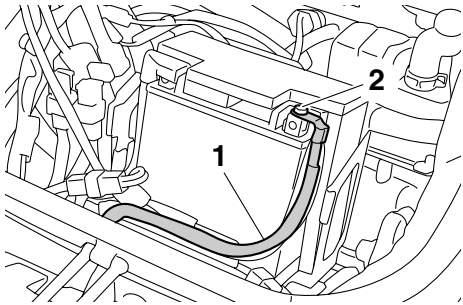
1. Crankcase breather hose

6. Remove the air filter case.
7. Unhook the battery band, and then remove the battery cover.



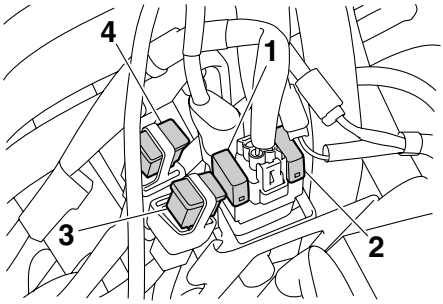
1. Battery cover
2. Battery band

8. Disconnect the negative battery lead by removing the bolt.

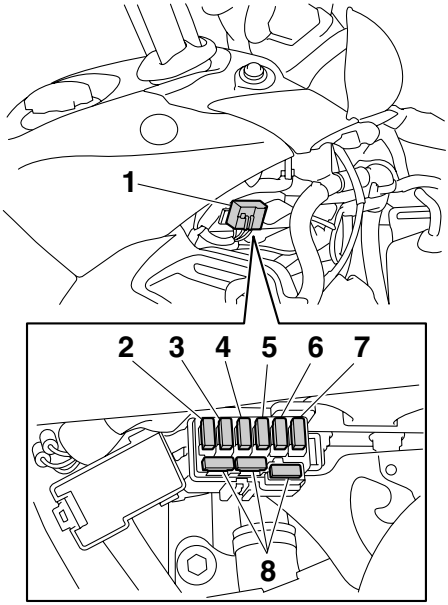


1. Negative battery lead
2. Bolt

9. Replace the blown fuse with one of the proper amperage.



1. Fuel injection system fuse
2. Spare fuse
3. Main fuse
4. EPS fuse



1. Fuse box
2. “HEAD” (headlight) fuse
3. “SIG” (signaling system) fuse
4. “DC TERM” (auxiliary DC jack) fuse
5. “S/H” (helmet shield heater jack) fuse
6. “IGN” (ignition) fuse
7. “FAN” (radiator fan) fuse
8. Spare fuse

Specified fuses:
- Main fuse: 40.0 A
- EPS fuse: 40.0 A
- Fuel injection system fuse: 10.0 A
- Headlight fuse: 20.0 A
- Signaling system fuse: 3.0 A
- Auxiliary DC jack fuse: 3.0 A
- Helmet shield heater jack fuse: 3.0 A
- Ignition fuse: 20.0 A
- Radiator fan fuse: 5.0 A
- Spare fuses: 20.0 A, 10.0 A, 5.0 A, 3.0 A

10. Connect the negative battery lead by installing the bolt.
11. Install the battery cover, and then hook the battery band onto the holder.
12. Install the air filter case by reversing steps 3–6.
13. Install the headlight unit.
14. Install the top cover, the left and right side covers, and the shroud.

TIP

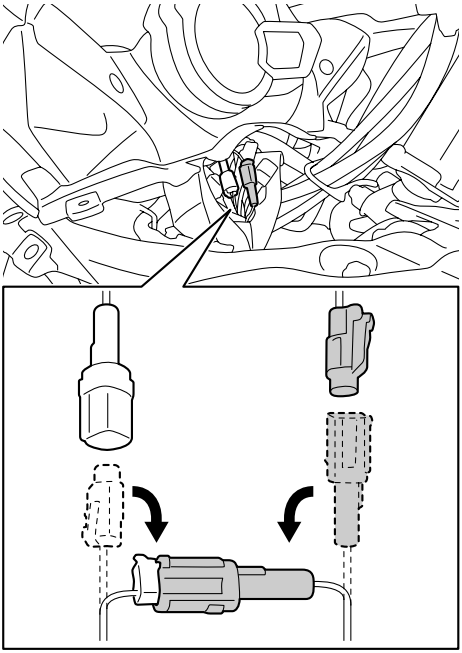
If the fuse immediately blows again, ask a Yamaha dealer to inspect the snowmobile.

ESU12384

Engine turns over but does not start

1. Fuel system
   - No fuel supplied to combustion chamber
     - No fuel in tank:
       Supply fuel.
       ↓
     - Clogged fuel line:
       Clean fuel line.
       ↓
     - Clogged injector:
       Ask a Yamaha dealer to inspect.
   - Fuel supplied to combustion chamber
     - Flooded engine:
       Crank engine or wipe the spark plugs dry.
2. Electrical system
   - Poor spark or no spark
     - Spark plugs are dirty with carbon or are wet:
       Remove carbon or wipe the spark plugs dry. Replace if necessary.
       ↓
     - Faulty ignition system:
       Ask a Yamaha dealer to inspect.
       ↓
     - T.O.R.S. malfunction:
       Disconnect the throttle switch connectors and connect the wire harness connectors together to bypass the T.O.R.S. **WARNING! Before bypassing the T.O.R.S., make sure that the throttle returns properly to the fully closed position. The T.O.R.S. is an important safety device; in the case of a malfunction, take the snowmobile to a Yamaha dealer immediately for repair.**

[EWS00561]



3. Compression
   - Insufficient
     - Loose cylinder head nuts:
       Tighten nuts properly.
       ↓
     - Worn or damaged gasket:
       Replace gasket.
       ↓
     - Worn or damaged piston and cylinder:
       Ask a Yamaha dealer to inspect.

Discharged battery

If the battery is discharged, the engine can be started using a fully-charged 12-volt battery and jumper cables. Two connecting leads have been provided for jump-starting the snowmobile. Due to the rubber engine mounting, the snowmobile frame is not a suitable grounding point for jump-starting the engine.

EWS00570

⚠ WARNING

- **Connect the jumper cables only to the connecting lead terminals. Do not connect them to the frame or any wire or other lead.**
- **When connecting the jumper cables, do not contact the jumper cables or connecting lead terminals to each other or to the frame or any metal part of the snowmobile. This can cause electrical system damage or A FIRE HAZARD.**
- **Be sure to pull the lead covers back over the terminals completely. If the terminals are exposed, they could come into contact with the frame or a metal part of the snowmobile and this can cause electrical system damage or A FIRE HAZARD.**

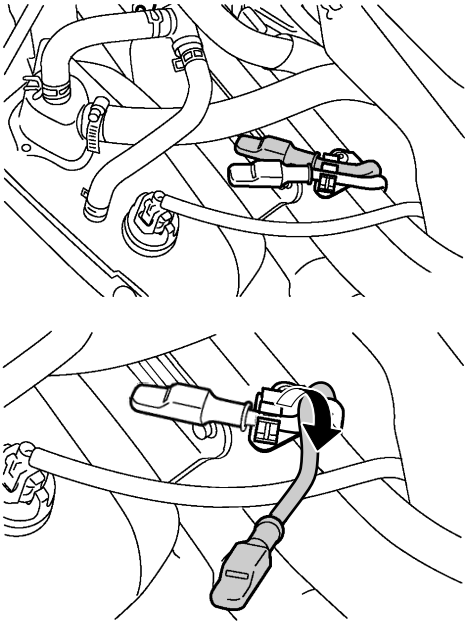
ECS00650

NOTICE

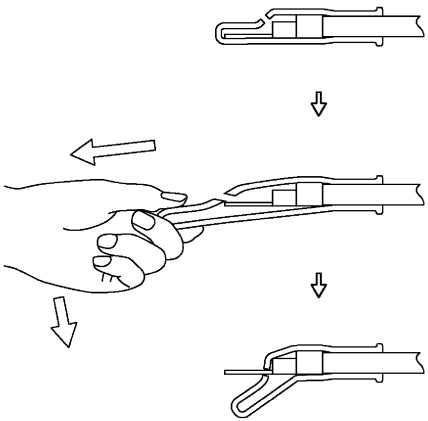
Use the connecting leads to jump-start the snowmobile only. Do not use the connecting leads for any other purpose.

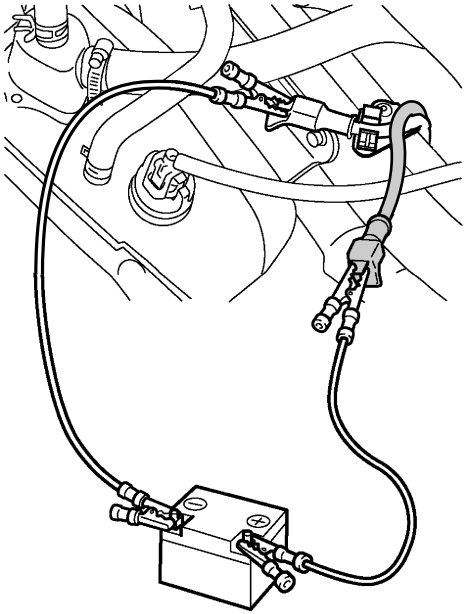
To start the engine using the booster battery

1. Apply the parking brake and turn the main switch to the off position.
2. Remove the shroud and the right side cover. (See page 49 for removal procedures.)
3. Remove the red (+) connecting lead from the lead holder and move it away from the black (–) connecting lead. ***NOTICE:*** **Be sure to connect the red (+) jumper cable to the red (+) connecting lead and the black (–) jumper cable to the black (–) connecting lead. Do not reverse the connections.** [ECS00661]



4. Pull the red (+) connecting lead cover to expose the terminal through the slit in the cover, and then connect the red (+) jumper cable to the red (+) connecting lead.





5. Connect the other end of the red (+) jumper cable to the positive (+) terminal of the booster battery.
6. Connect the black (–) jumper cable to the negative (–) terminal of the booster battery.
7. Pull the black (–) connecting lead cover to expose the terminal through the slit in the cover, and then connect the black (–) jumper cable to the black (–) connecting lead.
8. Start the engine.
9. Disconnect the black (–) jumper cable from the black (–) connecting lead, and then pull the cover completely over the lead terminal.
10. Disconnect the black (–) jumper cable from the negative (–) terminal of the battery used to jump start the engine.
11. Disconnect the red (+) jumper cable from the positive (+) terminal of the battery used to jump start the engine.
12. Disconnect the red (+) jumper cable from the red (+) connecting lead, and then pull the cover completely over the lead terminal.
13. Install the red (+) connecting lead into the lead holder.
14. Install the right side cover and the shroud.

TIP

Make sure that both the red (+) connecting lead and the black (–) connecting lead are seated securely in the lead holders.

Electric starter does not operate or operates slowly

- Engine stop switch is pushed in: Pull it out.
- Faulty wire connections: Check connections or ask a Yamaha dealer to inspect.
- Discharged battery: Charge battery or see "Discharged battery" above.
- Seized engine: Seizure is caused by poor lubrication, inadequate fuel, or an air leak. Ask a Yamaha dealer to inspect.

Engine power is low

- Low coolant temperature indicator light is flashing: Warm the engine up.
- Faulty spark plugs: Clean or replace the spark plugs.
- Improper fuel flow: See "Engine turns over but does not start–Fuel system" above.
- Incorrect V-belt clutch settings for altitude or conditions: Ask a Yamaha dealer to inspect.

Engine constantly backfires or misfires

- Faulty spark plugs: Replace the spark plugs.
- Clogged fuel system: See "Engine turns over but does not start–Fuel system" above.
- Malfunctioning T.O.R.S.: See "Engine turns over but does not start–Electrical system" above.

Engine overheats

- Insufficient coolant: Add coolant.
- Air in cooling system: Bleed the cooling system or ask a Yamaha dealer to inspect.
- Leaking coolant: Ask a Yamaha dealer to inspect.

Snowmobile does not move

- Malfunctioning V-belt clutch: Ask a Yamaha dealer to inspect.
- Drive track does not move: Foreign object is caught in the drive track, or slide runners have melted to the slide metal due to lack of lubrication.
- Tight, loose, or broken drive chain: Ask a Yamaha dealer to inspect.

V-belt twists

- Improper V-belt: Replace with the correct V-belt.
- Incorrect V-belt clutch offset: Ask a Yamaha dealer to inspect.
- Loose or broken engine mount(s): Ask a Yamaha dealer to inspect.

V-belt slips or becomes extremely hot

- Oily or dirty V-belt or primary and secondary sheave assembly surfaces: Clean.
- Problem with the driveline: See "V-belt twists" above.

Engine does not upshift or downshift properly or engages harshly

- Worn or damaged V-belt: Replace the V-belt or ask a Yamaha dealer to inspect.
- Incorrect V-belt clutch settings for altitude or conditions: Ask a Yamaha dealer to inspect.
- Worn or sticking primary sheave assembly: Ask a Yamaha dealer to inspect.
- Worn or sticking secondary sheave assembly: Ask a Yamaha dealer to inspect.

Noise or excessive vibration in drive chain and sprockets

- Broken V-belt clutch components: Ask a Yamaha dealer to inspect.
- Worn or damaged bearings: Ask a Yamaha dealer to inspect.
- Worn or damaged V-belt with flat spots: Replace.
- Worn or damaged idler wheels or shafts: Ask a Yamaha dealer to inspect.

- Worn or damaged drive track: Ask a Yamaha dealer to inspect.

ESU12433

Long-term storage requires some preventive procedures to guard against deterioration.

Cleaning

Thoroughly clean the snowmobile, inside and out, to remove the corrosive salts and acids that can accumulate. Use Yamaha Mud, Grease, and Engine Cleaner, or an equivalent product, to loosen mud, grease, and grime. Wash with mild soap, then rinse and dry completely.

ECS00870

NOTICE

- **Improper cleaning can damage plastic parts such as shroud, covers, windshields, headlight lenses, meter lenses, etc. Use only a soft, clean cloth or sponge with mild detergent and water to clean plastic.**
- **Do not use any harsh chemical products on plastic parts. Be sure to avoid using cloths or sponges which have been in contact with strong or abrasive cleaning products, solvent or thinner, fuel (gasoline), rust removers or inhibitors, brake fluid, antifreeze or electrolyte.**
- **Do not use high-pressure washers or steam-jet cleaners since they cause water seepage and deterioration in the following areas: seals (of the slide rail suspension, front suspension and brakes), electric components (couplers, connectors, instruments, switches and lights), breather hoses and vents.**
- **For snowmobiles equipped with a windshield: Do not use strong cleaners or hard sponges as they will cause dulling or scratching. Some cleaning compounds for plastic may leave scratches on the windshield. Test the product on a small hidden part of the windshield to make sure that it does not leave any marks. If the windshield is scratched, use a quality plastic polishing compound after washing.**

Lubrication

Lubricate moving parts, suspension linkage, and pivot points. Use the grease or lubricant specified in the MAINTENANCE section, or Yamaha Lube-Zall general-purpose lubricant. Proper lubrication fights corrosion while it reduces friction.

Fuel system

Add Yamaha Fuel Stabilizer and Conditioner, or an equivalent stabilizer, to the fuel tank to help prevent fuel oxidation and gum and varnish deposits, and to inhibit corrosion in the fuel system and injectors. In areas where oxygenated fuel (gasohol) is used, consult a Yamaha dealer.

Engine

Proper storage of the engine is essential to prevent costly rust and corrosion damage to internal engine components. This is more important in areas where oxygenated fuel (gasohol) is used, because the alcohol content in the fuel increases the chance for water to enter the engine. Use Yamaha Stor-Rite Engine Fogging Oil, or an equivalent fogging oil, to protect both the combustion chamber and crankshaft from corrosion. An alternate method is to remove the intake silencer and squirt oil into the throttle bodies while the engine is running. ***NOTICE:*** **Do not simply start the engine when in storage, starting the engine occasionally during the storage period can cause more harm than good. Moisture and acids form during combustion which can actually increase the chance for corrosion damage during the storage period.** [ECS00681]

Surface protection

Apply a coat of wax to painted surfaces. Apply suitable protectants to the exterior of the engine, drive track, and to other metal, plastic, and rubber parts.

Battery

Remove the battery from the snowmobile. Store it in a cool, dry place that is above 0 °C (32 °F), but less than 30 °C (90 °F). Check the condition of the battery once a month, and charge it as necessary. ***NOTICE:*** **Always keep the battery charged. Storing a discharged battery can cause permanent battery damage.** [ECS00691]

Drive track

Loosen the drive track and block up the chassis so that the track is suspended above the ground.

V-belt

Remove the V-belt and store separately.

Storage

Store the snowmobile in a dry, well-ventilated place out of direct sunlight. Put a fabric cover over the snowmobile, preferably one that is designed for it. Do not use a plastic or vinyl cover—condensation could be trapped underneath which could increase the chances of rusting.

Returning to service after storage

When returning your snowmobile to service, install the V-belt and battery and adjust the drive track.

Remove the spark plugs and clean or replace them if necessary. Perform all other pre-operation and seasonal maintenance checks listed in the periodic maintenance chart.

TIP

Before installing the battery, have a Yamaha dealer inspect and fully charge it.

For peak performance, it is recommended that you have your snowmobile checked and tuned by a Yamaha dealer. The dealer has the experience and training to help you get the maximum performance and use out of your Yamaha snowmobile.

Specifications

ESU1246B

Dimensions:
- Overall length:
  - RX10P 2835 mm (111.6 in)
  - RX10PS 2835 mm (111.6 in)
  - RX10PXT 3000 mm (118.1 in)
- Overall width:
  - 1230 mm (48.4 in)
- Overall height:
  - 1210 mm (47.6 in)
- Weight:
  - With oil and fuel:
    - RX10P 313.0 kg (690 lb)
    - RX10PS 309.0 kg (681 lb)
    - RX10PXT 317.0 kg (699 lb)
- Ski stance:
  - 1086 mm (42.8 in)

Engine:
- Type:
  - Liquid cooled 4-stroke, 20 valves
- Cylinder arrangement:
  - Backward-inclined parallel 4-cylinder
- Displacement:
  - 998 cm^3
- Bore × stroke:
  - 74.0 × 58.0 mm (2.91 × 2.28 in)
- Idling speed:
  - 1550–1650 r/min
- Engine oil:
  - Recommended grade:
    - API service SG type or higher, JASO standard MA
  - Recommended brand:
    - YAMALUBE
  - Type:
    - SAE 0W-30
- Fuel injection:
  - ID mark:
    - 8HG1 00
- Fuel:
  - Type:
    - PREMIUM UNLEADED GASOLINE ONLY
  - Minimum pump octane (R+M)/2:
    - 91
- Starting system:
  - Electric starter

Chassis:
- Drive track:
  - Material:
    - Molded rubber, fiberglass-rod reinforced
  - Type:
    - Internal drive type
  - Width:
    - 381 mm (15.0 in)
  - Deflection:
    - 30.0–35.0 mm (1.18–1.38 in)
  - Length on ground:
    - RX10P 864 mm (34.0 in)
    - RX10PS 864 mm (34.0 in)
    - RX10PXT 1051 mm (41.4 in)
- Rear suspension:
  - Type:
    - Slide rail suspension
- Track sprocket wheel:
  - Material:
    - Polyethylene
  - Number of teeth:
    - 9
- Transmission:
  - Clutch type:
    - Automatic centrifugal engagement
  - Overall reduction ratio:
    - RX10P 5.86–1.54 :1
    - RX10PS 5.86–1.54 :1
    - RX10PXT 6.11–1.61 :1
  - Sheave distance:
    - 267.0–270.0 mm (10.51–10.63 in)
  - Sheave offset:
    - 13.5–16.5 mm (0.53–0.65 in)
  - Engagement speed (Subject to change according to elevation settings.):
    - 3200–3600 r/min
  - Shift speed [Subject to change according to elevation settings. Usually achieved after approximately 800 m (0.5 mi) traveled.]:
    - 10000–10750 r/min
  - Drive chain type:
    - Silent chain enclosed in oil bath
  - Drive chain housing oil:
    - Type:
      - SAE 75W or 80W API GL-3 Gear oil
    - Capacity:
      - 0.25 L (0.26 US qt, 0.22 Imp.qt)
  - Reverse system:
    - Yes
  - Primary reduction ratio:
    - 3.80–1.00 :1

Secondary reduction ratio:
RX10P 37/24 (1.54)
RX10PS 37/24 (1.54)
RX10PXT 37/23 (1.61)
Secondary reduction ratio [R]:
RX10P 2.080
RX10PS 2.080
RX10PXT 2.170
Fuel tank capacity:
34.6 L (9.14 US gal, 7.61 Imp.gal)
Engine oil quantity:
With oil filter cartridge replacement:
3.0 L (3.17 US qt, 2.64 Imp.qt)
Without oil filter cartridge replacement:
2.8 L (2.96 US qt, 2.46 Imp.qt)
Total amount:
3.8 L (4.02 US qt, 3.34 Imp.qt)
Brake:
Type:
Hydraulic disc type (ventilated disc)
Operation:
Handle lever, left-hand operated
Throttle:
Operation:
Handle lever, right-hand operated

Electrical system:

Ignition system:
T.C.I.
Spark plug:
Manufacturer:
NGK
Model:
CR9EB
Gap:
0.7–0.8 mm (0.028–0.031 in)
Battery:
Model:
YTX14-BS
Voltage, capacity:
12 V, 12.0 Ah
Ten-hour rate amperage:
1.2 A
Bulb voltage, wattage × quantity:
Headlight:
12 V, 60/55 W × 2
Headlight bulb type:
Halogen bulb
Tail/brake light:
LED
Meter lighting:
LED
High beam indicator light:
LED
Warning light:
LED
Low coolant temperature indicator light:
LED

ESU12480

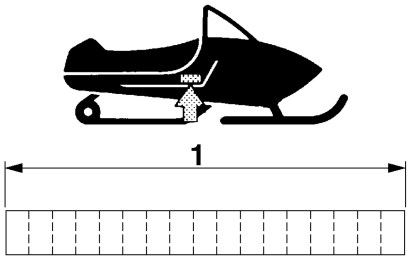
Identification number records

Record the frame serial number, engine serial number (Primary ID), and key identification number in the spaces provided for assistance when ordering spare parts from a Yamaha dealer.

Also, record and keep the ID numbers in a separate place in case the snowmobile is stolen.

Frame serial number

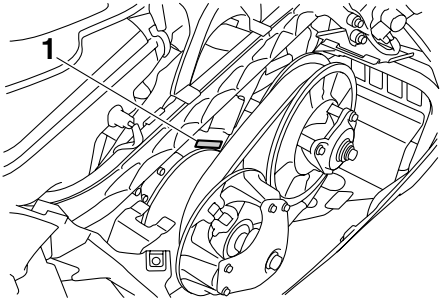
The frame serial number is the seventeen-digit number stamped on the frame of the snowmobile.



1. Frame serial number

Engine serial number (Primary ID)

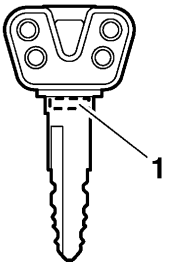
The engine serial number is stamped in the location as shown.



1. Engine serial number

Key identification number

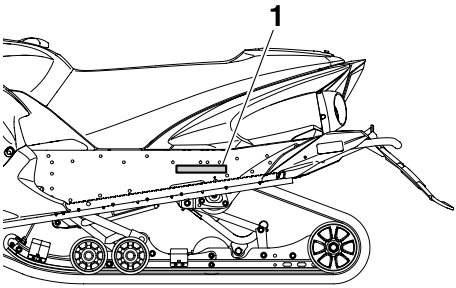
The key identification number is stamped in the location as shown.



1. Key identification number

ESU13461

Vehicle Emission Control Information label



1. Vehicle Emission Control Information label

The Vehicle Emission Control Information label is affixed at the location in the illustration. This label shows specifications related to exhaust emissions as required by federal law, state law and Environment Canada.

ESU12500

YAMAHA MOTOR CORPORATION, U.S.A. SNOWMOBILE LIMITED WARRANTY

Yamaha Motor Corporation, U.S.A. hereby warrants that new Yamaha snowmobiles purchased from an authorized Yamaha snowmobile dealer in the continental United States will be free from defects in material and workmanship for the period of time stated herein, subject to certain stated limitations.

WARRANTY PERIOD:

1. All Yamaha snowmobiles shall be warranted for a term of one (1) year from the date of purchase, plus a special early-season extension (if applicable).
2. All Yamaha snowmobile clutch components are warranted against abnormal wear for one (1) year from the date of purchase, plus a special early-season extension (if applicable).

DURING THE PERIOD OF WARRANTY any authorized Yamaha snowmobile dealer will, free of charge, repair or replace, at Yamaha's option, any part adjudged defective by Yamaha due to faulty workmanship or material from the factory. Parts used in warranty repairs will be warranted for the balance of the snowmobile's warranty period. All parts replaced under warranty become the property of Yamaha Motor Corporation, U.S.A.

GENERAL EXCLUSIONS from this warranty shall include any failures to the machine caused by:

1. Competition, racing, or non-Yamaha authorized rental use.
2. Operation on surfaces other than snow or ice.
3. Installation of parts or accessories that are not qualitatively equivalent to genuine Yamaha parts.
4. Abnormal strain, neglect, or abuse.
5. Lack of proper maintenance.
6. Accident or collision damage.
7. Modification to original parts.

SPECIFIC EXCLUSIONS from this warranty shall include parts replaced due to normal wear or routine maintenance including oil, spark plugs, clutch drive belts, slide runners, and track.

THE CUSTOMER'S RESPONSIBILITY under this warranty shall be to:

1. Operate and maintain the snowmobile as specified in the appropriate Owner's Manual.
2. Give notice to an authorized Yamaha snowmobile dealer of any and all apparent defects within ten (10) days after discovery, and make the machine available at that time for inspection and repairs at such dealer's place of business. You may locate your nearest authorized Yamaha dealer through your local telephone directory.

WARRANTY TRANSFER: To transfer any remaining warranty from the original purchaser to any subsequent purchaser, it is imperative that the machine be inspected and registered for warranty by an authorized Yamaha snowmobile dealer. In order for this warranty to remain in effect, this inspection and registration must take place within ten (10) days after ownership transfer. An inspection and registration fee will be charged for this service.

EMISSION CONTROL SYSTEM WARRANTY

Yamaha Motor Corporation, USA also warrants to the ultimate purchaser and each subsequent purchaser of each 2006 and later model Yamaha snowmobile covered by this warranty that the vehicle is designed, built, and equipped so as to conform at the time of sale with all U.S. emissions standards applicable at the time of manufacture and that it is free from defects in materials and workmanship which would cause it not to meet these standards within the period listed immediately below. Failures other than those resulting from defects in material or workmanship which arise solely as a result of owner abuse and/or lack of proper maintenance are not covered by this warranty.

All Models

Thirty (30) months from the original purchase date

YAMAHA MOTOR CORPORATION, U.S.A. MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE OBLIGATIONS AND TIME LIMITS STATED IN THIS WARRANTY ARE HEREBY DISCLAIMED BY YAMAHA MOTOR CORPORATION, U.S.A. AND EXCLUDED FROM THIS WARRANTY.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. ALSO EXCLUDED FROM THIS WARRANTY ARE ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING LOSS OF USE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

SPECIAL EARLY-SEASON WARRANTY EXTENSION

A special warranty extension is available for all new Yamaha snowmobiles purchased between June 1 and December 1.

All new Yamaha snowmobiles purchased between June 1 and December 1 will have the warranty extended to November 30 of the following year.

YAMAHA MOTOR CORPORATION, U.S.A.
Post Office Box 6555
Cypress, California 90630

WARRANTY QUESTIONS AND ANSWERS

Q. What costs are my responsibility during the warranty period?
A. The customer's responsibility includes all costs of normal maintenance services, non-warranty repairs, accident and collision damages, as well as oil, spark plugs, clutch drive belts, and slide runners.

Q. What are some examples of "abnormal" strain, neglect, or abuse?
A. These terms are general and overlap each other in areas. Specific examples include: Running the machine out of oil, hitting an object submerged under snow, operation on surfaces other than snow or ice, operating the machine with a broken or damaged part which causes another part to fail, and so on. If you have any specific questions on operation or maintenance, please contact your dealer for advice.

Q. May I perform any or all of the recommended maintenance shown in the Owner's Manual instead of having the dealer do them?
A. Yes, if you are a qualified snowmobile mechanic and follow the procedures specified in the Owner's and Service Manual. We do recommend, however, that items requiring special tools or equipment be done by a Yamaha snowmobile dealer.

Q. Under what conditions is the clutch not covered by warranty?
A. Clutches as well as clutch components wear with use. Normal wear is not covered under warranty such service is the customer's responsibility. Abnormal wear is, however, covered for one (1) year from the date of purchase. Your Yamaha snowmobile dealer possesses criteria as to what constitutes abnormal wear.

Q. Will the warranty be void or canceled if I do not operate or maintain my new Yamaha exactly as specified in the Owner's Manual?
A. No. The warranty on a new Yamaha cannot be "voided" or "canceled." However, if a particular failure is caused by operation or maintenance other than as shown in the Owner's Manual, that failure may not be covered under warranty.

Q. What responsibility does my dealer have under this warranty?
A. Each Yamaha snowmobile dealer is expected to:
1. Completely set up every new machine before sale.
2. Explain the operation, maintenance, and warranty requirements to your satisfaction at the time of sale, and upon your request at any later date.
3. In addition, each Yamaha snowmobile dealer is held responsible for his setup, service and warranty repair work.

Q. Whom should I contact if I have further questions about this warranty?
A. Your Yamaha snowmobile dealer has the information and experience necessary to answer almost any questions about this warranty. If the dealer is not able to do so, he is expected to contact Yamaha Motor Corporation, U.S.A., for clarification or assistance.

CUSTOMER SERVICE

If your machine requires warranty service, you must take it to any authorized Yamaha snowmobile dealer within the continental United States. Be sure to bring your warranty identification card or other valid proof of the original date of purchase. If a question or problem arises regarding warranty, first contact the owner of the dealership. Since all warranty matters are handled at the dealer level, this person is in the best position to help you. If you are still not satisfied and require additional assistance, please write:

YAMAHA MOTOR CORPORATION, U.S.A.
CUSTOMER RELATIONS
DEPARTMENT
P.O. Box 6555
Cypress, California 90630

When contacting Yamaha Motor Corporation, U.S.A. be sure to include the model, serial number, names, dates, and receipts.

CHANGE OF ADDRESS

The federal government requires each manufacturer of a motor vehicle to maintain a complete, up-to-date list of all first purchasers against the possibility of a safety-related defect and recall. This list is compiled from the purchase registrations sent to Yamaha Motor Corporation, U.S.A. by the selling dealer at the time of your purchase.

If you should move after you have purchased your new snowmobile, please advise us of your new address by sending a postcard listing your snowmobile model name, engine serial number, dealer number (or dealer's name) as it is shown on your warranty registration identification, your name and new mailing address. Mail to:

YAMAHA MOTOR CORPORATION, U.S.A.
WARRANTY DEPARTMENT
P.O. Box 6555
Cypress, California 90630

This will ensure that Yamaha Motor Corporation, U.S.A. has an up-to-date registration record in accordance with federal law.

ESU12510

YAMAHA EXTENDED SERVICE (Y.E.S.)

Keep your Yamaha protected even after your warranty expires with genuine Yamaha Extended Service (Y.E.S.).

- Y.E.S. is designed and administered by Yamaha Motor Corporation to provide maximum owner satisfaction. You get uninterrupted factory-backed coverage for extra peace of mind.
- Y.E.S. is flexible. You choose the plan that's right for you: 12 months, 24 months, 36 months, or every 48 months (on selected models) beyond your warranty period.
- Y.E.S. is designed and administered by the same Yamaha people who handle your warranty—and it shows in the comprehensive coverage benefits. There are no mileage limitations, and Y.E.S. covers manufacturing defects just like the warranty. See the sample contract at your Yamaha dealer to see how comforting uninterrupted factory-backed protection can be.
- You don't have to pay anything for covered repairs. There's no deductible to pay, and repairs aren't "pro-rated." You don't have any "out-of pocket" expenses for covered repairs.
- In addition, Travel and Recreation Interruption Protection (TRIP) is included at no extra cost. TRIP gives you up to $150 reimbursement per occurrence for any reasonable expenses you incur because your Yamaha needs covered service: replacement vehicle rental, emergency towing, phone calls, even food and lodging when you are away from home. This superb coverage goes into effect when you purchase Y.E.S., so it applies to any warranty repairs as well as covered repairs during your entire Y.E.S. plan period.
- Y.E.S. coverage is honored at any authorized Yamaha dealer nationwide.
- Y.E.S. coverage is transferable to a new owner if you sell or trade-in. That can make your Yamaha much more valuable!

This excellent Y.E.S. plan coverage is only available to Yamaha owners like you, and only while your Yamaha is still within the Yamaha Limited Warranty period. So visit your authorized Yamaha dealer to get all the facts. He can show you how easy it is to protect your investment with Yamaha Extended Service.

We urge you to act now. You'll get the excellent benefits of TRIP coverage right away, and you'll rest easy knowing you'll have strong factory-backed protection even after your Yamaha Limited Warranty expires. See your dealer today!

A special note:

If visiting your dealer isn't convenient, contact Yamaha toll free at 1-866-937-3983 (866 YES-EXTD) or visit our web site. All you need to do is provide your vehicle's Primary ID number (your Tunnel number). We'll be happy to help you get the Y.E.S. coverage you need.

Yamaha Service Marketing
P.O. Box 6555
Cypress, CA 90630
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