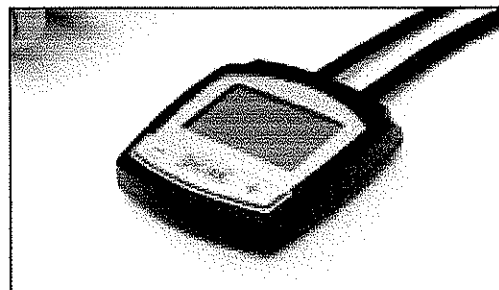
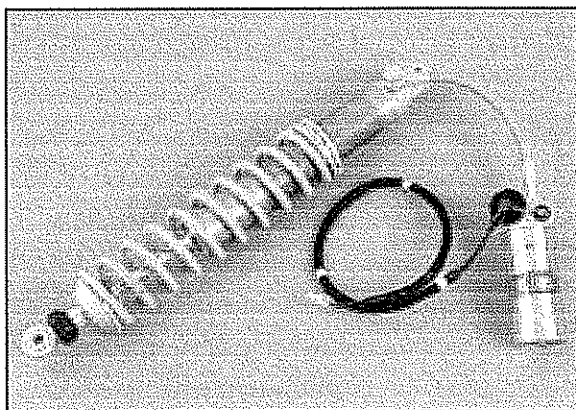


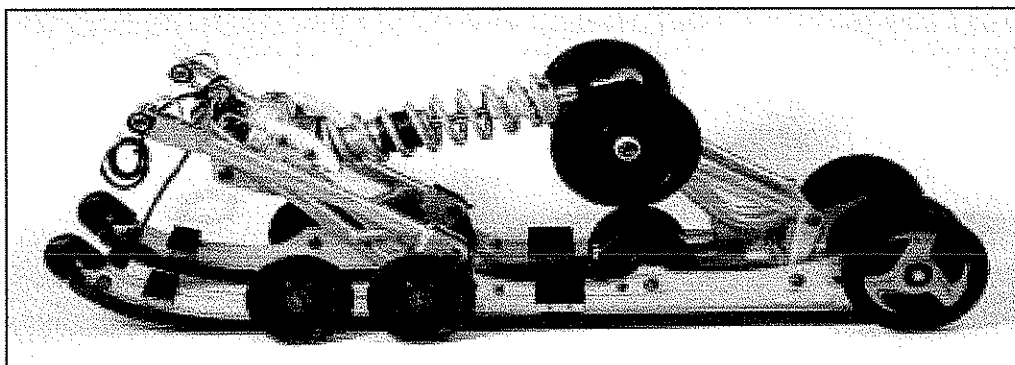
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YAMAHA PARTS AND ACCESSORIES OHLINS EC SHOCK KIT APPLICATION

Model	Part Number	Comments
Apex	GYP-8FP94-10-00	121" Suspension shock length. Does not include separate gauge; includes sub-harness to connect to stock harness and enable existing gauge.
Attak	GYP-8FT94-10-00	136" Suspension shock length. Does not include separate gauge; includes sub-harness to connect to stock harness and enable existing gauge.
Vector	GYP-8ES94-10-00	121" Suspension shock length. Includes separate gauge; mounts in dash next to stock digital gauge.
Rage	GYP-8FL94-10-00	136" Suspension shock length. Includes separate gauge; mounts in dash next to stock digital gauge.

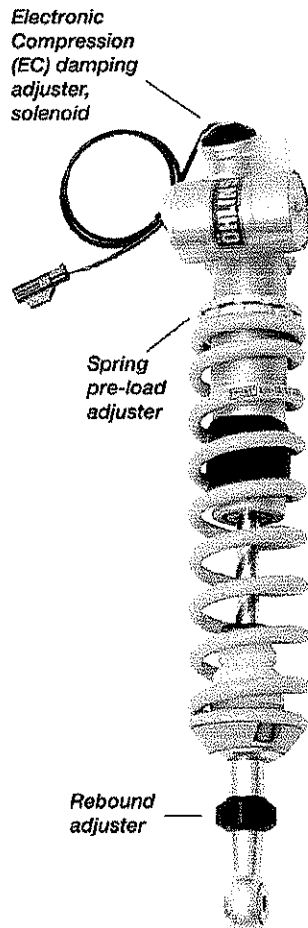


Separate gauge used for some applications.



Mounting Instructions

Öhlins Shock Absorber Kit YA 563
for Yamaha RX-1, Rear



Öhlins Shock Absorber 46 PRC3

Your Öhlins shock absorber type 46 PRC3 features the following adjusters:

Compression Damping Adjuster

Adjustments are made by setting the electronic adjustment device. The higher the number displayed is, the higher the compression damping will be.

Rebound damping adjuster

Adjuster wheel is located on the piston shaft above the end bracket.

Spring pre-load adjuster

Adjustments are made by turning the rings on the threaded cylinder body. Use a C-spanner.

NOTE!

When delivered the Öhlins shock absorber is dialed to recommended settings for the specific brand and make of the snowmobile. If you have changed the setting check like this:

The adjuster has a normal right hand thread. Turn the damping adjuster clockwise to fully closed (pos. zero [0]). Turn counter clockwise to open and count the clicks until you reach the recommended number of clicks. See Setup data, page 2.

CAUTION!

Do not use too much force, delicate sealing surfaces can be damaged.

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Safety Signals

Important information concerning safety is distinguished in this manual by the following notations:



The Safety alert symbol means:
Caution! Your safety is involved.

WARNING!

Failure to follow warning instructions could result in severe or fatal injury to anyone working with, inspecting or using the suspension, or to bystanders.

CAUTION!

Caution indicates that special precautions must be taken to avoid damage to the suspension.

NOTE!

This indicates information that is of importance with regard to procedures.

Before Installation

Öhlins Racing AB can not be held responsible for any damage whatsoever to shock absorber or vehicle, or injury to persons, if the instructions for fitting and maintenance are not followed exactly.

Similarly, the warranty will become null and void if the instructions are not adhered to.

WARNING!

1. Installing a shock absorber, that is not approved by the vehicle manufacturer, may affect the stability of your vehicle. Öhlins Racing AB cannot be held responsible for any personal injury or damage whatsoever that may occur after fitting the shock absorber. Contact an Öhlins dealer or other qualified person for advice.

2. Please study and make certain that you fully understand all the mounting instructions and the owners manuals before handling this shock absorber kit. If you have any questions regarding proper installation procedures, contact an Öhlins dealer or other qualified person.

3. The vehicle service manual must be referred to when installing the Öhlins shock absorber

Öhlins products are subject to continual improvement and development. Consequently, although these instructions include the most up-to-date information available at the time of printing, there may be minor differences between your suspension and this manual. Please consult your Öhlins dealer if you have any questions with regard to the contents of the manual.

NOTE!

During storage and transportation, especially at high ambient temperature, the oil and grease used for assembling may run out inside the packing and damage the expanded polystyrene packing material. This is not unusual and is in no way detrimental to the shock absorber.

Kit Contents

Before installing the shock absorber, please check the contents of the kit, listed on the front page of this instruction. If anything is missing, contact your Öhlins dealer.

Description	Pcs.	Part No.
Shock absorber 46 PRC3	1	YA 563
Sticker ÖHLINS	2	00192-01
Sticker Memo notes	1	01180-01
C-spanner	1	00710-02
Grommet	1	03716-01
Control Unit, EC Suspension	1	03700-02
Scotch lock	1	
Quick connector:		
Connector housing	1	
Front holder	1	
Sticker ÖHLINS EC	2	03701-01
Wire bracket	1	03714-01
Screw 3x6	3	00828-03
Pop rivet 3.2x10	4	03715-01
Tie wrap	20	00231-01
Owners Manual	1	

Setup data

Shock absorber length	517.5 mm
Shock absorber stroke	151 mm
Rebound adjustment	20 clicks
Spring pre-load	15 mm
Free spring length	290 mm
Spring rate	44 N/mm
Compression adjustment	EC-controlled
(EC basic settings: level 15 of 20)	

Mounting Instructions

Shock Absorber

WARNING!

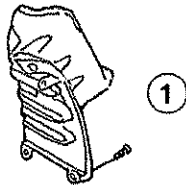
1. It's advisable to have an Öhlins dealer or other qualified person fit your shock absorbers.
2. Instructions in the vehicle service manual are to be followed when changing the shock absorber. Read and truly understand these instructions.
3. When working on a lifted vehicle it must be securely supported to prevent it from falling.

NOTE!

Before working, please study the procedures of dismantling, described in the Yamaha Work Shop manual.

1

Loosen the two skid attachment bolts on each side of the snowmobile. Do not remove them yet. Remove the left side fairing above the foot rest.



NOTE!

The side fairing is attached with four screws and a rubber mount. One of the screws is located under the seat side.

2

Carefully tip the snowmobile on its side. To prevent fuel leaks, clamp the fuel tank ventilation hose. It is recommended that you use a handlebar stand or equivalent to help secure the machine and avoid any damage to it.

CAUTION!

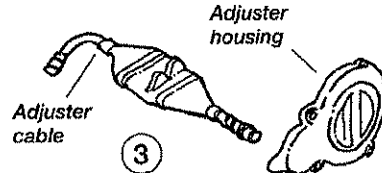
Change position of only one screw at a time so that the limiter strap will still hold the skid in compressed position.

3

Remove the adjuster cable from the adjuster housing. Release the track and remove the skid from the vehicle.

NOTE!

Before the adjuster cable is removed the adjuster must be turned to hardest damping force.



NOTE!

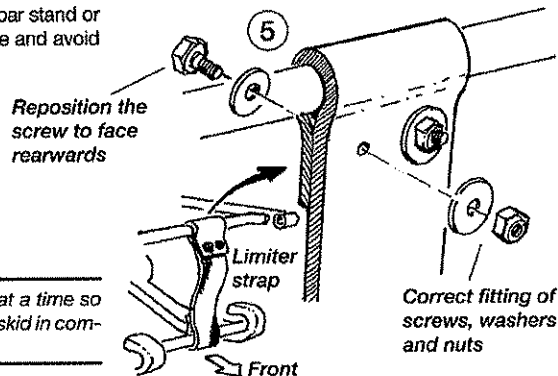
When disassembling suspension components it's always easier first to loosen, but not remove all bolts, before removing the components. Reversed order when assembling, tightening all bolts is the last thing you should do.

4

Loosen the front and rear attachment and remove the original shock absorber from the skid.

5

The upper screws and nuts of the limiter strap must be turned to the opposite side of the strap, the screws should be facing the rear end of the skid, and the washers and nuts should be directed forward.



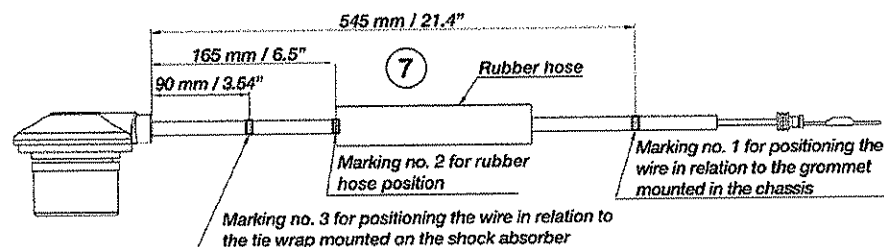
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6

Remove the solenoid and cable from the Öhlins shock absorber.

7

Mark the wire in the three places indicated by the below illustration, using tape or paint.

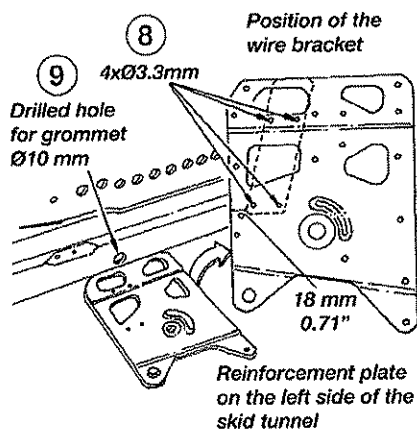


8

Drill four holes with a diameter of 3.3 mm. Start by drilling the two lower holes, then the upper holes can be drilled from the outside if carefully positioned. Make a template out of cardboard to mark the holes from the outside.

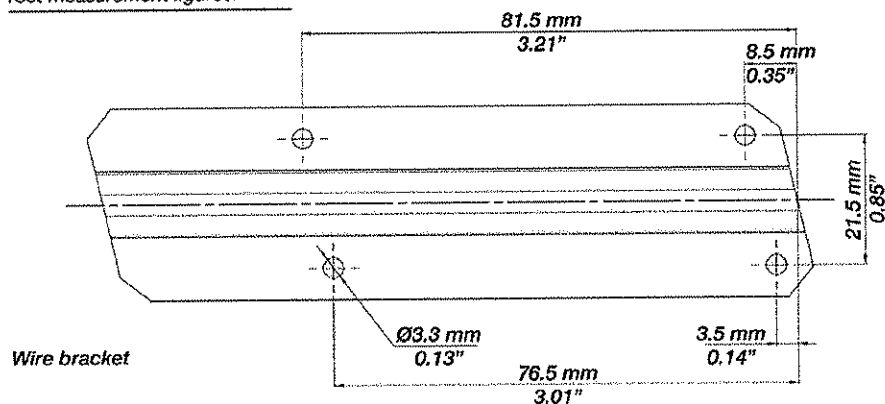
9

A 10 mm hole has to be drilled above the cable cover to run the cable through. Install the grommet into the hole.



NOTE!

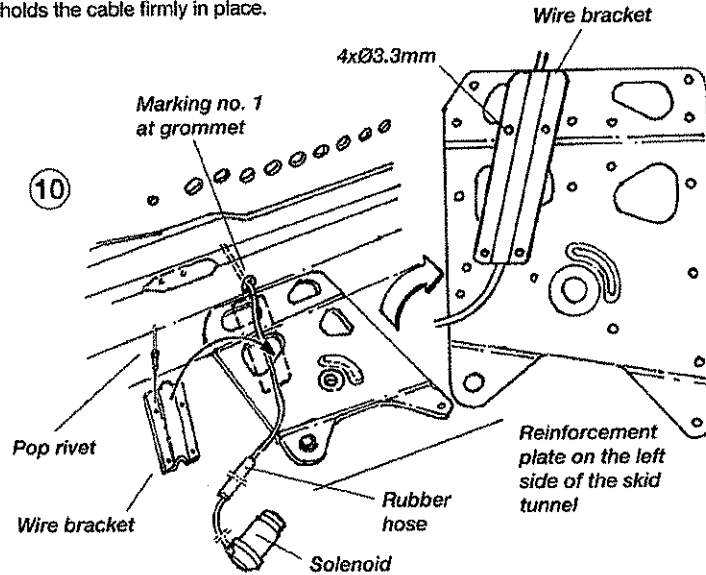
This drawing is NOT to 1:1 scale. It is only intended to give the correct measurement figures.



4

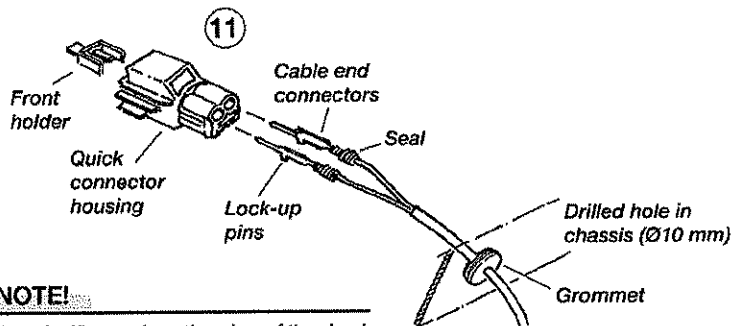
10

Run the wire through the grommet and position marking no. 1 right at the grommet. Fixate the wire with the aluminum wire bracket and the four pop rivets, which can be installed from the outside for better appearance. Check that the bracket holds the cable firmly in place.



11

When the cable is in position the connector is assembled. Push the cable ends into the connector housing. The lock-up pins must be directed downwards. When the cable ends are fixed the sealings are pressed into the housing. Fix the connector by pushing the front holder into the housing.



NOTE!

It is of no significance how the wires of the shock absorber cable are turned in the quick connector.

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12

Refit the skid, without the shock absorber, into the snowmobile.

13

Fix the rubber hose to the front swing arm with four tie wraps.

NOTE!

The following operation should be carried out when the cable is installed through the cable cover and the hole drilled in the chassis.

14

Install the Öhlins shock with the reservoir directed upwards and to the front. In order to get the reservoir past the front bracket, turn the end eye about 25° clockwise. Install in the following order:

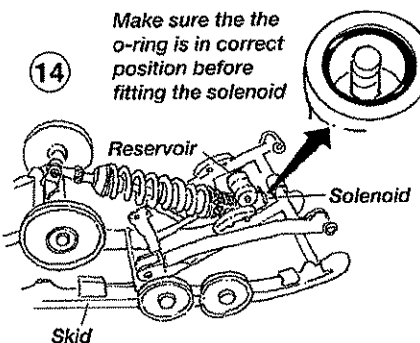
1. Rear bolt
2. Solenoid
3. Front bolt and sleeve
4. Retaining clip for solenoid

Use the original bolts and front steel sleeve.

15

Fix the cable to the shock absorber reservoir with a tie-rap.

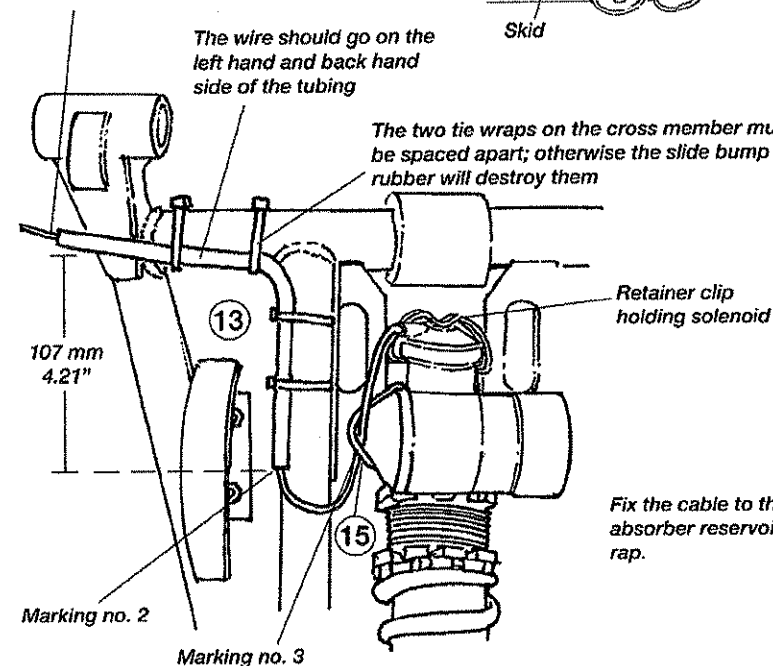
Make sure the the o-ring is in correct position before fitting the solenoid



Check that the rubber hose stops about halfway between the swing arm and the tunnel wall

The wire should go on the left hand and back hand side of the tubing

The two tie wraps on the cross member must be spaced apart; otherwise the slide bump rubber will destroy them



Fix the cable to the shock absorber reservoir with a tie-
rap.

16

Remove the head light cover, the head light and the small side fairings.

NOTE!

The light cover is attached with two (2) screws on it's upper side and three (3) from below. The head light is attached with six (6) screws and the side fairings with one (1) screw each.

17

Open the hood and loosen the speedometer attachments.

18

The opening for the speedometer must be extended to the right upper side to make room for the EC-cables. See illustration.

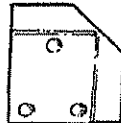
19

Drill three (3) Ø3.3 mm holes. Make a template out of cardboard to get the holes in the right place.

20

Fit the EC-unit to the area on the left side of the speedometer and pull the cable in behind the speedometer unit. Use the three M3 screws (00828-03) provided.

Duct tape will secure the screws holding the EC-unit



NOTE!

A tip: put a piece of duct tape on the backside of the panel, to cover the screws of the control unit. This will secure the screws and prevent them from coming loose.

21

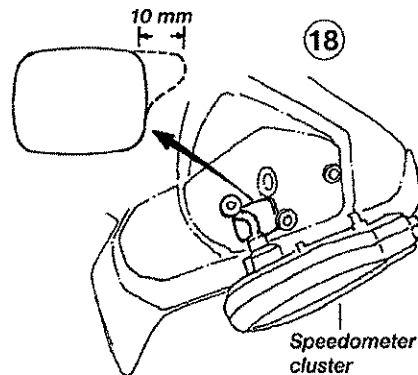
Refit the speedometer, headlight and covers.

19 EC-unit

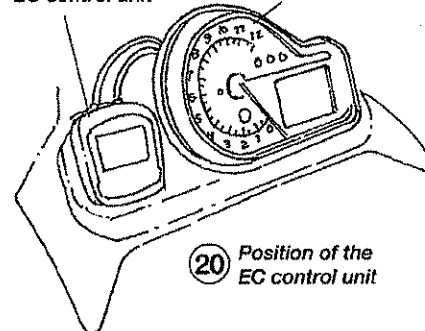
NOTE!

This drawing is NOT to 1:1 scale. It is only intended to give the correct measurement figures.

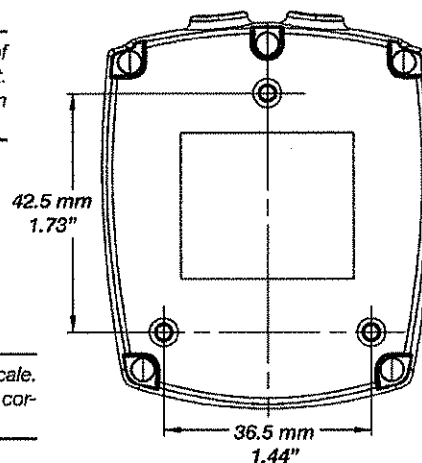
Extension of speedometer



EC control unit Speedometer unit

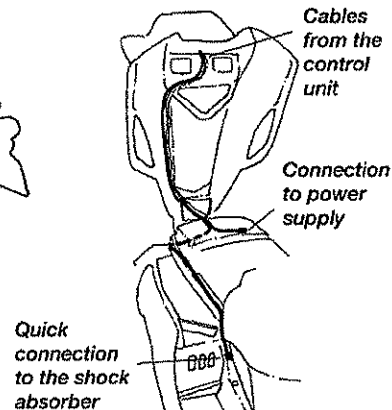
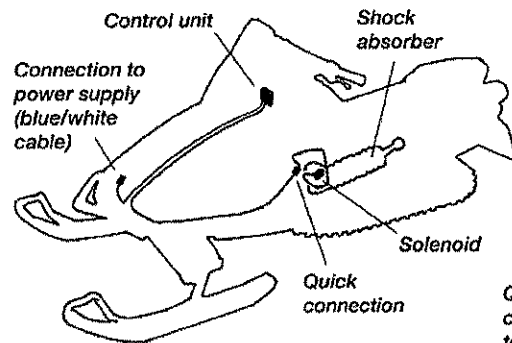


20 Position of the EC control unit



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Cable connections RX-1

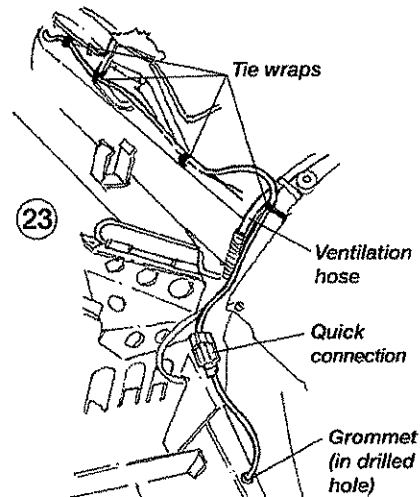


22

Let the two (2) connection cables run forwards, under the hood, attached to the instrument cable cluster. Fix the cables with tie wraps, but only as far as pos. (A) in illustration 20. Follow the cable cluster to the center of the snowmobile hood, then turn the shock absorber cable to the left side of the snowmobile, under the front attachment of the toolbox and the fused wire and ground wire to the right side. See illustrations above and next page.

23

Connect the quick coupling to the cable connector from the shock absorber. Then go forwards along the sub frame and fix it with tie-wraps.

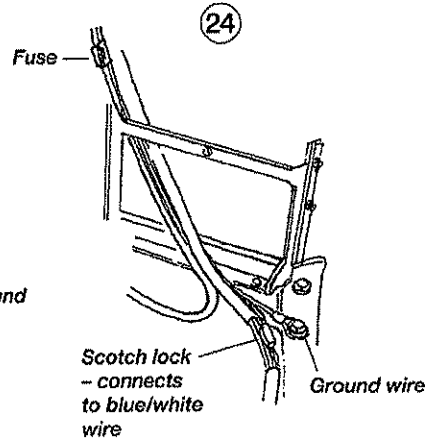
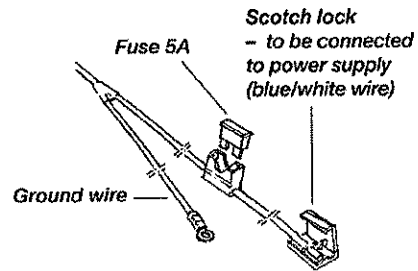
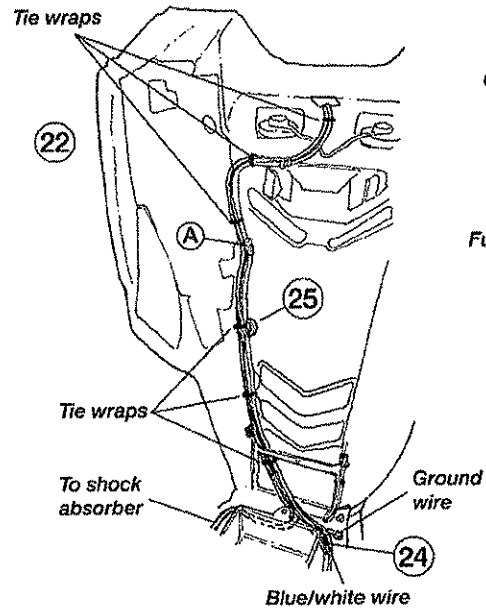


CAUTION!

Do not fix a tie-wrap around the clear plastic ventilation hose, running beside the frame tube.

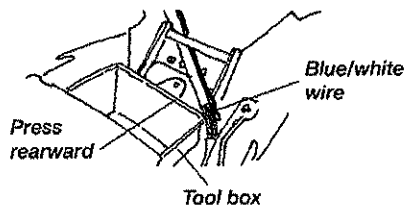
24

Connect the fused wire to the blue/white wire with the Scotch lock provided. Connect the ground wire to a screw in the chassis.



NOTE!

Loosen the forward attachment of the toolbox and press the box rearwards for better access to the blue/white cable.



25

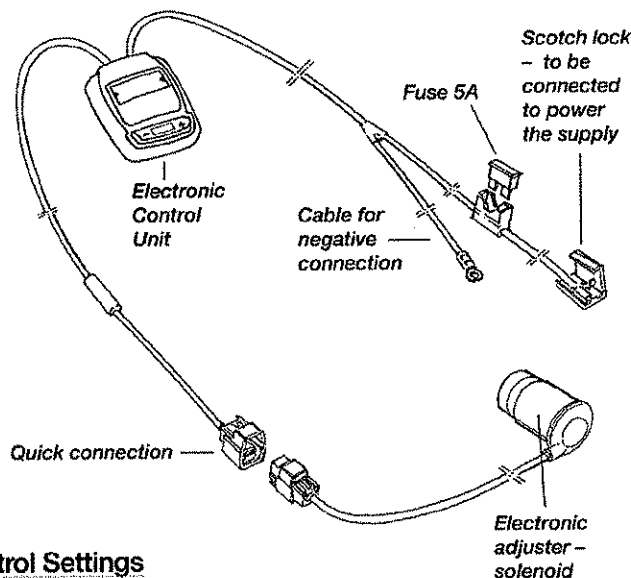
Let excess cable length form a loop on the lower side of the hood. Fix the remaining length with tie wraps.

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Overview of electronic control system including wiring and connections

CAUTION!

Make sure that the cables do not restrict the suspension and steering, and that they are firmly attached to the snowmobile..



EC - Electronic Control Settings

Setting the damping

You can instantly optimize adjustments to suit your individual way of riding and the condition of the road.

The electronically controlled compression damping is set with the control panel of the electronic unit. New settings will affect the damping within ten [10] milliseconds. By setting high figures the damping action will increase and low figures reduces the damping. High figures are recommended when riding with greater load (eg. passenger and packing) and when riding on a race track.

To be able to improve the road holding qualities it is of the utmost importance that you fully understand the functioning of the shock absorbers. Please refer to the Owners Manual for basic settings procedures (spring pre-load and rebound damping settings). Then you can learn by trial and error how they affect the vehicle.

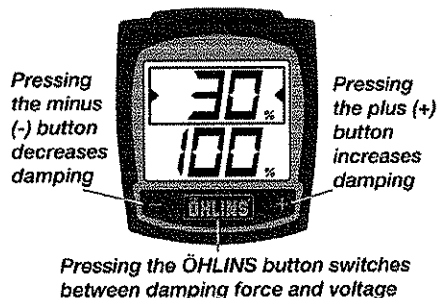
The control unit

The control unit display has a window showing how much damping power the shock absorber has. The damping force is read in the upper display and the lower display shows the electrical voltage of the snowmobile.

By pressing the + or - buttons you increase or decrease the damping forces. The higher the figures, the stronger the damping forces.

NOTE!

If the button is pressed for at least one second the display will show the voltage for five seconds.



Functions for suspension:

- A Press for voltage readings
- B Press to turn the voltage readings off
After B the function returns to A

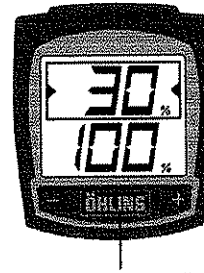
⚠ WARNING!

Do not alter the damping when riding. The snowmobile must come to a stop before the damping is set. To avoid dangerous situations, do not take your eyes and attention off your surroundings.

When the snowmobile is restarted the adjusters will return to the earlier chosen positions. If the power supply fails there is always a certain damping force in the shock absorber, to contribute to safe riding.

Troubleshooting

- Er1 No bearing on this vehicle
- Er2 No power to the rear damper
Measures: Make sure the damper is connected. Check cables and connections for damages.
- Er3 No bearing on this vehicle
- Er4-Er7 Insufficient voltage to the control unit
Measures: Check battery and alternator. Check all connections.



- A Press for voltage readings
- B Press to turn the voltage readings off
After B the function returns to A

CAUTION!

Be careful to fix the cables with tie-raps in a such a way that they do not interfere with any movable parts.

NOTE!

Make sure that all bolts are tightened to the correct torque and that nothing fouls or restricts movement of the shock absorber when the suspension is being fully compressed or extended.

Continue your work according to the Owners Manual, section Adjustments.