



OWNERS MANUAL
POLARIS iQS FLOAT

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SAFETY INSTRUCTIONS

Thank you for choosing FOX direct-replacement shocks for your vehicle. FOX products are designed, tested, and manufactured by the finest professionals in the industry.

FOX recommends that you become completely familiar with the handling characteristics of your modified vehicle before operating it under rigorous conditions, helping to avoid potential rollover situations and other loss of control events. FOX further recommends that you use appropriate protective equipment at all times when operating your vehicle.

To achieve the best performance and product longevity, periodic service and maintenance is required. Please refer to the Maintenance and Service section for more information.

1. Read all instructions carefully before installing this kit. Use your factory authorized service manual as reference while installing this kit.
2. Torque all fasteners to the manufacturer's specifications.
3. If you do not possess the tools or the technical knowledge to install your FOX shocks, have it performed by an authorized dealer.

WARNING

FOX direct-replacement, iQS shocks should always be installed with all four shocks for maximum performance.

Proper installation and service procedures are essential for the safe and reliable installation of chassis parts, requiring the experience and tools specially designed for this purpose. Installation and maintenance procedures for this product must be performed by a qualified service technician to avoid potentially unsafe vehicle handling characteristics, which may result in SERIOUS INJURY or DEATH.

Modifying your vehicle's suspension will change the handling characteristics of your vehicle. Under certain conditions, your modified vehicle may be more susceptible to loss of control or rollover, which may result in SERIOUS INJURY or DEATH. It is your responsibility to thoroughly understand the modified vehicle handling characteristics before any rigorous vehicle operation. Wear body protective gear including head protection when appropriate.

FOX direct-replacement shocks are gas-charged and are highly pressurized. Placing shocks in a vise or clamp, applying heat, or attempting to open or service the shock without the proper tools and training can result in SERIOUS INJURY or DEATH. Do not attempt to modify, puncture or incinerate a FOX direct-replacement shock absorber.

Any attempt to misuse, misapply, modify, or tamper with any FOX product voids any warranty and may result in SERIOUS INJURY or DEATH.

Do not switch the system continuously for extended periods of time, as damage to the ECU and actuators may occur.

Riding a snowmobile is inherently dangerous and an result in SERIOUS INJURY or DEATH. Take responsibility for yourself and others seriously. Keep your vehicle and its suspension systems in optimal working condition. Always wear protective clothing, eye protection, and a helmet. Know your limits and ride within them.

INSTALLATION GUIDELINES

This manual provides step-by-step instructions on how to set-up and maintain your iQS system. This manual **does not** contain step-by-step shock rebuild instructions. Rebuilding should only be carried out by an authorized FOX service technician.

WARNING

Always use the appropriate lift equipment (floor jack, jack stand, or hoist) for the installation of shocks, and make certain that the raised vehicle is securely attached to the lift equipment to prevent the vehicle from slipping, falling, or moving during the installation process.

DO NOT install any FOX product without the necessary special tools, expertise and lift equipment, or you will subject yourself to the risk of SERIOUS INJURY or DEATH.

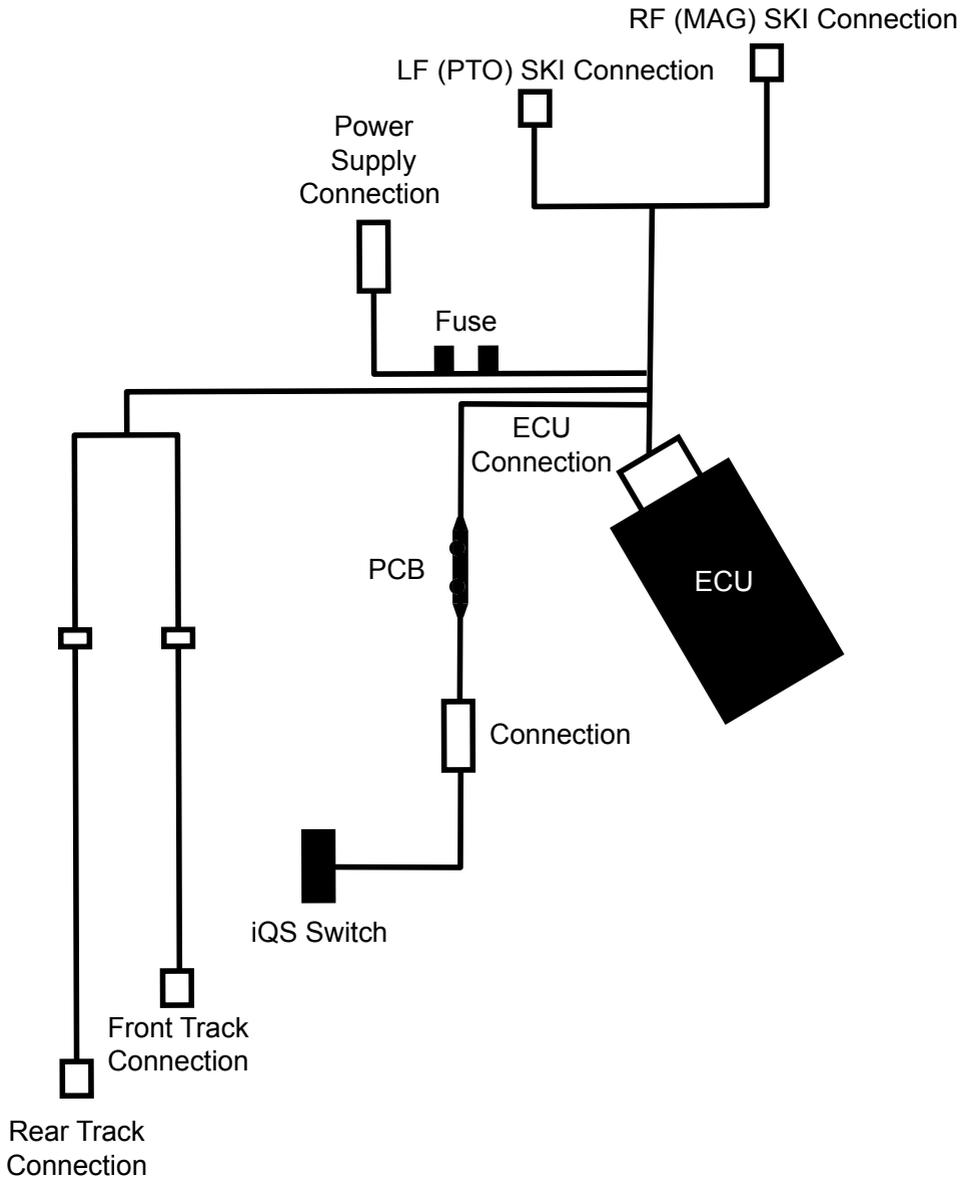
CRUSH HAZARD

NEVER get under the vehicle until you have checked to ensure that the vehicle will be stable during installation. Placing body parts beneath an unstable vehicle may lead to SERIOUS INJURY or DEATH.

HAZARDOUS WASTE DISPOSAL

The FOX iQS electronics system may contain hazardous material and is considered e-waste in case of disposal, it cannot be thrown away with household waste. Please adhere to your local and federal regulations regarding e-waste and locate a designated e-waste handler or recycler.

iQS MAIN HARNESS WIRING DIAGRAM



FOX FLOAT 3 IQS SHOCK PARTS DIAGRAM



IQS COMPRESSION ADJUSTER

The FOX iQS handlebar switch gives you the ability to quickly and easily adjust the compression damping of your shocks on-the-fly. The iQS system has four unique modes:



SUSPENSION MODE DETAILS // FOX FACTORY				
	SKI	CENTER	REAR	RIDE CHARACTERISTICS
HOLD "LOCKOUT"	SOFT	MID	LOCK	EASY SIDE HILLING, PREDICTABLE CLIMBING (LIMITS WEIGHT TRANSFER AND TRENCHING) <small>*LONG PRESS TO ENTER MODE 4 (SLOW BLINK - ACTIVATED)</small>
MODE 3	FIRM	FIRM	MID	AGRESSIVE TRAIL RIDING, INCREASED LOAD CARRYING CAPACITY
MODE 2	MID	MID	MID	BALANCED ALL AROUND SETTING
MODE 1	SOFT	SOFT	SOFT	MAXIMUM TRAIL COMFORT EASY SIDE HILLING AND DESCENT

COMPRESSION SETTING

Compression damping affects how quickly the shock reaches full bottom-out. Adjusting the compression setting affects how quickly the shock compresses when bumps and corners are encountered.

The optimum compression setting usually requires the least amount of damping possible without bottoming out the shock. Firmer compression damping will typically be felt as harsh at slow speeds but push at high speeds and during large g-outs and jumps. Firmer compression damping on ski shocks may provide more stability when cornering on the trail but can also make it more difficult to get the sled leaned over when boon docking.

LOCKOUT MODE

Switching to Lockout mode will increase ski pressure, improve traction in deep snow, and improve transfer on top of the snow. The benefits of Lockout mode can provide superior stability when riding deep off-trail snow, hill climbing, and boon docking.

NOTICE

Do not use Lockout mode while trail riding for extended periods of time. The shock internals could reach pressures that may damage the shock and reduce performance.

PARTS AND SUPPLIES

ECU Assembly Components

Item	Description	Quantity
019-00-021	(Metric): Nut [M4 X 0.7 X 5 TLG] Nylon Lock, 18-8 Stainless, DIN 985	4
019-01-145	(Metric): Screw [M4 X 0.7 X 12mm] Button Head Cap, 18-8 Stainless	4
019-01-147	(Metric): Washer [M4, 4.3mm ID X 9mm OD X 0.8mm Thk], 18-8 Stainless, DIN 125	8
800-13-003	Assembly: Bosch ES5001 ECU, AM Pol RMK iQS	1
026-01-153	Vibration Damping Grommet For 0.32" Hole, 0.04" THK Plate	4
026-01-162	Mounting Hardware: Mounting Plate, iQS ECU, POL RMK	1

ECU Install to Frame

Item	Description	Quantity
019-00-021	(Metric): Nut [M4 X 0.7 X 5 TLG] Nylon Lock, 18-8 Stainless, DIN 985	1
019-01-145	(Metric): Screw [M4 X 0.7 X 12mm] Button Head Cap, 18-8 Stainless	1
019-01-147	(Metric): Washer [M4, 4.3mm ID X 9mm OD X 0.8mm Thk], 18-8 Stainless, DIN 125	2
026-01-159	Loop Clamp Vibration-Damping, Neoprene Rubber Cushion, 304 Stainless Steel	1
019-01-182	Fastener, Standard (Metric): Screw [M6 X 1.0 X 40mm] Hex Head Flange, 18-8 Stainless	2
026-01-185	Mounting Hardware: Spacer [0.75 TLG x 0.50 OD x 0.26 ID] AL 6061, Black Ano	2

Components and parts pictured in this manual may look different from your specific snowmobile components and parts. Visit www.ridefox.com or contact a representative for the most up-to-date parts and supplies.

Shock and Wiring Harness Installation

Item	Description	Quantity
854-21-001	POL, PRO-RMK, Float 3 iQS	
850-21-246	POL, PRO-RMK React, Ski [15.90, 5.29] 1.5 Float 3 iQS	
950-21-241	POL, PRO-RMK React, Right Ski [15.90, 5.29] 1.5 Float 3 iQS	1
950-21-242	POL, PRO-RMK React, Left Ski [15.90, 5.29] 1.5 Float 3 iQS	1
027-00-008	Pump: Fox Dual Sided w/ Bleed, 300 psi	1
853-21-246	POL, PRO-RMK React, 1.5 Float 3 iQS	
951-21-003	FOX Factory AM, POL, PRO-RMK, FT [11.68, 3.24] 1.5, Float 3 iQS	1
952-21-003	FOX Factory AM, POL, PRO-RMK, RT [17.09, 5.45] 1.5, Float 3 iQS	1
006-02-021	Cover: IQS Wire Guard [1.75 H X 1.00 ID X 15.00 TLG] Skid, POL RMK, Front Arm	1
006-02-022	Cover: IQS Wire Guard [2.73H X 0.64W X 3.82 TLG] Footwell, POL RMK, Left-Side	1
018-05-064	Washer [0.885 ID X 1.115 OD X 0.50 TH] , FT Shock Cross Shaft Replacements	4
019-00-021	(Metric): Nut [M4 X 0.7 X 5 TLG] Nylon Lock, 18-8 Stainless, DIN 985	6
019-01-145	(Metric): Screw [M4 X 0.7 X 12mm] Button Head Cap, 18-8 Stainless	6
019-01-147	(Metric): Washer [M4, 4.3mm ID X 9mm OD X 0.8mm Thk], 18-8 Stainless, DIN 125	12
024-00-171	Decal: Podium RC3 Box, Extras Inside	1
024-00-562	Decal: FOX, Heritage Logo Promo Decal, 6", Orange	2
026-00-009	Mounting Hardware: Cable Tie, .19" Width x 11" Length, Black	41
026-01-159	Loop Clamp Vibration-Damping, Neoprene Rubber Cushion, 304 Stainless Steel	1
026-01-161	Clamp Pad, iQS ECU Mounting Plate TLG Adhesive-Backed Silicone, Red	1
026-01-162	Mounting Hardware: Mounting Plate, iQS ECU, POL RMK	1
026-01-176	Rubber Push-In Grommet For 0.875" Hole, 0.125" THK Plate	1
218-00-010	Electronic Part: Switch, iQS, 3 Button Momentary	1

TOOLS

7 mm socket wrench
10 mm socket wrench
13 mm socket wrench
15 mm socket wrench
17 mm socket wrench
Torx® T40 driver or bit
2.5 mm hex wrench or socket
Small flat blade screwdriver
Flush Cut side cutter (preferred)
11 step drill (for 7/8 inch tunnel hole)
300 mm flat scale
#2 Phillips screwdriver
Torque wrench



Note: Sockets will need the appropriate ratchets and extension.

Required tools and supplies may change over time. Visit www.ridefox.com or contact a representative for the most up-to-date details.

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INSTALL THE SKI SHOCKS

1. Ensure that your snowmobile is safely supported with a floor jack or jack stand. Make sure the skis are off the ground and there is no load on the front suspension.

CRUSH HAZARD

Failure to properly secure the snowmobile can create a crush hazard. Do not place body parts below a snowmobile that is not secured properly.

2. Remove the stock ski shocks according to the manufacturer's instructions. The stock shocks should be fully extended before removing.

PINCH HAZARD

If the suspension is not fully extended before removing the stock shocks, the bolts will be difficult to remove and the snowmobile could collapse on the shock. This could result in pinched hands or fingers as the shock dislodges from the mounting point.

3. Install the FLOAT 3 EVOL iQS ski shocks. Use 13 mm and 15 mm sockets or wrenches, along with the original hardware, to mount the nitrogen reservoir end to the chassis. Orient the reservoirs toward the **rear** of the snowmobile. Mount the EVOL air chamber end of each shock to the a-arm (Figure 1). Torque the original hardware to the manufacturer's specification.



Figure 1: Shock Orientation

PREPARATION

1. Remove the side panels and hood according to your snowmobile manufacturer's instructions.
2. Remove the rear suspension assembly according to your snowmobile manufacturer's instructions (Figure 2).



Figure 2: Rear Suspension Assembly

PREPARE THE TUNNEL

1. You will need to drill a hole in the rider's left side of the tunnel for the wiring harness to route through. Measure 55 mm (2.165 in) forward of the front torque mounting bolt hole and make a mark (Figure 3). All measurements and figures shown are taken from the inside of the tunnel, NOT from the outside. We recommend drilling from the inside of the tunnel.
2. Measure 20 mm (0.787 in) up from the bottom edge of the running board. **Note:** you will need to measure around the curve of the tunnel (Figure 4).
3. Use a #11 step drill to drill a 22.25 mm (0.875 in) hole through the rider's left side of the tunnel.
4. Install the supplied tunnel grommet (026-01-176 Rubber Push-In Grommet) into the hole.

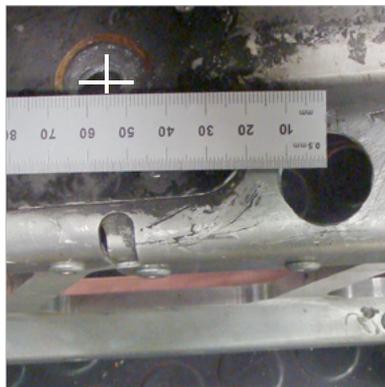


Figure 3

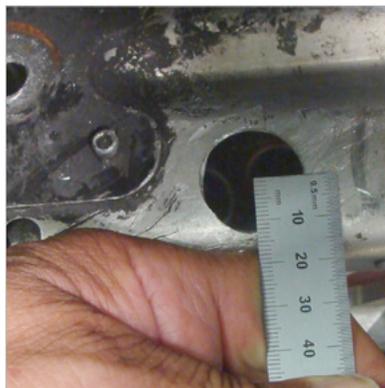


Figure 4

NOTE

Measure twice and drill once. Do not drill holes in your tunnel unless you are absolutely sure the positioning is correct. For additional reference, see out installation video here:

[www.https://vimeo.com/ridefox](https://vimeo.com/ridefox)

INSTALL THE TRACK SHOCKS

1. Install the FLOAT 3 iQS front track shock. Use 13 mm and 15 mm sockets or wrenches, along with the original hardware, to mount the reservoir end of the shock to the front torque arm. Orient the reservoir to the **rider's right** side of the suspension. Torque the original hardware to the manufacturer's specification.

IMPORTANT: The front track shock lower bushing requires the supplied reducing bushing and four washers to be installed (Figure 5: Bushing 014-05-003, Washers 018-05-064). These washers will replace the OEM washers.

2. Install the FLOAT 3 EVOL iQS rear track shock. Use 13 mm and 15 mm sockets or wrenches, along with the original hardware, to mount the reservoir end of the shock to the rear torque arm. Orient the reservoir to the **rider's left** side of the suspension (Figure 7). Mount the EVOL air chamber end to the lower pivot. Orient the EVOL air chamber to the **rider's right** side of the suspension. Torque the original hardware to the manufacturer's specification.

WARNING

Orienting the shocks improperly, including the position of the reservoir and EVOL air chamber, can cause interference with the action of the rear suspension. This may result in loss of control, injury and/or death.



Figure 5

INITIAL AIR PRESSURE SETTING

The front and rear track shocks should be pressurized to the starting point pressures listed below. Sag setting and other settings should be adjusted after installation (see Shock Setup section) and before your first ride.



Main air valve: 50 psi.
Do NOT exceed 200 psi.

Figure 6: Front Track Shock Top View



EVOL air valve: 150psi.
Do NOT exceed 300 psi.

Main air valve: 135 psi.
Do NOT exceed 200 psi.

Figure 7: Rear Track Shock Top View

ROUTE THE FRONT TRACK WIRING

NOTICE

The wiring harness is wrapped with colored designated cable tie locations. Proper cable tie locations are absolutely critical to proper function and longevity of your iQS system.

1. Press the front arm harness connector into the motor connector of the front shock until you hear a click (Figure 8).
2. Route the front track wiring as shown. Make sure to run the track wiring underneath the shock mount, along the back side of the cross tube, then over top the torque arm (Figure 9).

NOTICE

Failure to route the front track wiring properly can result in damage to the system. Upon full compression, this section can bottom out on the slide rail and can cut the wiring, causing system failure.

3. Secure the front track wiring with three cable ties as pictured: one cable tie around the body cap and two cable ties around the cross tube (Figure 8 and Figure 9). Wait until rear harness is installed in a later step to secure a 4th cable tie.



Figure 8



Figure 9

NOTICE

The highlighted cable tie attachment points are critical for the proper installation of the iQS rear track harness. Failure to provide the correct amount of slack in the cable harness can cause the wiring to fail and you will lose the ability to control the shock damping settings.

It is highly recommended that the rear suspension assembly is removed from the vehicle to properly perform this installation procedure.

Check that the harness is not under tension at full compression. If the harness is strained at full compression, cut the cable ties and redo the procedure before installing the rear suspension assembly back into the vehicle.

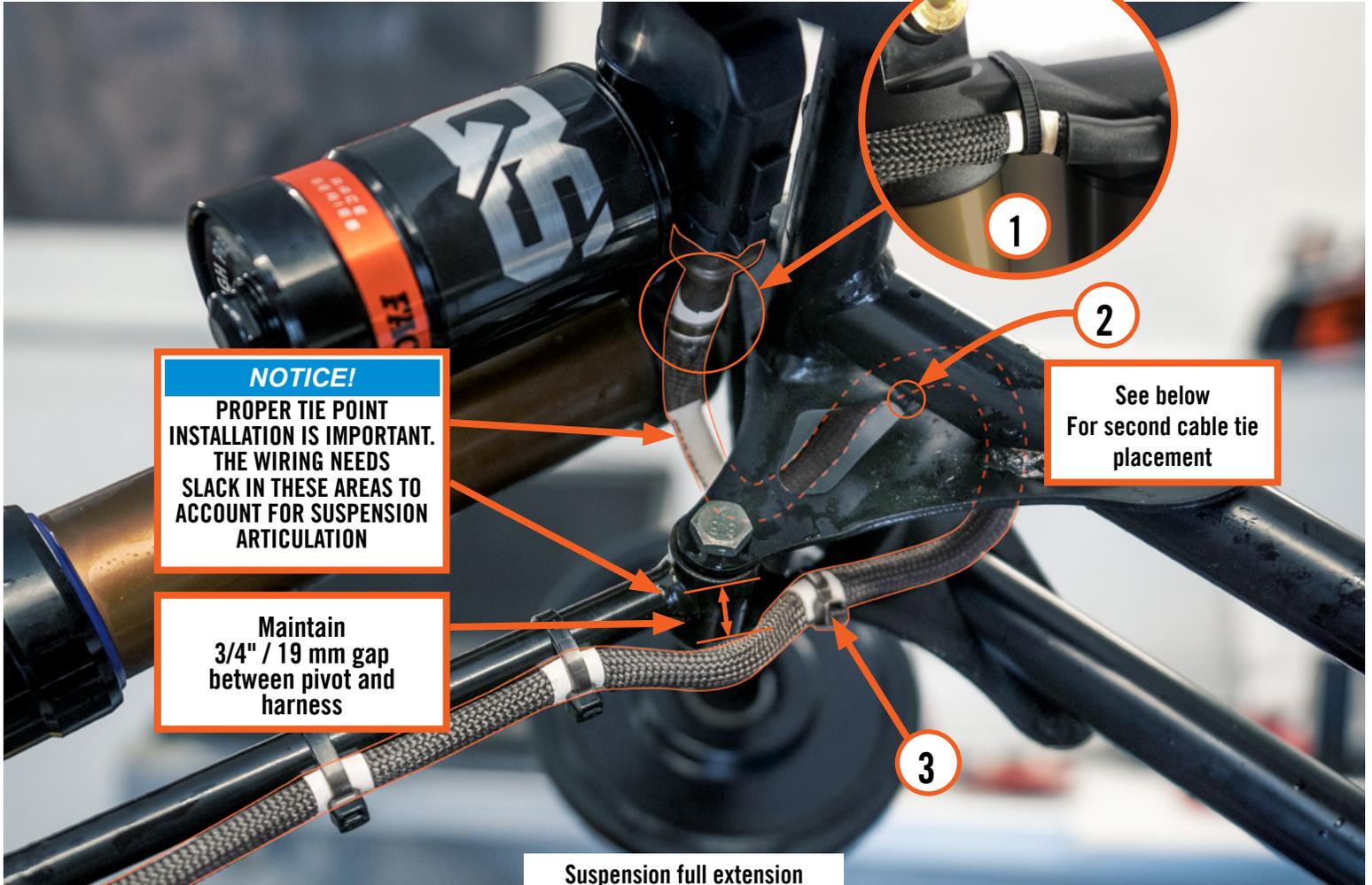
For additional reference, see our installation video here:
[www.https://vimeo.com/ridefox](https://vimeo.com/ridefox)

If you have difficulties with your iQS installation, please contact the Fox Service Center at **1.831.740.4619** for further assistance.

REAR SUSPENSION ASSEMBLY REMOVED FROM THE VEHICLE



CABLE TIE LOCATIONS:



ROUTE THE REAR TRACK WIRING

1. Press the rear track wiring connector into the shock motor connector until you hear a click (Figure 10).
2. Route the rear track wiring as shown. Make sure to run the harness underneath the torque arm cross shaft (Figure 11). Make sure there is about a 1/16-1/8 inch gap around the pivot point (Figure 12).

NOTICE

You must leave slack around the pivot point so the suspension can move through its travel without damaging the wiring harness (Figure 13).

3. Secure the rear track wiring with seven cable ties as pictured: one cable tie around the body cap (Figure 11), two cable ties around the shock rod mount (Figure 13) and four cable ties around shock rod (Figure 15).



Figure 10



Figure 11



Figure 12



Figure 13

4. Then, add one cable tie through the rear shock lower mount and one cable tie around front torque arm lower cross tube (Figure 14).



Figure 14



Figure 15

INSTALL THE WIRING HARNESS GUARD

1. Install the rear shock wiring harness guard over the wiring and left-side front torque arm tube. Make sure the harness runs in the channel of the guard (Figure 16). Ensure the heat shrink tubing (the smooth section of tubing that protects the wiring from the sharp edges of the guard) is aligned with each end of the guard.



Figure 16

2. Use the four supplied stainless steel bolts, eight washers and four nylock nuts. Torque to 2.5 N·m (22.1 in-lb).
3. The front and rear wiring harnesses must exit under the front upper cross shaft together. The two ends of the harnesses should be at approximately the same length as they exit the guard. Secure the harnesses with the last cable tie on the end of the cross shaft (Figure 17).

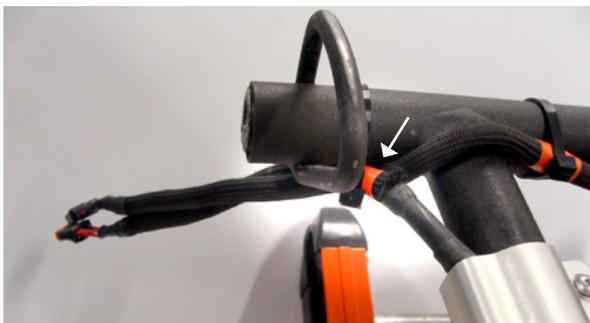


Figure 17

4. Reinstall the rear suspension assembly according to your snowmobile manufacturer's instructions (Figure 2). Reset the limiter straps and torque all bolts and mounting hardware to manufacturer's specifications. Adjust the track tension to the manufacturer's specifications.
5. Route the front track and rear track harness wires through the tunnel grommet you installed on page 11. The connection to the main harness will come in a later section.

NOTICE

Fully compress the rear suspension assembly to ensure there are no wires pinched and adequate slack around all pivot points.

LAY OUT THE MAIN WIRING HARNESS

1. Locate all parts of the main harness using the Parts Diagram on page 4. Note that each harness is labeled with the corresponding location where it will connect (example: Right Front Ski = RF SKI).
2. Lay out the main harness on the chassis (Figure 18). Loosely place the wiring harness with track leads pointing toward the rear of the snowmobile and ski leads placed out toward each respective ski.
3. Use a 10 mm socket to remove the upper and lower rear frame support nuts from the rider's left side downtubes (Figure 19). This will assist you in passing the rear suspension leads through the downtube.



Figure 18



Figure 19

INSTALL THE MAIN HARNESS

1. Guide the main harness rear suspension leads through the left side frame downtube (Figure 20 and Figure 21).
2. Use a 10 mm socket to reinstall the upper and lower rear frame support nuts from the left side down tubes (Figure 19).
3. Connect the front and rear track leads to the main harness (Figure 23).



Figure 20



Figure 21



Figure 22

4. Remove the left side front torque arm bolt and install the toe kick guard (006-02-022 Cover iQS Wire Guard). Make sure the wiring goes around the bolt each side of the bolt as shown (Figure 23 and Figure 24).
5. Reinstall the left side front torque arm bolt and torque to the manufacturer's specification.



Figure 23



Figure 24

INSTALL THE IQS SWITCH

1. Remove the factory cable ties from the OEM left-side handlebar wiring.
2. Use a Phillips screwdriver to loosely install the IQS switch onto the handlebar (Figure 25). Before you completely tighten the screw, sit on the snowmobile and position the switch in a comfortable position for your hand. Then tighten the screw to 1.2 N·m (10.6 in-lb).

PINCH HAZARD

The IQS switch mount can pinch hands or fingers. Do not to place hands or fingers in the clamp during installation.

3. Route the wiring along the lower part of the handlebar. Replace the factory cable ties at the IQS switch. Secure the wiring along the brake line with three cable ties (Figure 25 and Figure 26).
4. Route the wiring into the upper frame structure (Figure 26). Connect the plug-in at the end of the PCB line to the handlebar switch connector until you hear a click.



Figure 25

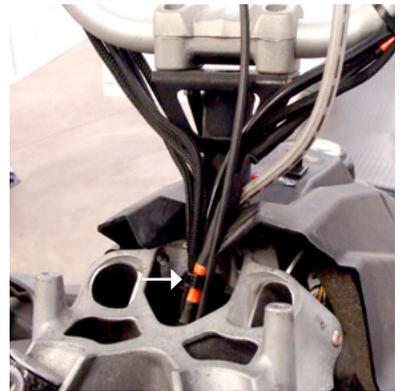


Figure 26

INSTALL THE ECU ASSEMBLY

1. Remove OEM voltage regulator mounting bolts from under the frame crown. Use the two supplied (019-01-182) 10mm flanged hex head bolts to reinstall the voltage regulator with the (026-01-185) 3/4" spacers between the OEM mounting bracket and voltage regulator as shown (figure 27). Apply Red Loctite 277 prior to torquing both bolts to the manufacturer's specification.
2. Install the ECU onto the ECU mounting plate using the provided hardware (see ECU Assembly in Supplies section). Install the four grommets, followed by the four nuts, eight washers, and four bolts. Make sure to keep the bottom edge of the ECU parallel to the bottom edge of the ECU plate (Figure 27). Tighten the bolts **ONLY** until the nylock is fully engaged.

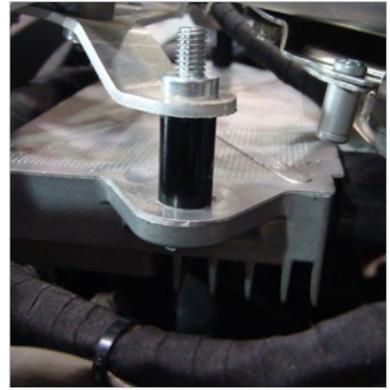


Figure 27

NOTICE

Do NOT over-tighten the bolts. Over-tightening the bolts can damage rubber grommets.

3. Remove the plastic from the adhesive anti-vibration clamp pad. Apply the clamp pad to the inside channel of the ECU plate (figure 28)

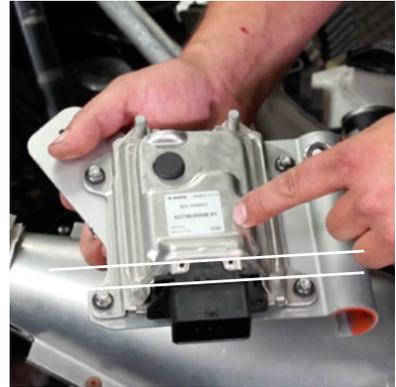


Figure 28A parallel white lines show proper alignment of ECU and ECU plate



Figure 28B



Figure 29A

4. Install the ECU assembly. Make sure it is no less than .634" from the OEM frame hardware as shown (Figure 29A). Orient the ECU assembly facing down with the connection pointed at the left downtube (Figure 29B). Use the supplied p-clamp and hardware (see ECU Assembly Installation in Supplies section) (Figure 29B). Torque to 2.5Nm (22.1 in-lb).

NOTICE

Make sure there is sufficient clearance between the ECU assembly and the steering linkage.

5. Connect the main harness connector to the ECU assembly (Figure 30).
6. Rotate the clip from the open position (Figure 31) to the locked position (Figure 32) until you hear a click.

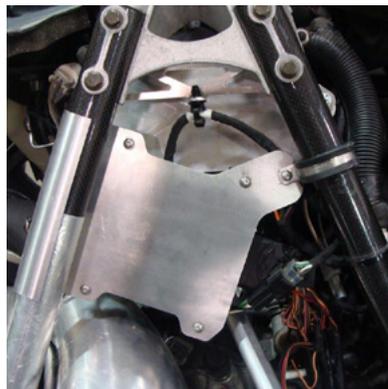


Figure 29B



Figure 30

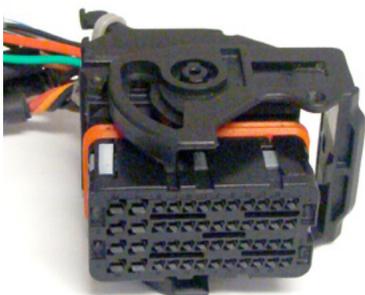


Figure 31: Open Position

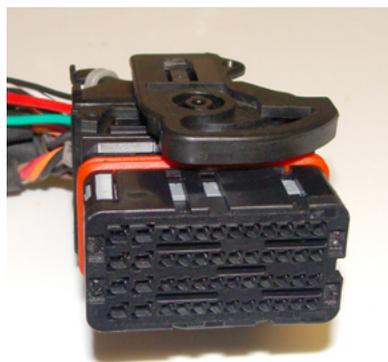


Figure 32: Locked Position

ROUTE THE SKI SHOCK WIRING

1. Route the front suspension leads down the frame tube front assembly (Figure 33).
2. Guide the front shock leads through the upper front shock bolt access openings (Figure 34).
3. Connect the wiring connector to the shock motor connector until you hear a click.
4. Use the supplied cable ties to secure the leads around the harness and body cap as shown (Figure 35).
5. Attach the wiring with cable ties around the frame tube front assembly (Figure 36).



Figure 33



Figure 34



Figure 35



Figure 36

6. Place the PCB of the main wiring harness on the back side of the downtube. Secure the PCB by placing cable ties around each end of the wiring. Do NOT place cable ties around the PCB section of the main wiring harness (Figure 37).

NOTICE

Do not place cable ties around the PCB section of the main wiring. The system will not function properly and can become damaged if cable ties are attached directly over the PCB (Figure 38).

7. Connect the main wiring harness connector into the auxiliary power supply, located near the top of the rider's left-side frame tube, until you hear a click (Figure 39).

8. You have now completed the installation of the iQS System.



Figure 37



Figure 38



Figure 39

FINAL CHECK

- Check all connections to make sure they are secure.
- Make sure all cable ties are in line with the colored designated cable tie locations along the wiring harness.
- Before you install the side panels and hood, check the wiring harness to make sure the wiring does not come in contact with the exhaust system, steering system, or any other components that may cause damage to the system.
- Turn the handlebars to full lock in both directions to confirm there are no steering issues.
- Make adjustments if you notice anything questionable. If you aren't sure if the iQS system is installed properly, contact FOX at www.ridefox.com Help Center/Powersports/Warranty or Contact a representative at: 1.831.740.4619.
- Reset limiter straps.
- Torque all bolts and mounting hardware to manufacturer's specifications.
- Adjust the track tension to the manufacturer's specifications.
- Reinstall hood and side covers according to manufacturer's instructions.
- After first short ride, check wire placement.
- Occasionally monitor your iQS system to ensure there has been no movement of parts, wiring, or cable ties.

IQS SYSTEM TEST

Once you have completed the installation and setup of the whole system, run the IQS System Test. FOX recommends you run this test before every ride or any time you suspect there may be an issue.



SUSPENSION MODE DETAILS // FOX FACTORY				
	SKI	CENTER	REAR	RIDE CHARACTERISTICS
HOLD "LOCKOUT"	SOFT	MID	LOCK	EASY SIDE HILLING, PREDICTABLE CLIMBING (LIMITS WEIGHT TRANSFER AND TRENCHING) <small>*LONG PRESS TO ENTER MODE 4 (SLOW BLINK - ACTIVATED)</small>
MODE 3	FIRM	FIRM	MID	AGGRESSIVE TRAIL RIDING, INCREASED LOAD CARRYING CAPACITY
MODE 2	MID	MID	MID	BALANCED ALL AROUND SETTING
MODE 1	SOFT	SOFT	SOFT	MAXIMUM TRAIL COMFORT EASY SIDE HILLING AND DESCENT

1. Start the snowmobile.

The top and bottom buttons should illuminate solid during the short calibration sequence.

Once the calibration is complete (about 5 seconds), the system should default into last remembered mode.

2. Press the bottom "SOFT" button.

Confirm only the bottom button illuminates solid.

Rock the snowmobile back and forth to confirm the ski shocks feel soft.

Push up and down on the rear of the tunnel to confirm the track shocks feel soft.

3. Press the middle "MED" button.

Confirm only the bottom and middle buttons illuminate solid.

Rock the snowmobile back and forth to confirm the ski shocks feel stiffer than "SOFT" mode.

Push up and down on the rear of the tunnel to confirm the track shocks feel stiffer than "SOFT" mode.

4. Press top "FIRM/LOCK" button.

Confirm ALL buttons illuminate solid.

Rock the snowmobile back and forth to confirm the ski shocks feel stiffer than "MEDIUM" mode.

Push up and down on the rear of the tunnel to confirm the track shocks feel stiffer than "MEDIUM" mode.

5. Press and hold the top "FIRM/LOCK" button for 3 seconds.

Confirm the bottom and middle buttons illuminate solid while the top button blinks.

Rock the snowmobile back and forth to confirm the ski shocks feel soft.

Push up and down on the rear of the tunnel to confirm the rear track shocks feels stiffer than "FIRM" mode.

NOTE: Rear track shock does not absolutely lock out. There will still be some shock movement.

SHOCK SETUP

SKI SHOCKS

The most important step in setting up snowmobile suspension is setting the “sag” of the front and rear suspension. Sag is the distance the suspension compresses with rider and gear on the machine, otherwise known as ride height. Dialing in your sag will ensure your snowmobile’s suspension is properly balanced.

1. Ensure that your snowmobile is safely supported with a floor jack or jack stand with the skis off the ground and no load on the front suspension.

CRUSH HAZARD

Failure to properly secure the snowmobile can create a crush hazard. Do not place body parts below a snowmobile that is not secured properly.

2. Remove the EVOL air valve cap. Thread the pump onto the EVOL air valve until it is fully seated and air pressure registers on the high pressure scale of the pump. Pump the shock up to 130 psi.

IMPORTANT: Always set the EVOL chamber pressure before your main air chamber pressure. The EVOL chamber does not affect preload. Only adjust the main air chamber pressure when adjusting preload.

WARNING

DO NOT EXCEED 300 PSI IN THE EVOL CHAMBER.

3. Thread the pump onto the main air valve until it is fully seated and air pressure registers on the pumps low pressure scale. Pump the shock up to 60 psi.
4. Place the snowmobile with the skis on a hard, level surface, preferably on a thin piece of cardboard or plastic to allow the carbides to slide on the surface.
5. Push up and down on the front bumper three times. Then measure the sag shock length of both shocks WITH THE RIDER AND GEAR ON THE SNOWMOBILE. Round the measurement length to the nearest 1/16 inch.
6. If the sag shock length is not at 30% (14.31 inches) of total travel, adjust the preload in 10 psi increments to achieve desired 30% sag shock length. Repeat steps 1-4 until 30% sag shock length is reached.

IMPORTANT: Front track shock preload will effect steering effort, weight transfer, braking, and bump absorption but should **not be used to adjust sag height**.

NOTE: Pushing the bleed valve halfway down and holding it there will allow air to escape continuously from the pump and shock. Pushing the bleed valve all the way down and releasing it will allow only a small amount of pressure to escape (micro-adjust). When unthreading the pump from the Schrader valve, the sound of air loss is from the pump only and not the shock

TRACK SHOCKS

1. Once you have the front suspension sag set at 30% shock travel, set the rear suspension sag. Lift the rear of the snowmobile so there is no load on the rear suspension. Measure the distance from the rear bumper to the floor.
2. Place the rear of the snowmobile back on the ground. Remeasure the distance from the rear bumper to the floor with the rear suspension completely bottomed.
3. Calculate the 30% sag height of your snowmobile. Calculation example below:

Distance "A" : Distance from the rear bumper to the floor with rear suspension unloaded as measured in step 1.
Distance "B" : Distance from the rear bumper to the floor with rear suspension bottomed as measured in step 2.
 $A - B = [\text{TOTAL TRAVEL}]$
 $[\text{TOTAL TRAVEL}] \times .30 = [\text{30\% TRAVEL SAG}]$
 $A - [\text{30\% TRAVEL SAG}] = [\text{DESIRED 30\% SAG HEIGHT}]$
4. Push up and down on the rear bumper three times. Measure the sag height of the rear suspension WITH THE RIDER AND GEAR ON THE SNOWMOBILE. Round the measured length to the nearest 1/16 inch. Repeat steps 1-4, adjusting the rear track shock preload only until 30% sag shock length is reached.
5. After setting rear sag, recheck front sag and adjust accordingly. Repeat as necessary. Increasing rear suspension preload will put more weight on front suspension and vice-versa.

NOTE:

- When rechecking pressures, the gauge will always read lower. This is due to air pressure traveling from the air chamber to the pump each time the pump is reattached to the shock. This inherently causes a lower reading on the pump.
- Set the air pressure at a temperature as close to the anticipated riding condition as possible. Air shocks are temperature dependent. If the temperature changes by more than 30 degrees Fahrenheit or 17 degrees Celsius, it is recommended that the pressure settings be adjusted to compensate.
- When unthreading the pump from the Schrader valve, the sound of air loss is from the pump only and not the shock.

FINE TUNING YOUR SUSPENSION

At this point, you have set the sag of your snowmobile by adjusting preload. Use the below fine-tuning guide to achieve your preferred suspension setting.

FINE-TUNING MAIN SPRING ADJUSTMENTS (AIR OR COIL)	
ADJUSTMENT	RESULT
Increased Ski Preload	Lighter Steering
	Increased Ride Height
	Increased Load Capacity
	Decreased chassis roll at high speeds
Decreased Ski Preload	Heavier Steering
	Decreased Ride Height
	Decreased Load Capacity
	Increased chassis roll in deep powder turns
Increased Front Track Preload	Lighter Steering
	Increased Traction, Braking, Bump absorption
	Increased Weight Transfer
Decreased Front Track Preload	Heavier Steering
	Decreased Weight Transfer
Increased Rear Track Preload	Increased Ride Height
	Increased Load Capacity
	Heavier Steering
Decreased Rear Track Preload	Decreased Ride Height
	Lighter Steering

FINE-TUNING EVOL CHAMBER ADJUSTMENTS (IF EQUIPPED)	
ADJUSTMENT	RESULT
Increased EVOL Air Pressure	Increased bottom-out resistance
	Decreased chassis roll at high speeds
Decreased EVOL Air Pressure	Decreased bottom-out resistance
	Increased chassis roll in deep powder turns

IQS ADJUSTMENTS

ADJUSTMENT	RESULT
Lockout Setting	Increased boon docking maneuverability
	Increased hill climbing stability
Firm Setting	Increased bottom-out resistance
	Increased harshness at slow speeds
Medium Setting	Best all-around compression setting
Soft Setting	Decreased bottom-out resistance
	More plush ride at slow speeds

FINE-TUNING LIMITER STRAP ADJUSTMENTS

ADJUSTMENT	RESULT
Longer Limiter Strap Setting	Increased boon docking maneuverability
	Increased bump absorption
	Better deep snow starts
Factory Limiter Strap Setting	Best all-around setting
Shorter Limiter Strap Setting	Increased track attack angle for hill climbing
	Decreased weight transfer
	Decreased bump absorption

TROUBLESHOOTING

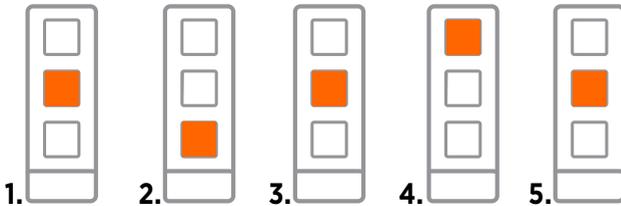
DIAGNOSTIC MODE

The FOX iQS system comes with a built-in Diagnostic Mode that can help troubleshoot any issues you may have. To enter Diagnostic Mode, restart the snowmobile and enter the button sequence below within the first 10 seconds of restart.

Once entered into the Diagnostic Mode, fault codes are indicated as the number of blinks on the FIRM/LOCK and MEDIUM buttons of the iQS handlebar switch. A graphical representation of the Diagnostic Mode can be found on the next page. A list of diagnostic codes can be found on the following pages.

DIAGNOSTIC MODE SEQUENCE

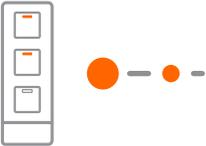
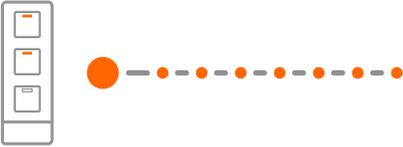
SEQUENCE	BUTTON
1	MEDIUM
2	SOFT
3	MEDIUM
4	FIRM/LOCK
5	MEDIUM



NOTE

- Only current faults will be displayed in diagnostic blink mode. No historic faults will be shown.
- A 1-2 start blink code will display upon entering Diagnostic Mode and before current system fault codes are displayed. This signals that the Diagnostic Mode has begun and follows with fault code.
- The start code and current system fault codes will continue to repeat until the system is powered off and restarted.
- The only way to exit Diagnostic Mode is to restart the snowmobile.

TROUBLESHOOTING CONTINUED

PROBLEM	TROUBLESHOOTING MEASURE
<p>iQS handlebar switch is unresponsive with no buttons illuminated</p> 	<ul style="list-style-type: none"> - Check iQS wire harness connection to the snowmobile's power. - Check the in-line fuses on the iQS wire harness. Replace if bad.
<p>iQS handlebar switch is unresponsive with the top and bottom buttons illuminated solid</p> 	<ul style="list-style-type: none"> - Conduct a visual inspection of your iQS wire harness and ECU. - If no clear harness damage, enter diagnostic mode to read fault code.
<p>Diagnostic Mode Blink Pattern: 1-1 ECU Failure</p> 	<ul style="list-style-type: none"> - Inspect the ECU connector. Ensure it is properly plugged in and locked in place. - Unplug ECU connector, inspect for water intrusion. If water intrusion occurs, dry the connector and the ECU then reconnect. - Contact a Fox Representative at 1.831.740.4619.
<p>Diagnostic Mode Blink Pattern: 1-7 Left Ski Failure</p> 	<ul style="list-style-type: none"> - Inspect left ski wire harness lead for any damage. - Inspect left ski shock for damage to iQS compression adjuster motor. - Unplug wire harness from left ski compression adjuster motor, inspect for water intrusion. If water intrusion, dry connector and motor then reconnect. - If parts are physically damaged or the source of the fault cannot be identified, contact a Fox Representative at 1.831.740.4619.
<p>Diagnostic Mode Blink Pattern: 1-8 Right Ski Failure</p> 	<ul style="list-style-type: none"> - Inspect right ski wire harness lead for any damage. - Inspect right ski shock for damage to iQS compression adjuster motor - Unplug wire harness from right ski compression adjuster motor, inspect for water intrusion. If water intrusion, dry connector and motor then reconnect. - If parts are physically damaged or the source of the fault cannot be identified, contact a Fox Representative at 1.831.740.4619

TROUBLESHOOTING CONTINUED

PROBLEM	TROUBLESHOOTING MEASURE
<p data-bbox="57 172 374 220">Diagnostic Mode Blink Pattern: 1-9 Front Track Failure</p>  	<ul style="list-style-type: none"> <li data-bbox="484 172 1050 196">- Inspect front track wire harness lead in skid for any damage. <li data-bbox="484 212 1012 260">- Inspect front track wire harness lead under hood for any damage. <li data-bbox="484 276 1020 323">- Inspect front track shock for damage to iQS compression adjuster motor. <li data-bbox="484 339 1037 419">- Unplug wire harness from front track compression adjuster motor, inspect for water intrusion. If water intrusion, dry connector and motor then reconnect. <li data-bbox="484 435 1028 515">- Unplug front track skid wire harness from front track main harness, inspect for water intrusion. If water intrusion, dry both connectors and reconnect. <li data-bbox="484 531 1016 611">- If parts are physically damaged or the source of the fault cannot be identified, contact a Fox Representative at 1.831.740.4619.
<p data-bbox="57 632 370 679">Diagnostic Mode Blink Pattern: 2-1 Rear Track Failure</p>  	<ul style="list-style-type: none"> <li data-bbox="484 632 1042 655">- Inspect rear track wire harness lead in skid for any damage. <li data-bbox="484 671 1003 719">- Inspect rear track wire harness lead under hood for any damage. <li data-bbox="484 735 1011 783">- Inspect rear track shock for damage to iQS compression adjuster motor. <li data-bbox="484 799 1028 879">- Unplug wire harness from rear track compression adjuster motor, inspect for water intrusion. If water intrusion, dry connector and motor then reconnect. <li data-bbox="484 895 1025 975">- Unplug rear track skid wire harness from front track main harness, inspect for water intrusion. If water intrusion, dry both connectors and reconnect. <li data-bbox="484 991 1016 1070">- If parts are physically damaged or the source of the fault cannot be identified, contact a Fox Representative at 1.831.740.4619.

MAINTENANCE

PROPER INSPECTION AND MAINTENANCE IS ESSENTIAL TO MAINTAIN THE PERFORMANCE AND RELIABILITY OF YOUR SHOCK ABSORBERS.

It is important to keep the shock absorbers clean and free of dirt, ice and snow. The FOX ICE SCRAPER Technology will help eliminate moisture from entering the shock. Cleanliness will add to FIST seal life. When cleaning the vehicle, avoid using a high-pressure washer near the seals as this could drive debris inside the FIST seal system.

Ideally, the shocks should be clean around the adjusters when changing the damping setting. A small blast of contact cleaner or brake cleaner before making adjustments will keep these parts clean and operating smoothly for years.

The service interval depends on how frequently and aggressively the snowmobile is ridden. As a guideline, if you race every weekend, you may want to change the oil in your shock at least every 10-20 hours of usage. Otherwise, it is generally recommended to have the shock absorbers completely serviced annually. FOX or an authorized factory service center can perform these procedures.

SERVICE

Contact FOX Service Center at 1.831.740.4619 or psservicemw@ridefox.com to receive a return authorization number before shipping shocks to one of the service centers listed below.

WARRANTY

All FOX products have a one-year warranty on defects in materials or workmanship. Please view the full warranty terms and conditions at www.ridefox.com Help Center/Powersports/Warranty or contact a representative at: 1.831.740.4619. A service RMA will be issued. Ship shocks to one of the following service centers:

FOX Powersports Service
130 Hangar Way
Watsonville, CA 95076

FOX Midwest Service Center
13461 Dogwood Drive
Baxter, MN 56425