

2011 KX Technical Data

'11 KX450EBF

Main Specifications

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July 2010

Kawasaki Motors Corporation Japan



This publication is based on the materials provided by Consumer Products & Machinery Company, Kawasaki Heavy Industries, Ltd.

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1.New Technology Information

2011 KX450F



○Piston

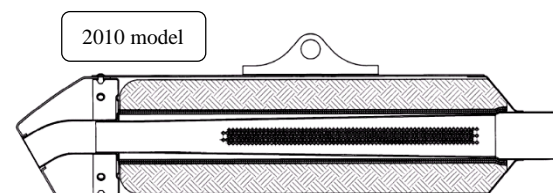
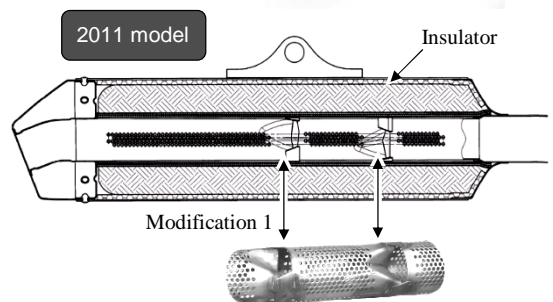
- Due to the change of piston profile, the piston clearance has been changed (Modification 1).

Modification 1	2010 model	2011 model
Piston clearance	50 to 62 micrometers	45 to 67 micrometers



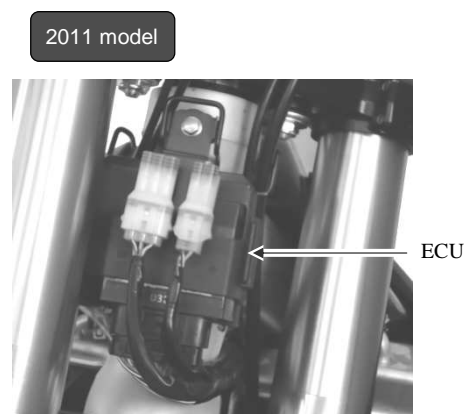
○Silencer

- Four induction ports have been added to the punching pipe (Modification 1) to make the exhaust gas flow toward the glass wool.



○ECU

- The ECU settings has been changed as follows to improve engine response in the low speed range.
 - ① Change of program
 - ② Change of setting data
 - ③ Change of ignition system charging circuit (primary circuit)
 - ⇒ The spark plug ignition time has been increased.
- The vehicle down sensor input circuit has been changed.
 - ⇒ To prevent a malfunction

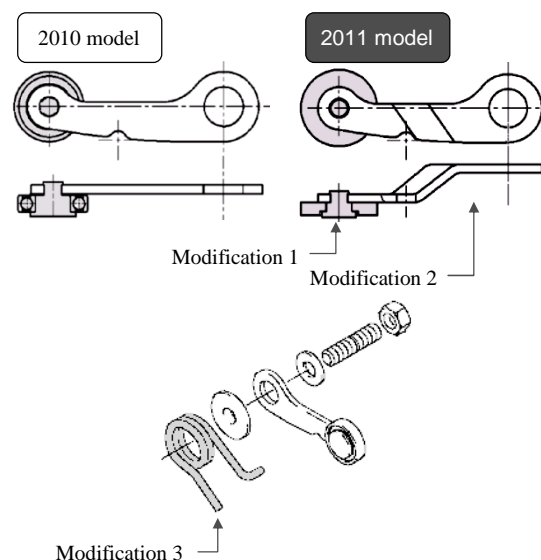


○ Gear change mechanism

- The outer shape of position lever roller (Modification 1), lever design (Modification 2), and spring load (Modification 3) have been changed to improve the gear shift sensation.

Modification 1	2010 model	2011 model
Outer shape of the roller	16 mm dia (bearing)	18 mm dia

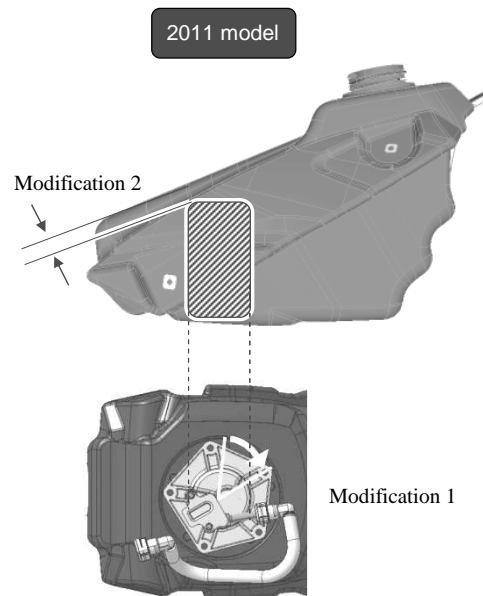
* The spring load has been increased by approximately 40% over that of the 2010 model (Modification 3).



○Fuel pump

- The mounting angle of the fuel pump has been changed (Modification 1) to ensure there is sufficient road clearance (Modification 2).

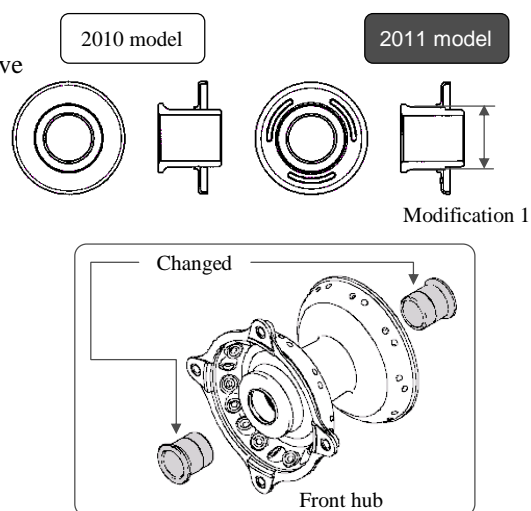
Durability against impacts applied to the upper surface of the tank has been improved after jumping and grounding.



○Front axle collar

- The stiffness of the front axle collar has been increased to improve gripping force.

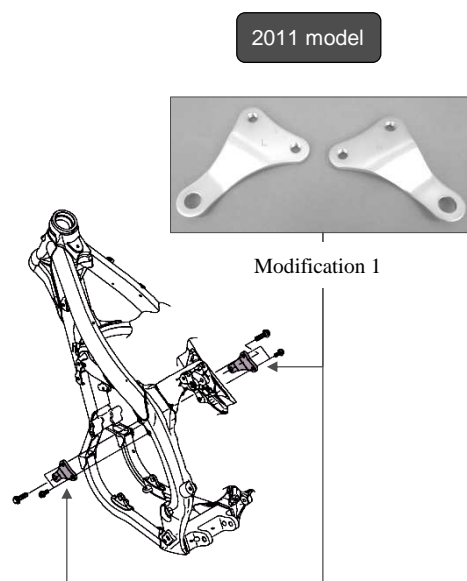
Modification 1	2010 model	2011 model
Outer diameter	25.0 mm	27.5 mm



○Engine brackets

- The material and thickness of the rear engine brackets have been changed to optimize the rigidity balance for better rear traction, front gripping force, and cornering performance.

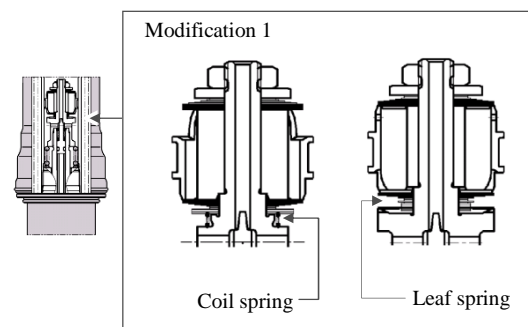
Modification 1	2010 model	2011 model
Material	Aluminum	Iron
Thickness	8.0 mm	4.5 mm
Mounting bolt	M8 × 18 mm M10 × 35 mm	M8 × 14 mm M10 × 32 mm



○Front fork

- Due to the change of rigidity balance, the valve setting has also been changed. The valve spring (coil spring, Modification 1) is not used, but the leaf spring is used to improve damping absorption.

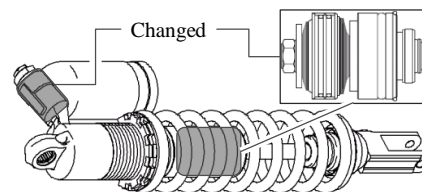
Inner wall of outer tube	Kashima Coating finish
Outer wall of inner tube	DLC coating



○Rear shock absorber

- Due to the change of rigidity balance, the valve setting has been changed to improve damping absorption.

Inner wall of cylinder	Kashima Coating finish
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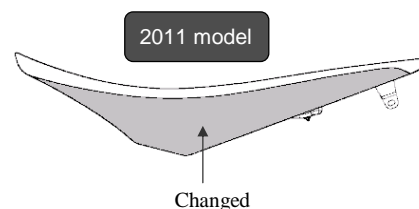
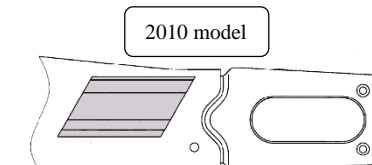
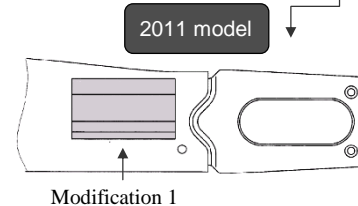
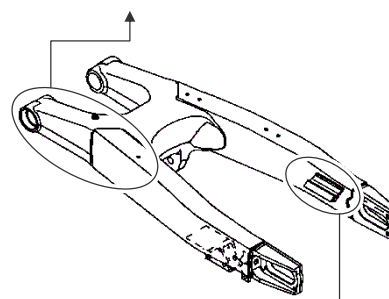
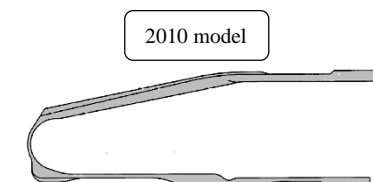
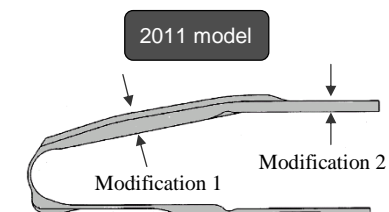


○Swingarm

- The thickness of the drive chain guide has been changed.
* KX250F parts are commonly used on the 2011 model and later.

Modification 1	2010 model	2011 model
Thickness	7.2 mm	12.3 mm

Modification 2	2010 model	2011 model
Thickness	6.0 mm	9.0 mm



- The overall length has been changed, and the rear caliper holder mount has also been changed (Modification 1).

* KX250F parts are commonly used on the 2011 model and later.

○Seat

- The left and right rubber seat surface has been changed to improve hold characteristics.
* The KX250F 2011-year model has also been modified in a similar way.

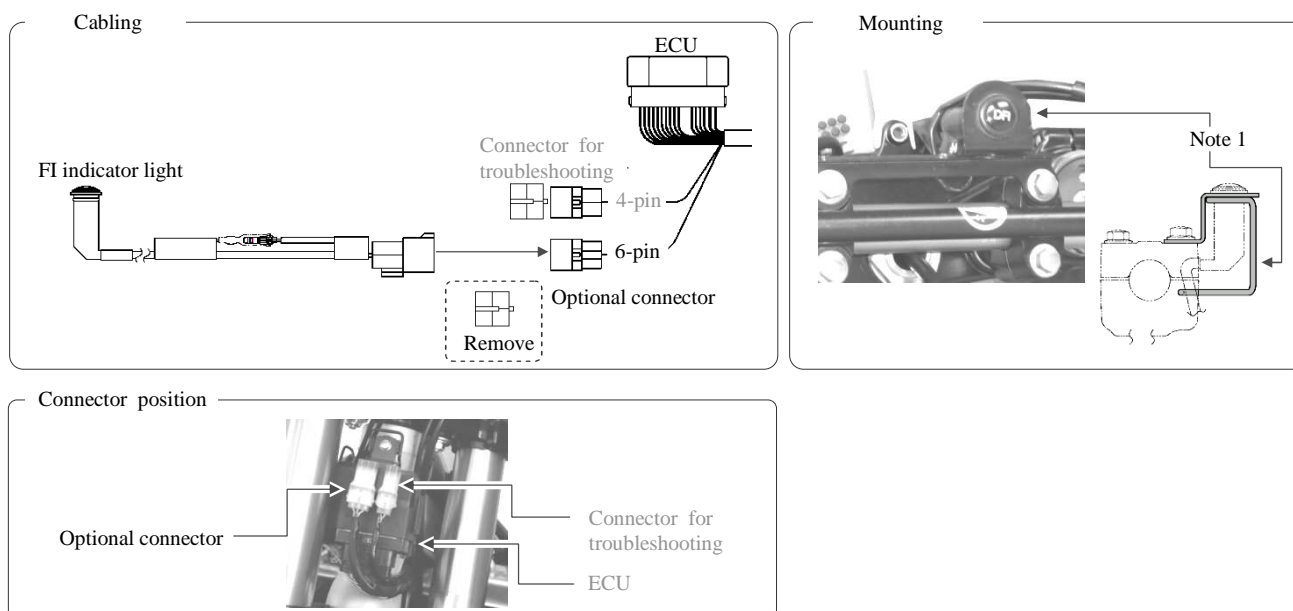
○Troubleshooting

① FI indicator light (optional, part No. 23016-0049)

Although the connector was mounted under the fuel tank on the 2010 model, it is now mounted at the rear of the front number plate on the 2011 model.

If the DFI system or a part of the ignition system fails, the indicator lights up to warn the rider.

Mount the FI indicator light on the handle holder using the bracket (part No. 11055-1673) (Note 1). Then, remove the empty connector (optional) and connect the signal cable.



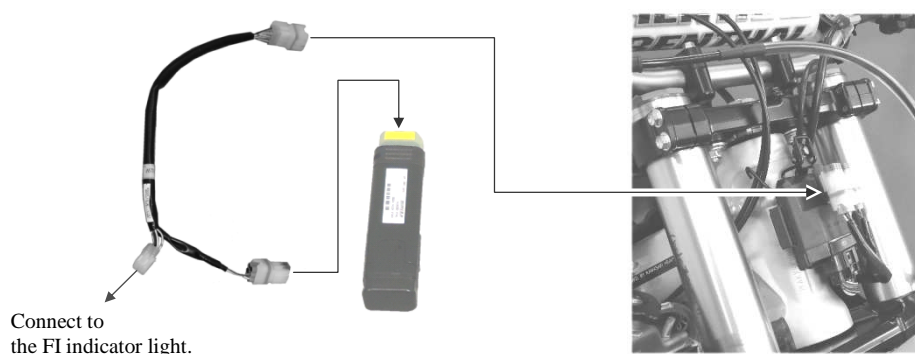
② To troubleshoot using the FI indicator light (optional), refer to the related KX250F document.

③ To troubleshoot using the KDS3, refer to the related KX250F document.

○KX Racing Software (Optional)

- Major modifications from the 2010 model
 - ① Change of the ECU controller mounting bracket
 - ② Change of software
 - ③ Change of wiring harness

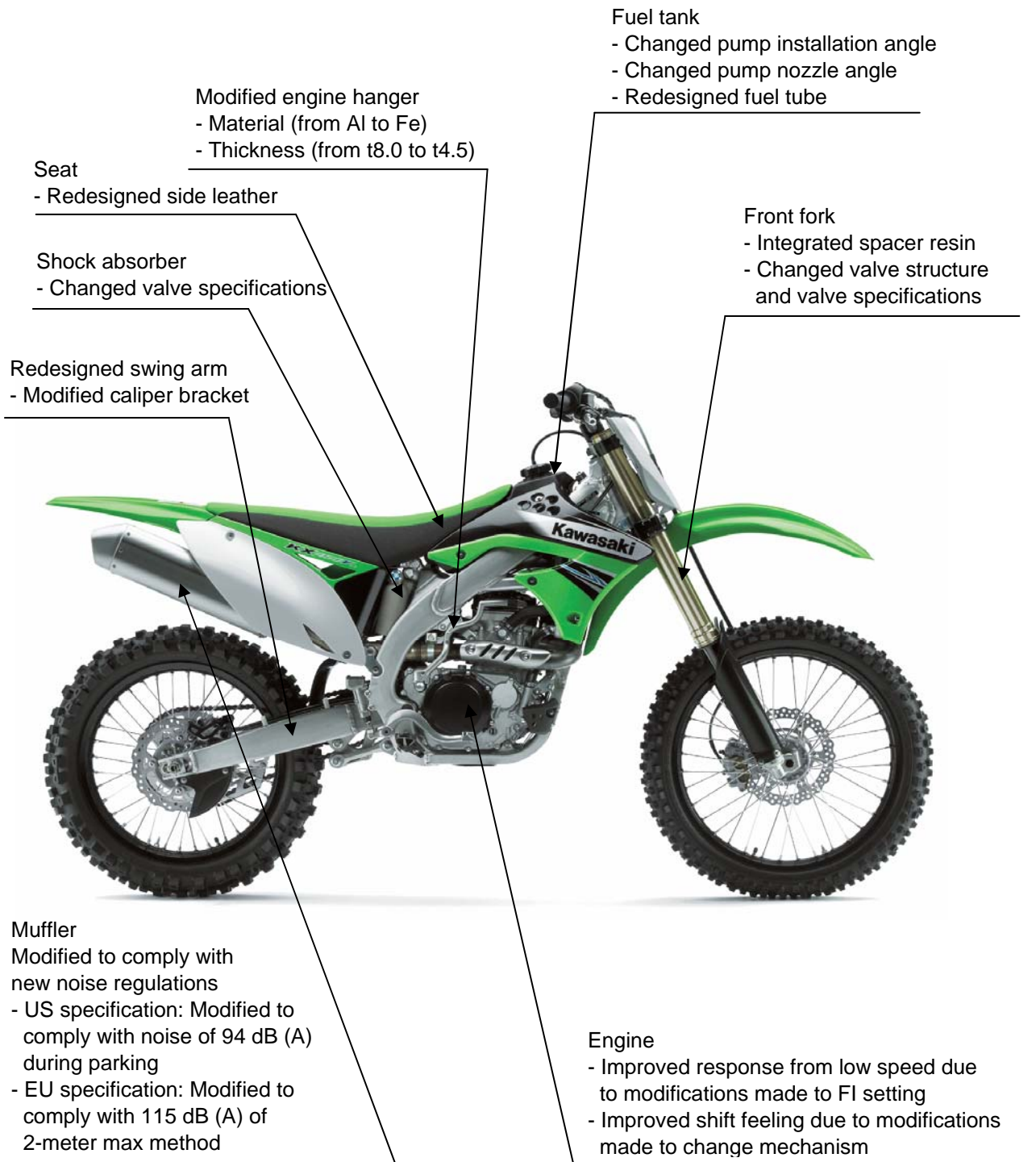
Although the connector was mounted under the fuel tank, it is now mounted at the rear of the front number plate. In addition, the common harness of the FI indicator light is now used for the connector.



2. Main Specifications

3. Specification Sheet

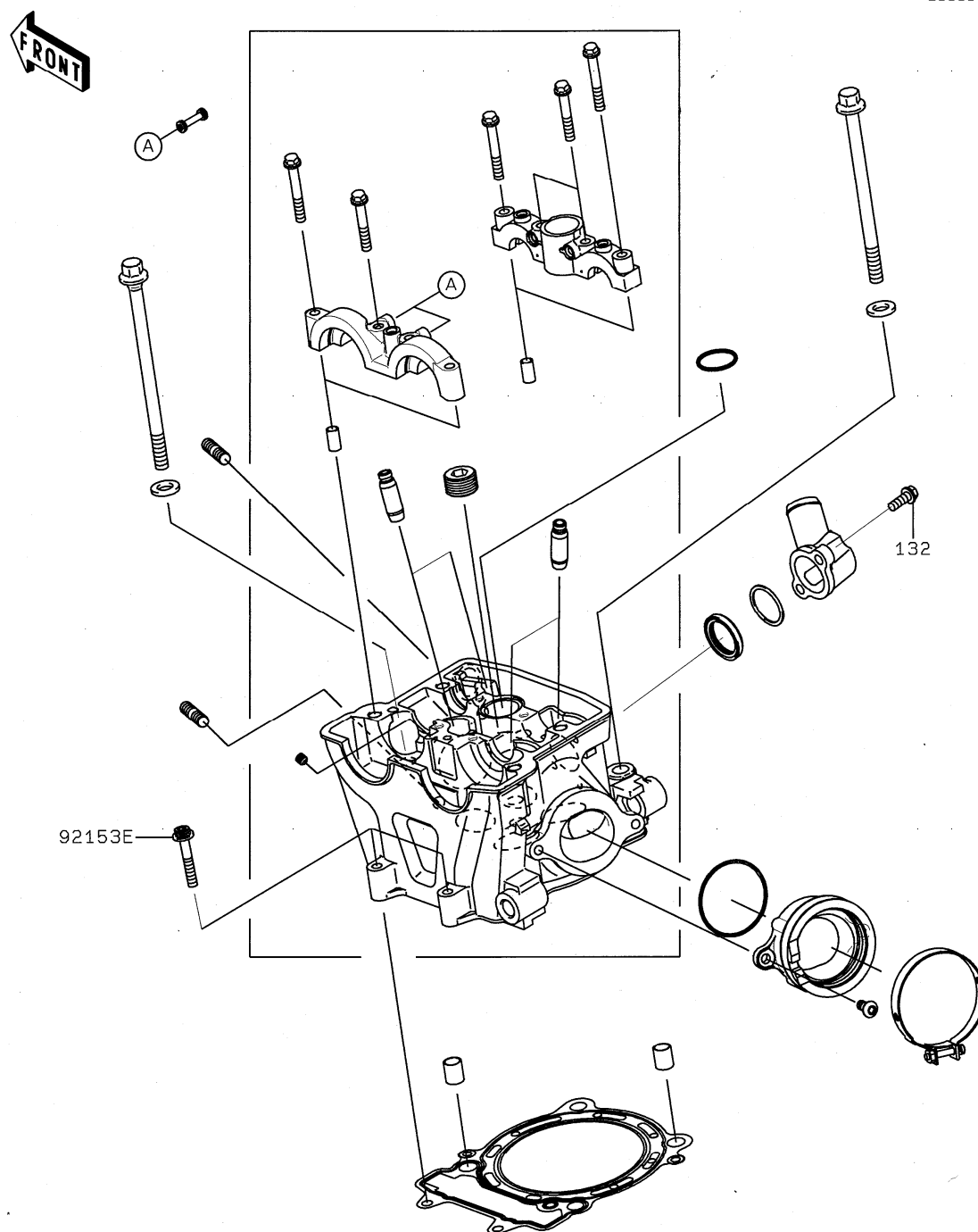
Main Specification Change of '11 KX450EBF



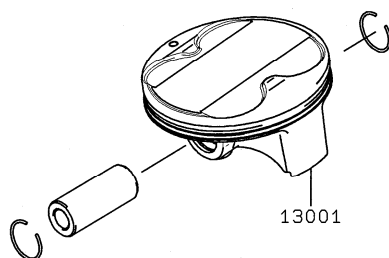
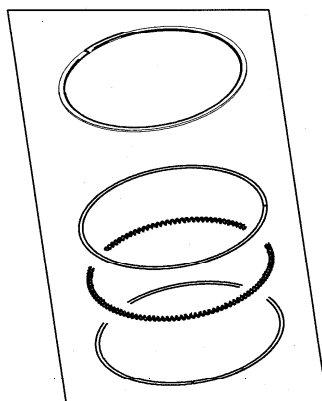
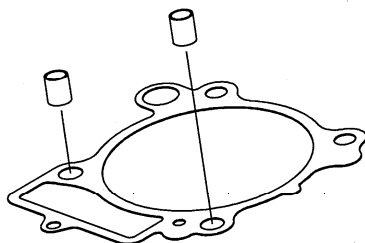
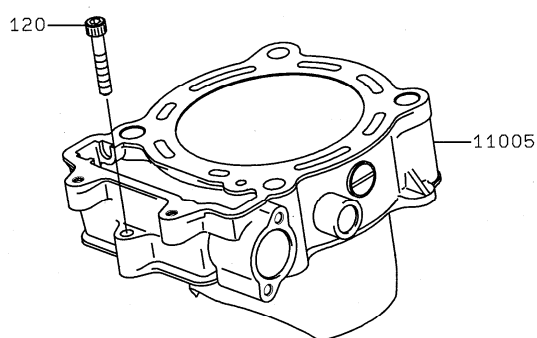
Specification Sheet

		'10 KX450EAF	'11 KX450EBF
Overall length (mm)		2185	←
Overall width (mm)		820	←
Overall height (mm)		1280	←
Wheelbase (mm)		1480	←
Road clearance (mm)		340	335
Seat height (mm)		965	960
Caster angle (degrees)		26.7	←
Trail (mm)		116	←
Engine type		Single-cylinder, 4-stroke liquid-cooled, DOHC 4-valve engine	←
Displacement (cm ³)		449	←
Bore and stroke (mm)		96×62.1	←
Compression ratio		12.5	←
Starting system		Primary kick	←
Ignition system		Digital DC-CDI system	←
Lubrication system		Semi dry sump	←
Throttle body		Keihin's 43-mm dia	←
Transmission type		Constant mesh, 5-speed return	←
Clutch type		Wet multi disc	←
Gear ratios	1st	1.750	←
	2nd	1.412	←
	3rd	1.188	←
	4th	1.000	←
	5th	0.875	←
	6th	-	←
Primary reduction ratio		2.727(60/22)	←
Final reduction ratio		3.846(50/13)	←
Frame type		Semi-double cradle, aluminum	←
Suspension type	F	Telescopic fork (Kayaba's inverted inner tube, 48-mm dia)	←
	R	Swingarm (New unified traction suspension)	←
Wheel travel	F	315	←
	R	315	←
Tire size	F	90/100-21 57M	←
	R	120/80-19 63M	←
Brake type	F	Single disc, 250-mm dia	←
	R	Single disc, 240-mm dia	←
Fuel capacity (liters)		7.0	←

4. Detailed Specifications (Engine)

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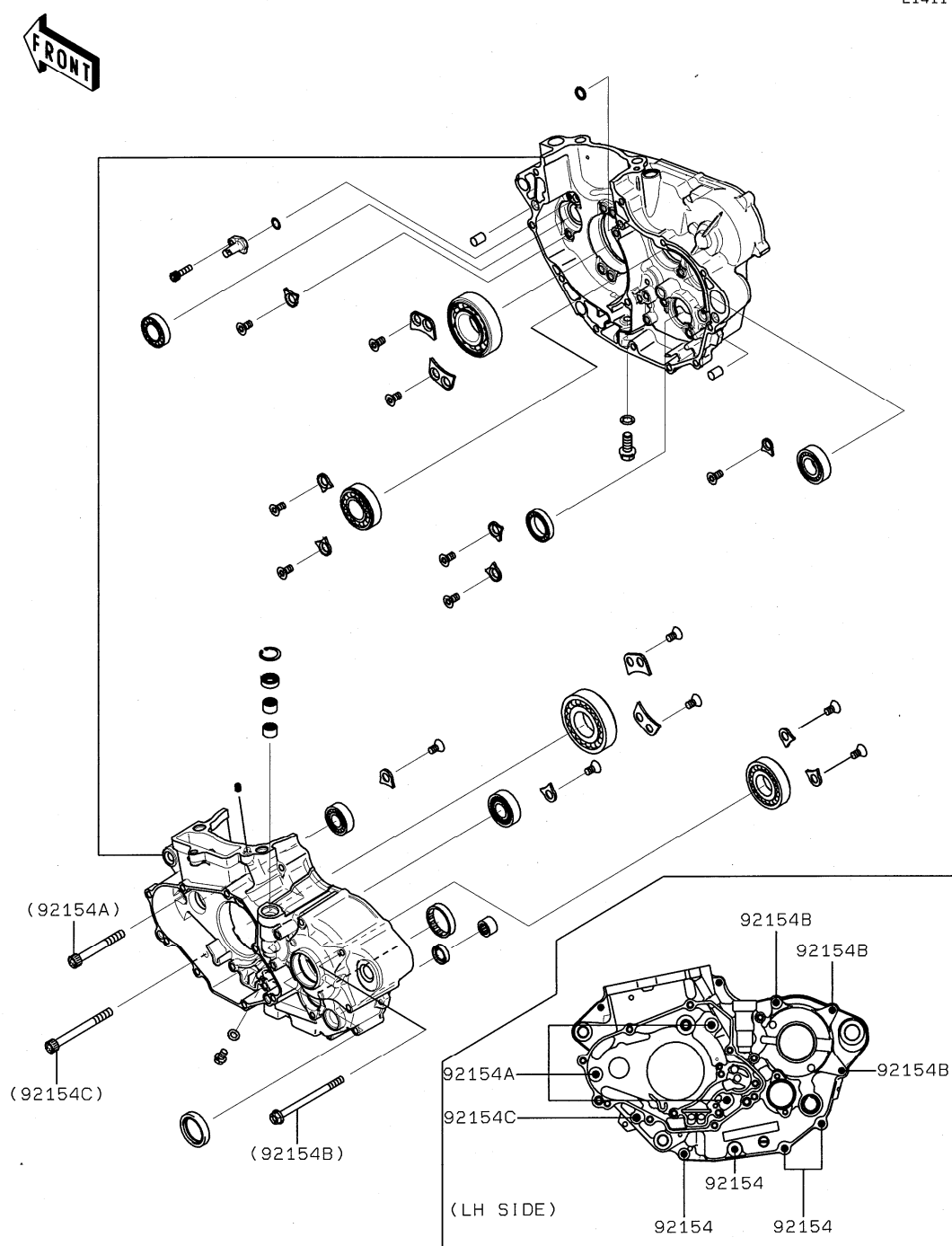
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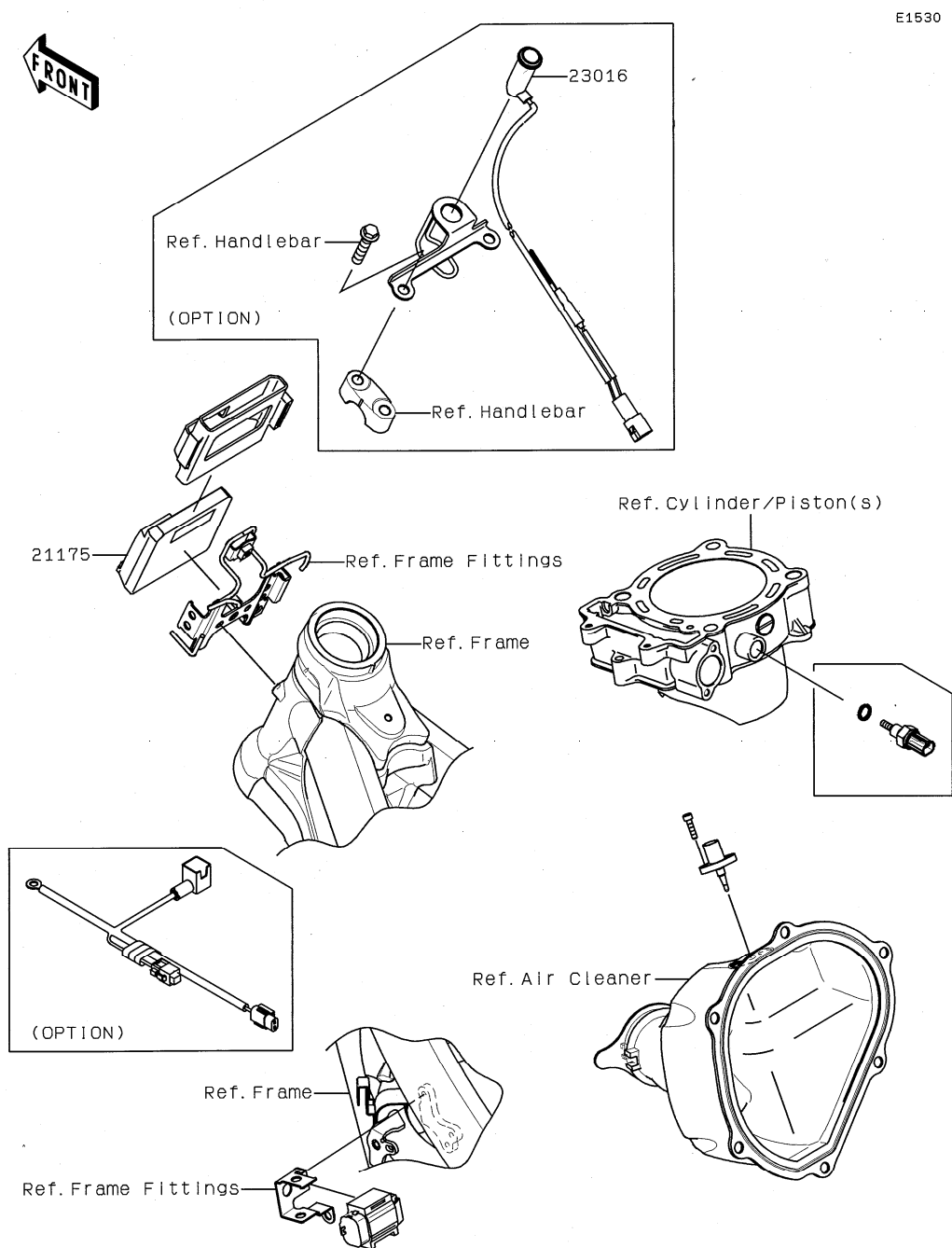
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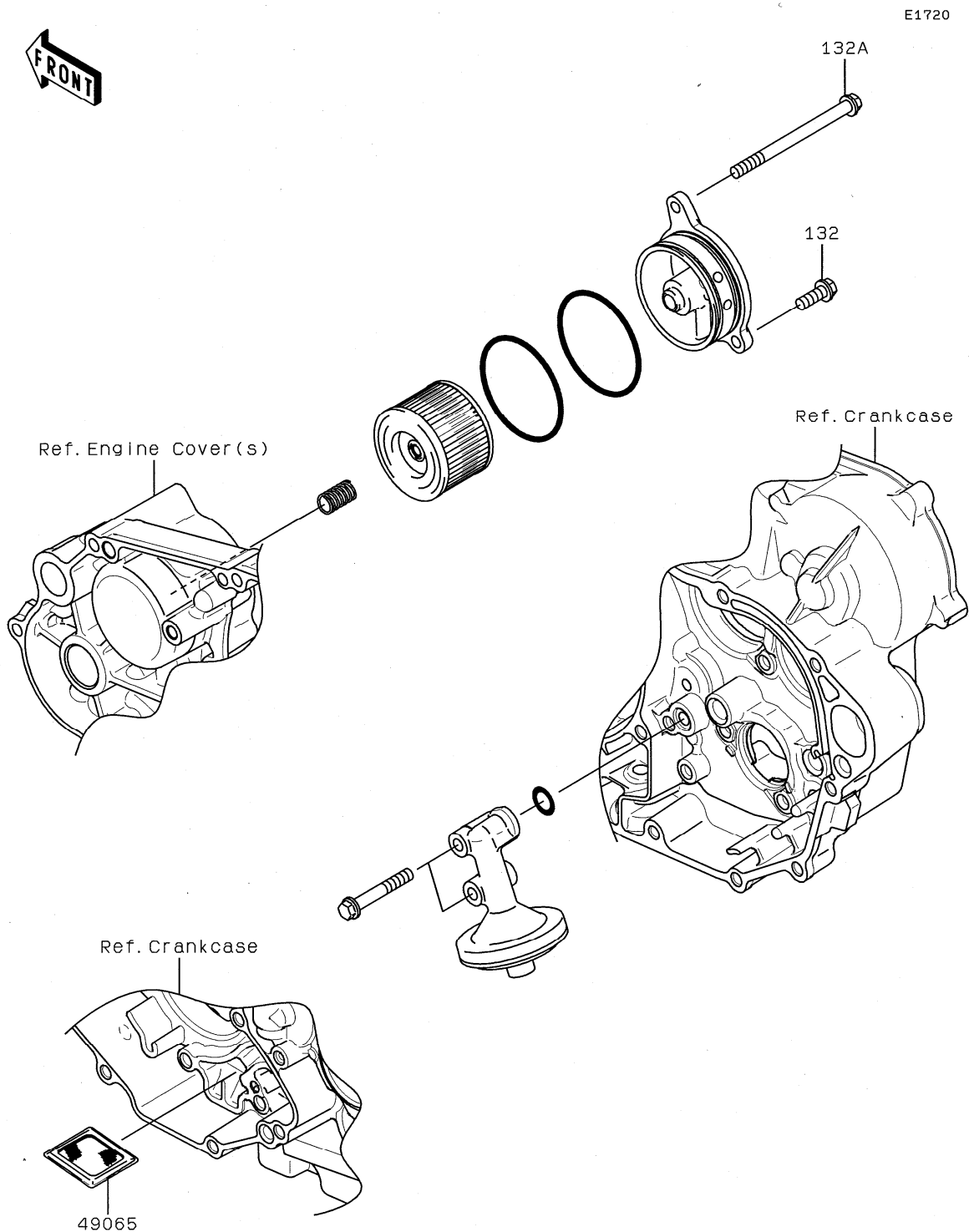
Crankcase									
Modifications from '10 KX450EAF to '11 KX450EBF			<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p>○ S: '11→'10 interchangeable as a set ○: '11→'10 interchangeable 3: Others 2: Reliability improvement 1: Performance improvement</p> </div>						
Engine	KX450E								
Part name	'10 part #	'11 part #	Modifications			1	2	3	Inter-change
Bolt, M6 x 50	92151-1545	92154-0526	<div style="display: flex; align-items: center;"> <div style="font-size: 3em; margin-right: 10px;">}</div> The surface treatment has been changed. </div>						
Bolt, M7 x 60	92153-0846	92154-0527							
Bolt, M6 x 85	92153-0934	92154-0528						○	○
Bolt, M7 x 75	92154-0037	92154-0529							



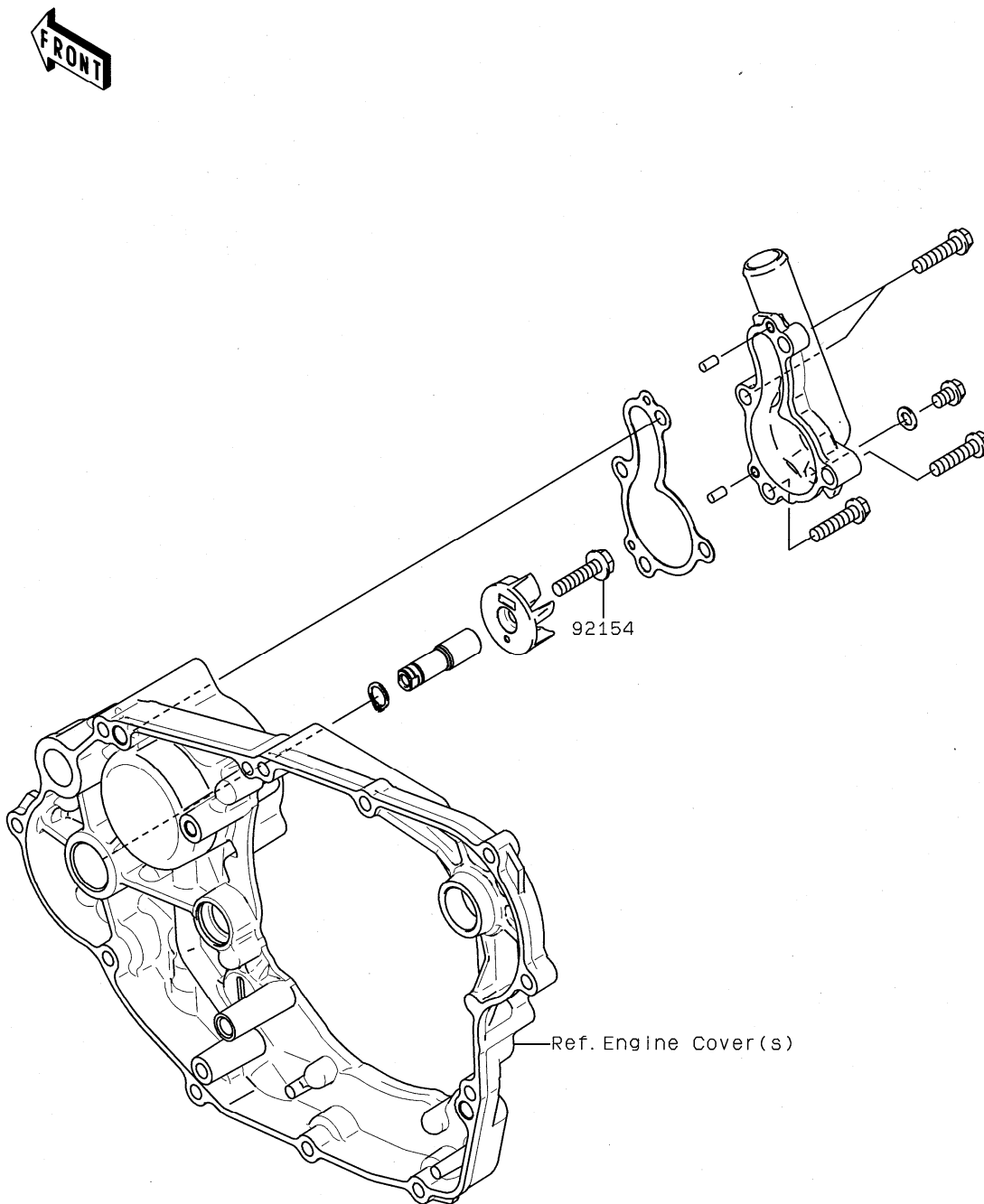
Injection, fuel										
Modifications from '10 KX450EAF to '11 KX450EBF			O S: '11→'10 interchangeable as a set O: '11→'10 interchangeable 3: Others 2: Reliability improvement 1: Performance improvement							
Engine	KX450E									
Part name	'10 part #	'11 part #	Modifications		1	2	3	Inter-change		
Control unit (electronic)	21175-0268	21175-0323	The ignition system charging circuit and setting data have been modified.		O			O S		
				(US/CN specifications)						
Lamp assembly (optional)	23016-0034	23016-0049	FI alarm indicator (optional): Redesigned due to modifications made to the chassis side harness.				O	x		



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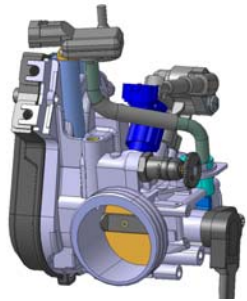
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DFI System of 2011 Model KX450F

KX450F DFI System Outline

The DFI system consists of the ECU, Fuel Pump Module (FPM), throttle body and various sensors (such as crankshaft sensor, water temperature sensor, intake temperature sensor and vehicle-down sensor) that have been designed specifically for motocrossers.

Throttle body



Fuel injector

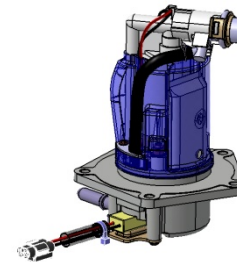


Throttle position sensor



Intake air pressure sensor

Fuel Pump Module (FPM)



Fuel pump

Fuel filter

Pressure regulator

Various sensors



Crankshaft sensor



Water temperature sensor



Intake air temperature sensor



Vehicle-down sensor



Gear position sensor

ECU



Built-in CDI igniter


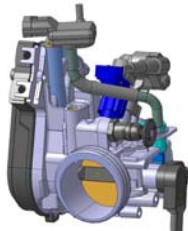
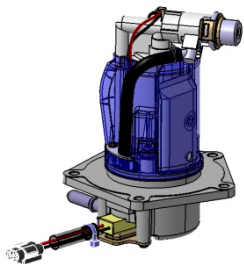
Ignition coil



Features of Motocrosser DFI System

The DFI system is designed specifically for motocrossers, contributing to the greatly enhanced power output.

It features ① high throttle response, ② increased startup performance, ③ highly stable fuel delivery, and ④ compact size and light weight.

Primary components	Advantages
ECU 	<ul style="list-style-type: none">▪ Starting control without battery power▪ Reduced startup time▪ Weights approximately 200 g (10% less than the KLX250's ECU)
Throttle body 	<ul style="list-style-type: none">▪ Quick throttle response by the new Progressing Link mechanism (Th)▪ Weighs approximately 600 g (half of the carburetor system)
Fuel Pump Module (FPM) 	<ul style="list-style-type: none">▪ A cover has been added to the fuel inlet. This ensures stable fuel delivery even when the fuel level changes significantly. The new aluminum body contributes to a reduction in weight to approximately 570 g.

Features of Motocrosser DFI System

ECU

Self-Diagnostic Functions











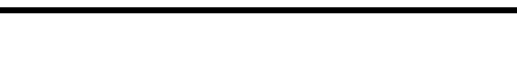
The DFI system has a Troubleshooting mode as a self-diagnostic function. If the DFI system has failed, the FI alarm indicator flashes and the failure location is identified in the Troubleshooting mode (a special tool is required for this).

[Notes on motorcycle inspection]

When you inspect the motorcycle, connect a battery and the FI alarm indicator to the motorcycle and check that the FI alarm indicator does not light up.

Also, repeat kicking of the engine more than 10 times and check again that the alarm indicator does not light up. These kicks allow the system to detect a fuel injector or ignition system failure.

* For details, see the Service Manual.

Failure code	FI alarm indication pattern in Troubleshooting mode	FI alarm indication in Normal operation mode	Failure location
00		Off	Normal
11		On	Throttle position sensor
12		On	Intake air pressure sensor
13		On	Intake air temperature sensor
14		On	Water temperature sensor
21		On	Crankshaft sensor
25		On	Gear position sensor
31		On	Vehicle-down sensor
41		On	Fuel injector
46		On	Fuel pump
51		On	Ignition coil

Sensor & Device Failure

The DFI system has failure function to allow you to start the engine and ride at a minimum rate even if the DFI system has failed.

Failure location	Start	Riding
Throttle position sensor	Possible	Possible
Intake air pressure sensor	Possible	Possible
Intake air temperature sensor	Possible	Possible
Water temperature sensor	Possible	Possible
Crankshaft sensor	Impossible	Stop
Gear position sensor	Possible	Possible
Vehicle-down sensor	Impossible	Stop
Fuel injector	Impossible	Stop
Fuel pump	Impossible	Stop
Ignition coil	Impossible	Stop

For rider's safe and engine protection, engine start is impossible and engine is stopped while running if crankshaft sensor, vehicle-down sensor, fuel injector, fuel pump, and ignition coil failure detected.

Notes on Handling ECU

The Electronic Control Unit (ECU) is a precision electronic part. Be sure to handle it with care when carrying out maintenance.

- **Because the ECU is a precision part, do not drop or subject it to impact.**
- **Do not touch the ECU terminals.**
The electronic circuits may be damaged by the static charge.
- **Remove water, dust, mud and other substances from around the ECU connector before removing or installing the ECU.**
- **When installing the ECU, fully insert it into the slot until the ECU connector locks. Otherwise, the ECU operation may fail.**
- **Do not splash water under high pressure on the ECU connector for a long period of time.**
Otherwise, the ECU may fail to start or the ECU electronic parts may be damaged.

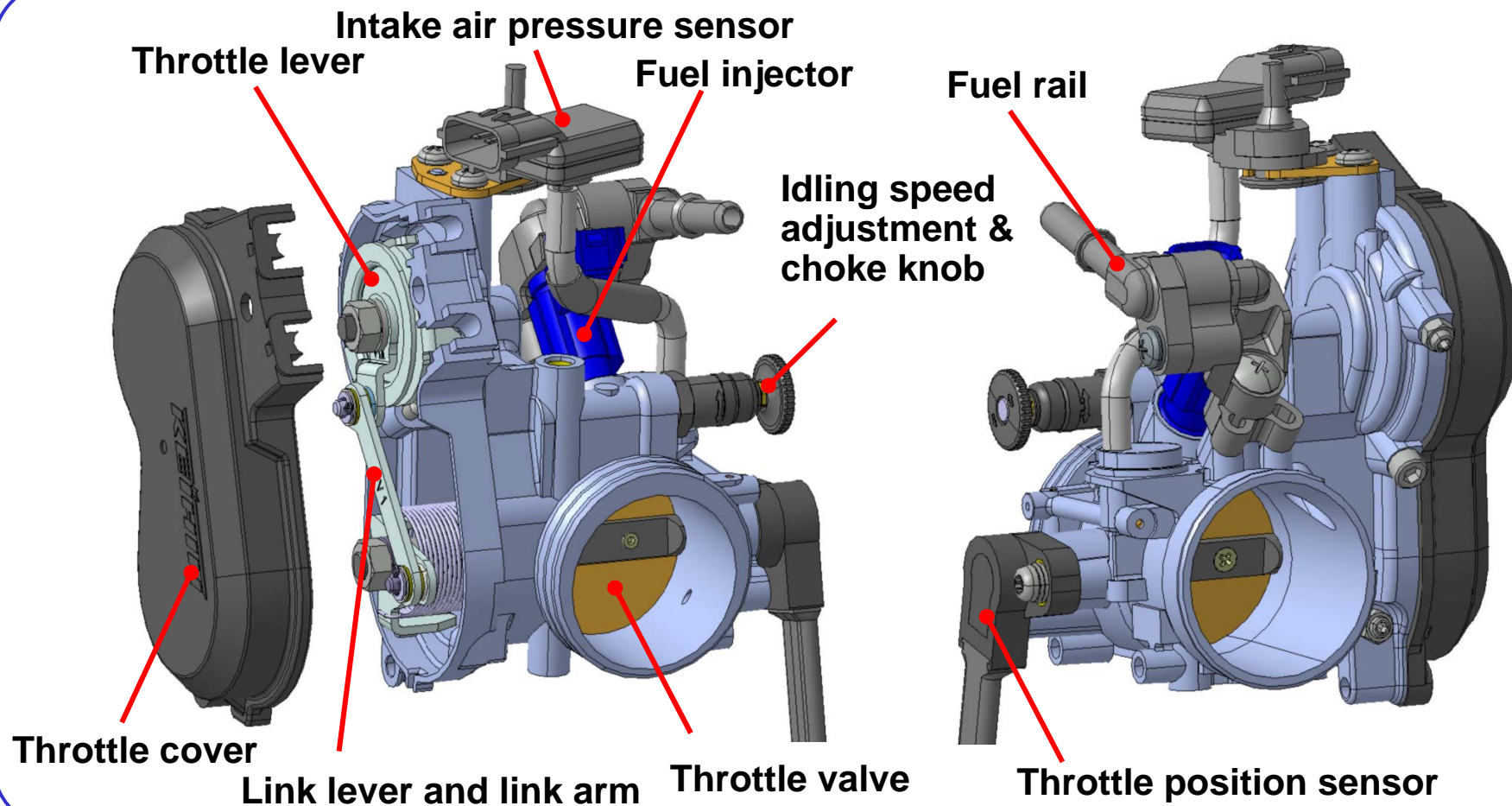
Features of Motocrosser DFI System

Throttle Body

Throttle Body Specifications

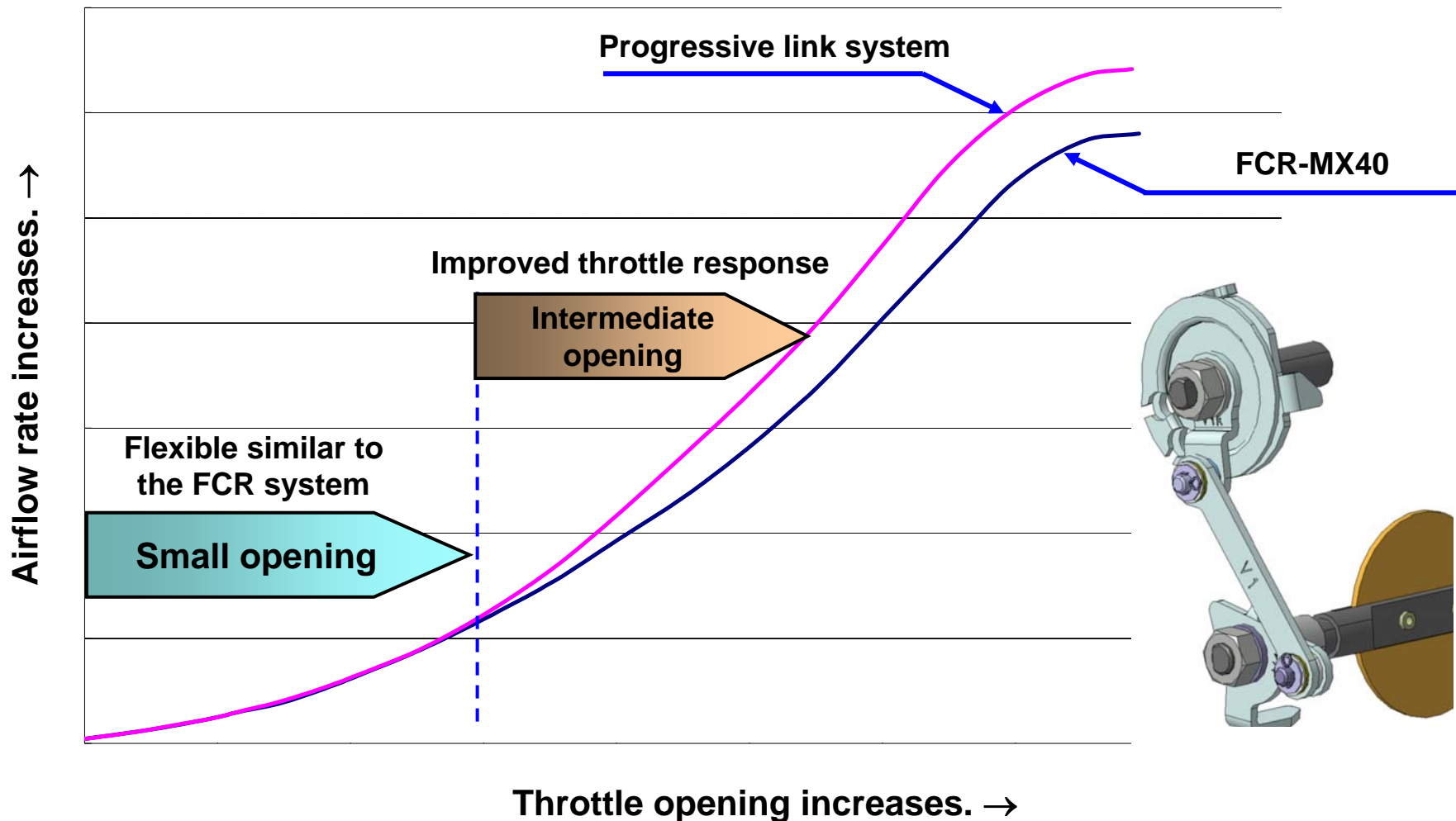
Dedicated design of motocrossers

- **Throttle control:** Uses the progressive link system.
- **Throttle bore:** 43 mm diameter
- **Reduced weight:** Approximately 600 g of throttle body (half of the carburetor system)



Features: Progressive Link

The new Progressive Link structure optimizes the intake airflow rate. The throttle operation is flexible when the valve opening is small, and the throttle quickly responds when the valve opening is intermediate (approximate 3/8).



Adjustment Functions: Idling speed adjustment, and cold starter

The throttle body has a bypass air tunnel separate from its main bore. It has:

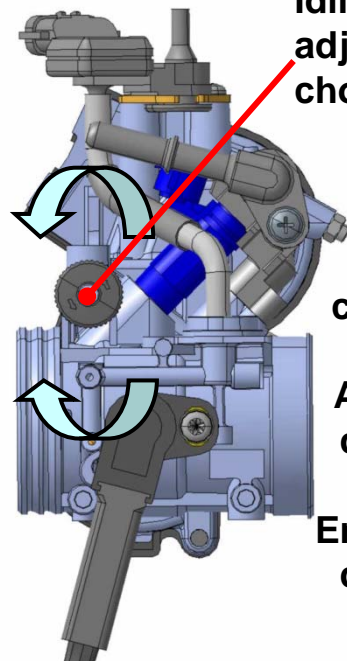
- ① Airflow rate adjustment function at idling speed, and
- ② Cold starter function.

① Airflow rate adjustment at idling speed

Rotate the control CCW.

Airflow rate increases.

↓
Engine speed increases.



Idling speed adjustment & choke knob

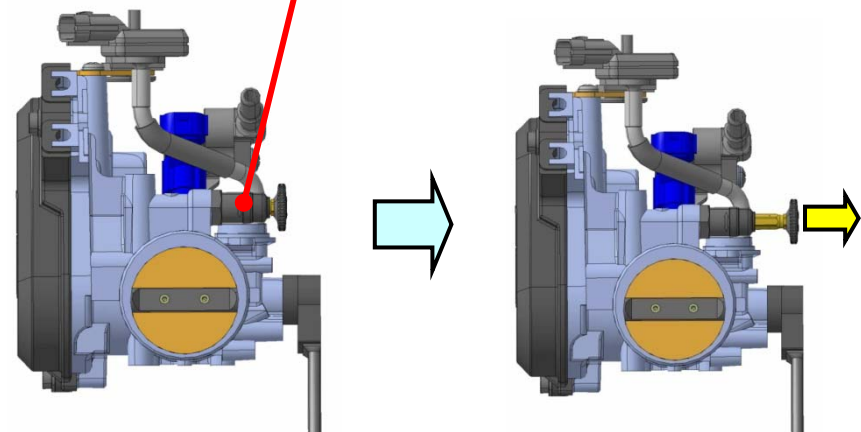
Rotate the control CW.

Airflow rate decreases.

↓
Engine speed decreases.

② Cold starter

Idling speed adjustment & choke knob



Pull out the control toward you.
→ It functions as the starter when the engine is cold. (Engine speed increases.)

Notes on Handling Throttle Body

The throttle body (system) is a precision electronic part. Be sure to handle it with care when carrying out maintenance.

- **Before removing or installing the throttle body, remove dust, mud and other substances from around the throttle body to prevent them from entering the throttle valve, throttle link lever, fuel pipe joint, and intake air pressure sensor of the fuel injector.**

- **Do not drop or subject the throttle body to impact.**

In particular, if the throttle lever or link lever is deformed or damaged, the throttle valve may fail to return smoothly. In the worst case, it may result in an accident.

Because the fuel injector, intake air pressure sensor, and throttle position sensor are high-precision parts, handle them with care.

- **Do not assemble, modify or process the throttle valve, link lever, throttle stopper and other parts except when specified to do so by the Service Manual.**
- **Use only genuine parts by following the instructions in the Service Manual when you replace parts.**

Throttle Body Checkpoints (1)

(1) Throttle and starter system

Parts	Checkpoint	Method	Requirements	Corrective actions
Throttle system	Operability	Check its operation.	The throttle operation must be smooth.	Replace the assembly.
Throttle valve	Appearance	Visual inspection	There must be no deformation or damage.	↑
Throttle lever	Appearance	Visual inspection	There must be no deformation or damage.	↑
Link arm	Appearance	Visual inspection	There must be no deformation or damage.	↑
Link lever	Appearance	Visual inspection	There must be no deformation or damage.	↑
Throttle cover	Appearance	Visual inspection	There must be no deformation or damage.	Replace it.
Idling speed adjustment and choke knob	Operability	Check its operation.	The throttle operation must be smooth.	↑

Throttle Body Checkpoints (2)

(2) Fuel system

Parts	Checkpoint	Method	Requirements	Corrective actions
Fuel rail	Appearance and air tightness	Visual inspection	There must be no cracks, damage or fuel leakages.	Replace it.

(3) Sensors

Parts	Checkpoint	Method	Requirements	Corrective actions
Intake air pressure sensor	Voltage	Output voltage	See the Service Manual.	Replace it.
	Appearance	Visual inspection	There must be no cracks or damage.	↑
Rubber pipe of intake air pressure sensor	Appearance	Visual inspection	There must be no cracks, damage or disconnected components.	↑
Throttle position sensor	Voltage	Output voltage	See the Service Manual.	↑
	Connector	Visual inspection	There must be no cracks, damage or disconnected components.	↑
	Harness	Visual inspection	There must be no cable damage/exposure or disconnection.	↑
	Appearance	Visual inspection	There must be no cracks or damage.	↑
Fuel injector	Resistance	Resistance between pins	See the Service Manual.	↑
	Appearance and air tightness	Visual inspection	There must be no cracks, damage or fuel leakages.	↑

- For the standard parts replacement and adjustment procedure, see the Service Manual.

Features of Motocrosser DFI System

Fuel Pump Module (FPM)

Fuel Pump Module (FPM) Specifications

Dedicated design of motocrossers

- Optimized layout of rubber cover and fuel return hose to allow constant fuel delivery
- Weight reduced by using plastic resin housing and aluminum body

**Plastic resin housing
(Holder)**

Rubber cover

Fuel return hose

Fuel pipe joint

Wire harness leads

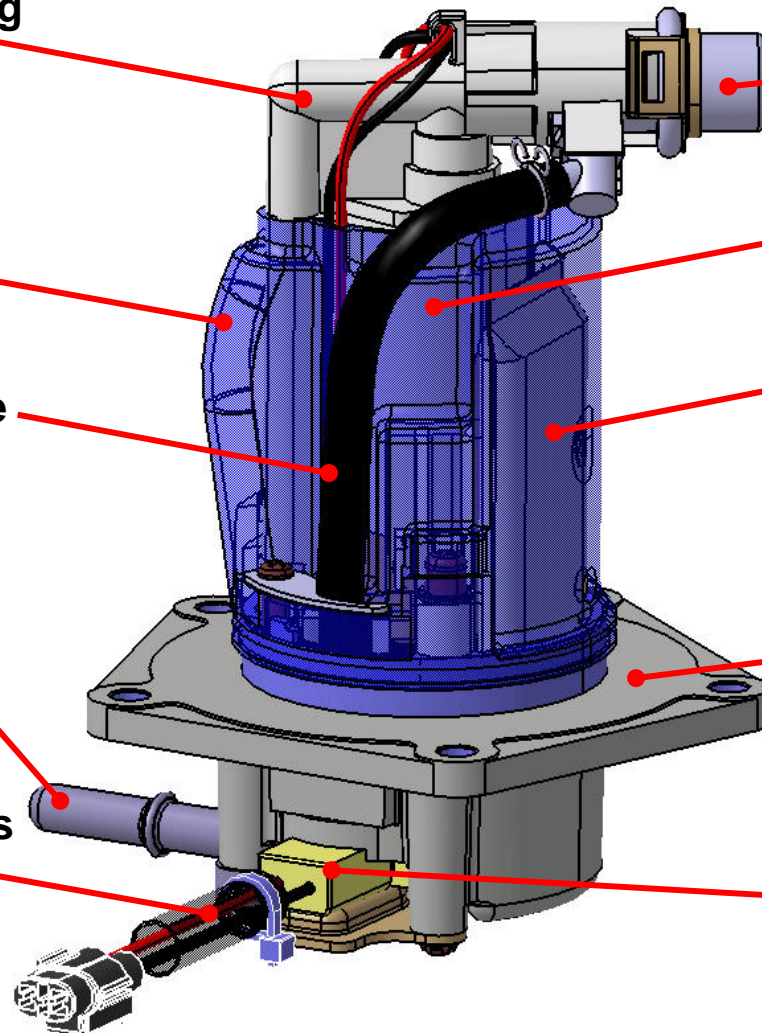
Pressure regulator

Fuel pump

Fuel filter

Aluminum body

Connector



Notes on Handling FPM

The Fuel Pump Module (FPM) is an important fuel delivery system component. Be sure to handle it with care when carrying out maintenance.

- **Before removing or installing the throttle body, remove dust, mud and other substances from around the throttle body to prevent them from entering the throttle valve, throttle link lever, fuel pipe joint, and intake air pressure sensor of the fuel injector.**
- **Do not disassemble the components (such as power terminals, plastic housing, pressure regulator, fuel pipe joint, and connectors).**
- **Do not drop or subject the FPM to impact.**
(When you have removed the fuel tank, do not let the fuel pipe joint come in contact with the ground.)
- **When you have removed the fuel hose, care not to let any foreign substances enter the fuel pipe.**
- **Do not carry the FPM by holding its wire harness.**
- **When you have removed the FPM from the fuel tank, do not leave it as it is.**
- **Ensure that no electricity is flowing when the fuel tank is empty.**
- **Replace the FPM by following the relevant procedure in the Service Manual.**

FPM Checkpoints (1)

(1) Performance and functions

Parts	Checkpoint	Method	Requirements	Corrective actions
Fuel pump	Discharging	Discharge rate	See the Service Manual.	Replace the assembly.
	Cable disconnection	Continuity check	The signal circuit must be conductive.	↑
Pressure regulator	Control pressure	Pressure measurement	See the Service Manual.	↑

(2) Air tightness

Parts	Checkpoint	Method	Requirements	Corrective actions
Connector	Appearance and air tightness	Visual inspection	There must be no cracks, damage or fuel leakages.	Replace the assembly.
Plastic fuel pipe joint	Appearance and air tightness	Visual inspection	There must be no cracks, damage or fuel leakages.	↑
Plastic resin housing (Holder)	Appearance and air tightness	Visual inspection	There must be no cracks, damage or fuel leakages.	↑
Aluminum body	Appearance	Visual inspection	There must be no cracks, damage or fuel leakages.	↑
	O-ring seat	Visual inspection	There must be no cracks, dents or fuel leakages.	↑

FPM Checkpoints (2)

(3) Appearance

Parts	Checkpoint	Method	Requirements	Corrective actions
Wire harness leads	Appearance	Visual inspection	There must be no cable damage/exposure or disconnection.	Replace the assembly.
Rubber cover	Appearance	Visual inspection	There must be no cracks or damage.	↑

- For the standard FPM replacement procedure, see the Service Manual.

5. Detailed Specifications (Frame)

Frame

Modifications from '10 KX450EAF to '11 KX450EBF

- S: '11→'10 interchangeable as a set
- O: '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Frame

KX450E

Part name

'10 part #

'11 part #

Modifications

1

2

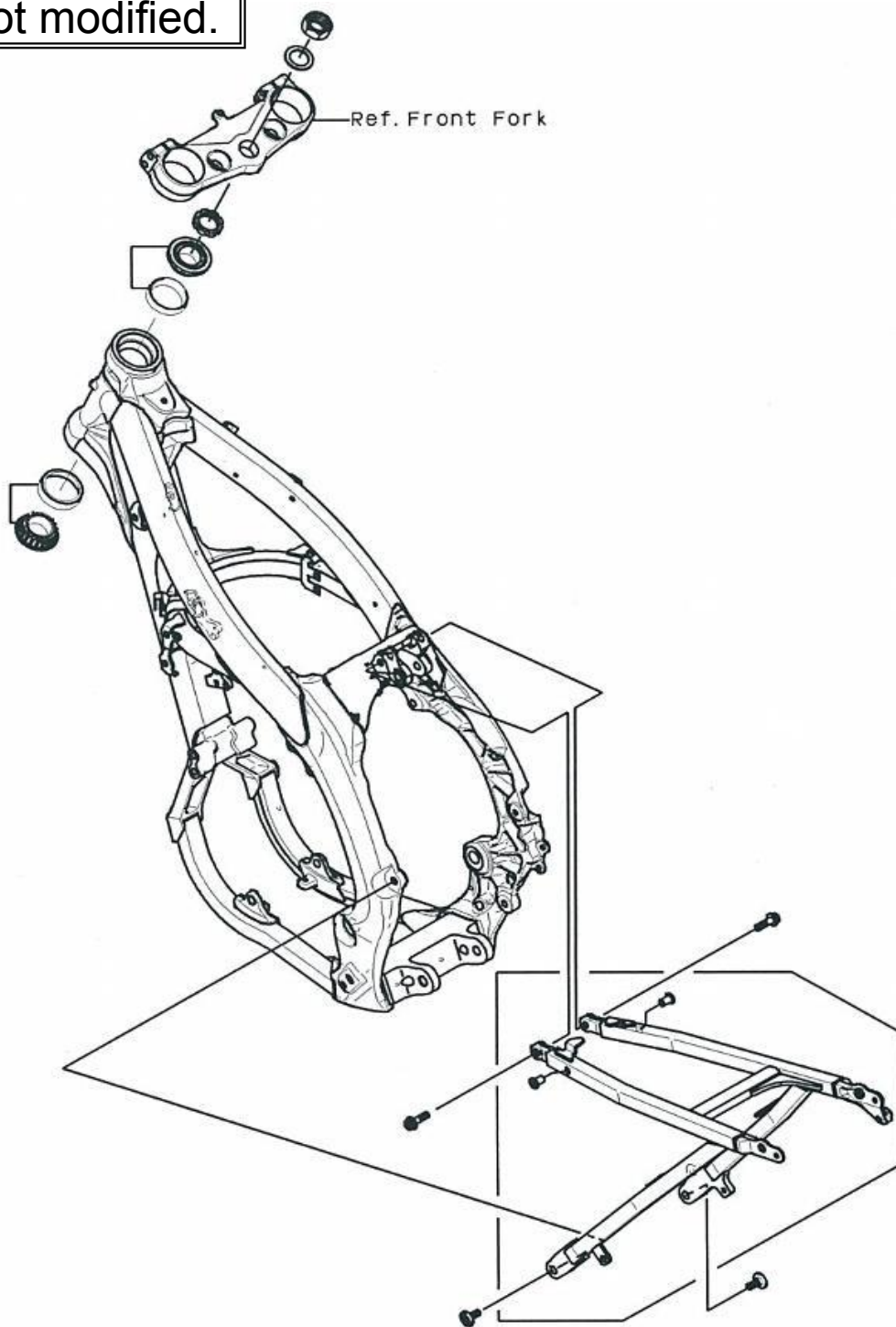
3

Inter-change

Not modified.

FRONT

Ref. Front Fork



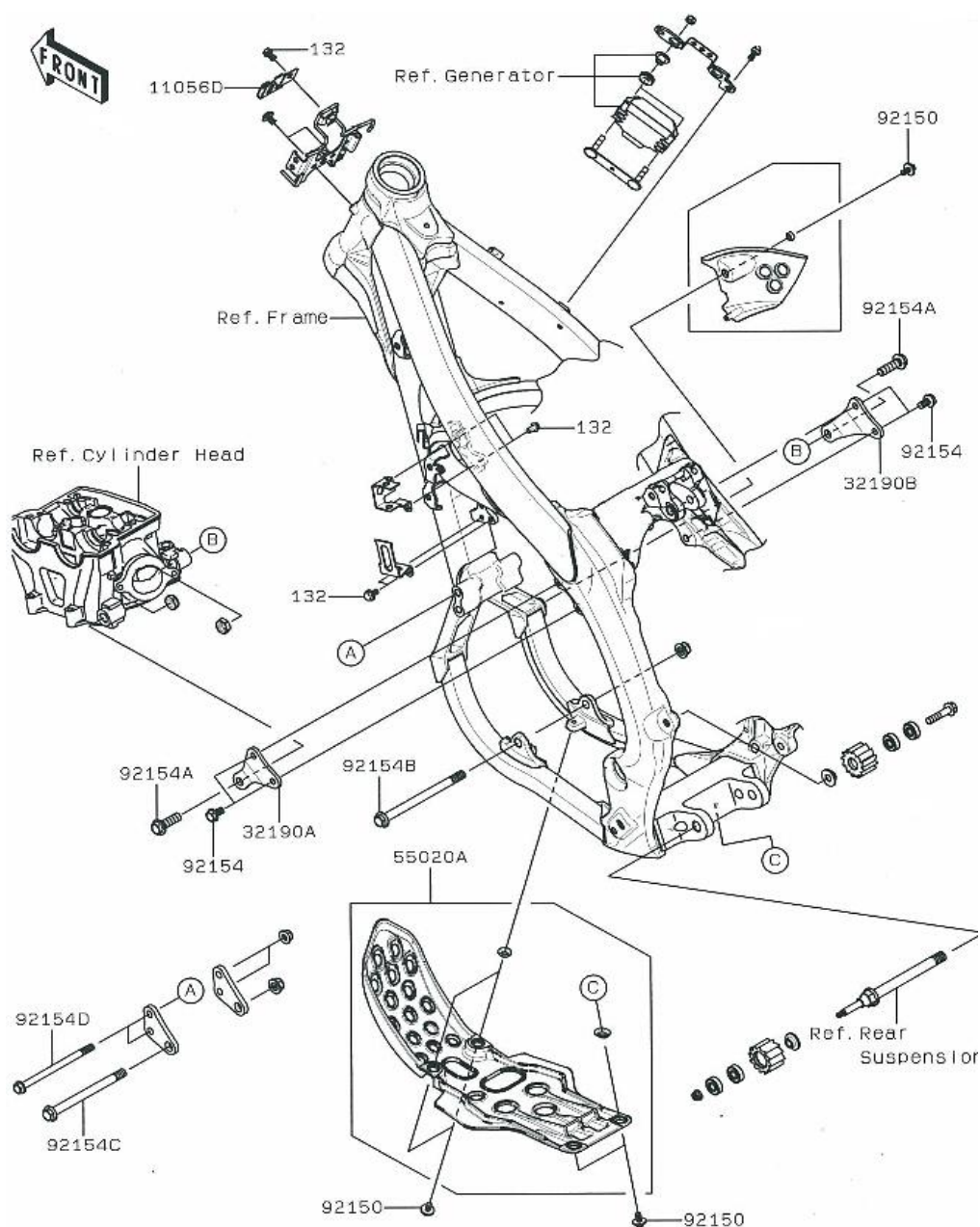
Frame fittings

Modifications from '10 KX450EAF to '11 KX450EBF

O S: '11→'10 interchangeable as a set
 O: '11→'10 interchangeable
 3: Others
 2: Reliability improvement
 1: Performance improvement

Frame KX450E

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Engine bracket, upper, LH	32190-0387	32190-0463	The material and thickness have been changed.: From aluminum t8 to iron t4.5	O			O S
Engine bracket, upper, RH	32190-0388	32190-0464	The material and thickness have been changed.: From aluminum t8 to iron t4.5	O			O S
Bolt, upper M8	130CA0818	92154-0380	From M8 x 18 to M8 x 14	O			O S
Bolt, upper M10	92153-0802	92154-0381	From M10 x 35 to M10 x 32	O			O S
Bolt, M6 x 10	92151-1233	132BA0610	The surface treatment has been changed.			O	O
Bolt, M6 x 12	92153-0503	92150-1435	↑			O	O
Blot, lower M10	92153-0704	92154-0522	↑			O	O
Blot, front M10	92154-0173	92154-0523	↑			O	O
Blot, front M8	92154-0174	92154-0524	↑			O	O



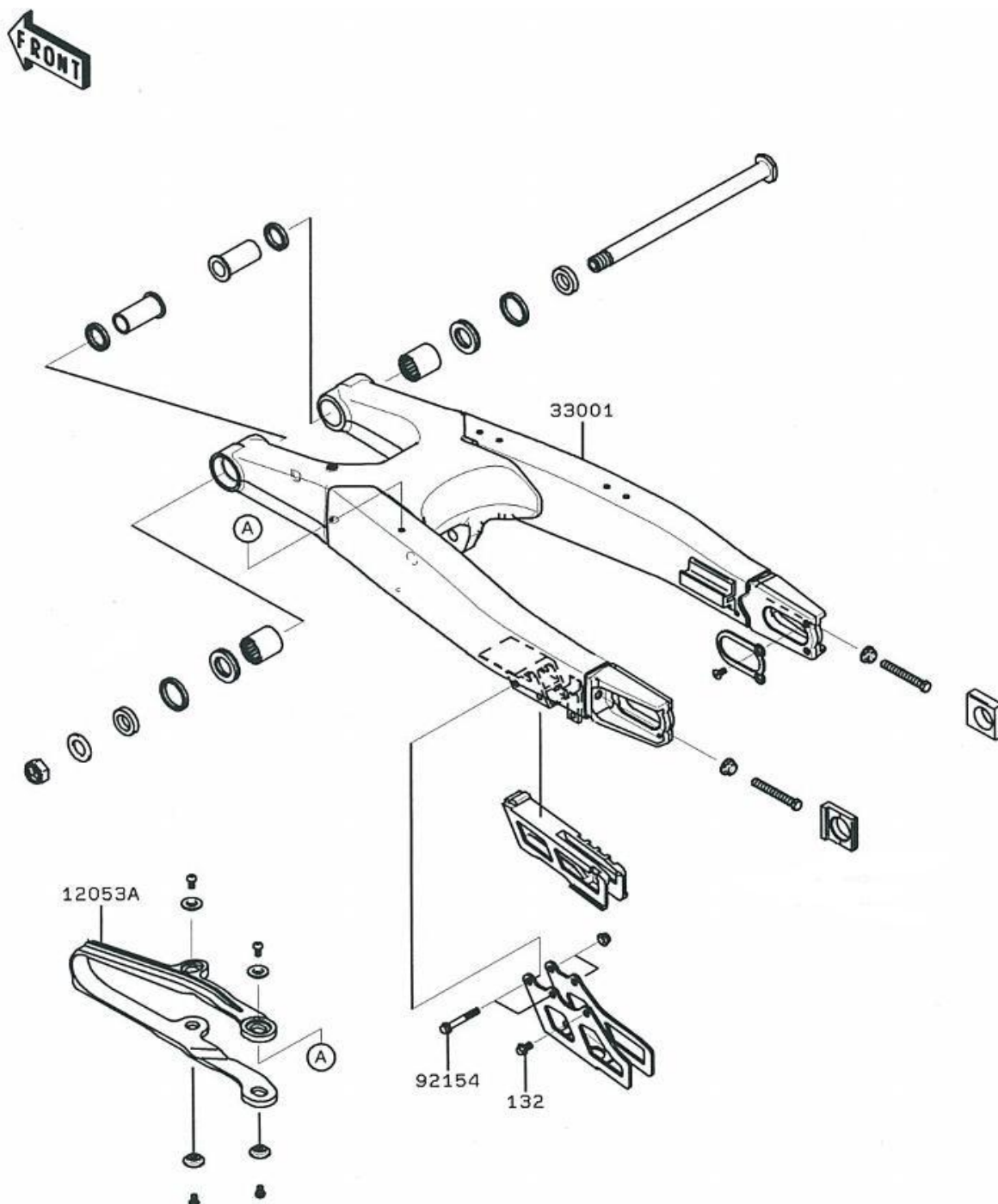
Swingarm

Modifications from '10 KX450EAF to '11 KX450EBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame	KX450E
-------	--------

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Swingarm comp	33001-0198	33001-0245	The caliper bracket has been reshaped.			○	○
Guide (chain)	12053-0160	12053-0178	The durability has been improved.		○		○
Bolt, M6 x 42	92154-0130	92154-0511	The surface treatment has been changed.			○	○
Bolt, M6 x 10	92151-1233	132BA0610	↑			○	○



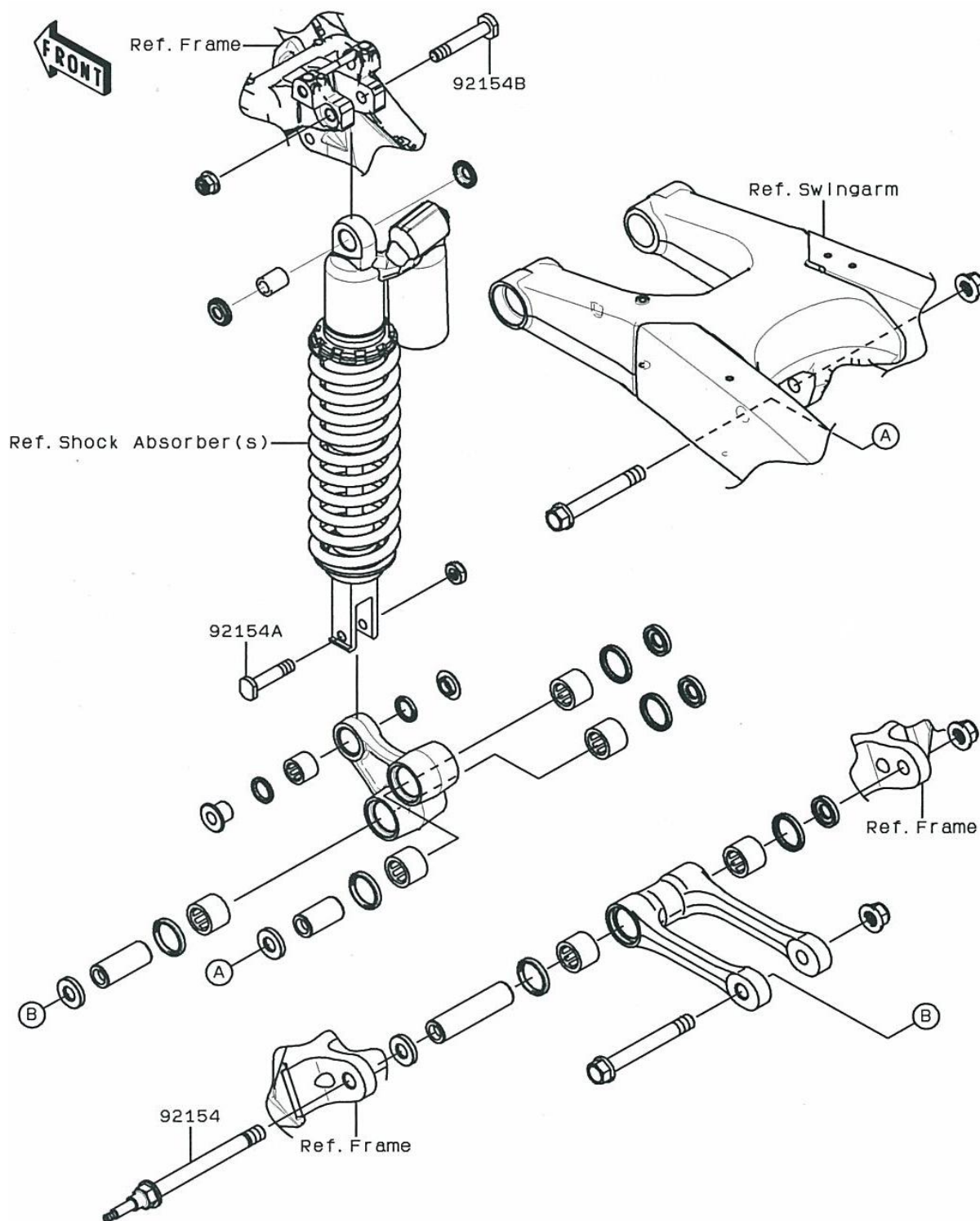
Suspension

Modifications from '10 KX450EAF to '11 KX450EBF

O S: '11→'10 interchangeable as a set
 O: '11→'10 interchangeable
 3: Others
 2: Reliability improvement
 1: Performance improvement

Frame KX450E

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Bolt, shock absorber	92153-1386	92154-0513	The surface treatment has been changed.			○	×
Bolt, shock lower	92153-0937	92154-0512	↑			○	×
Bolt, tie-rod	92154-0106	92154-0394	↑			○	×



Foot rest

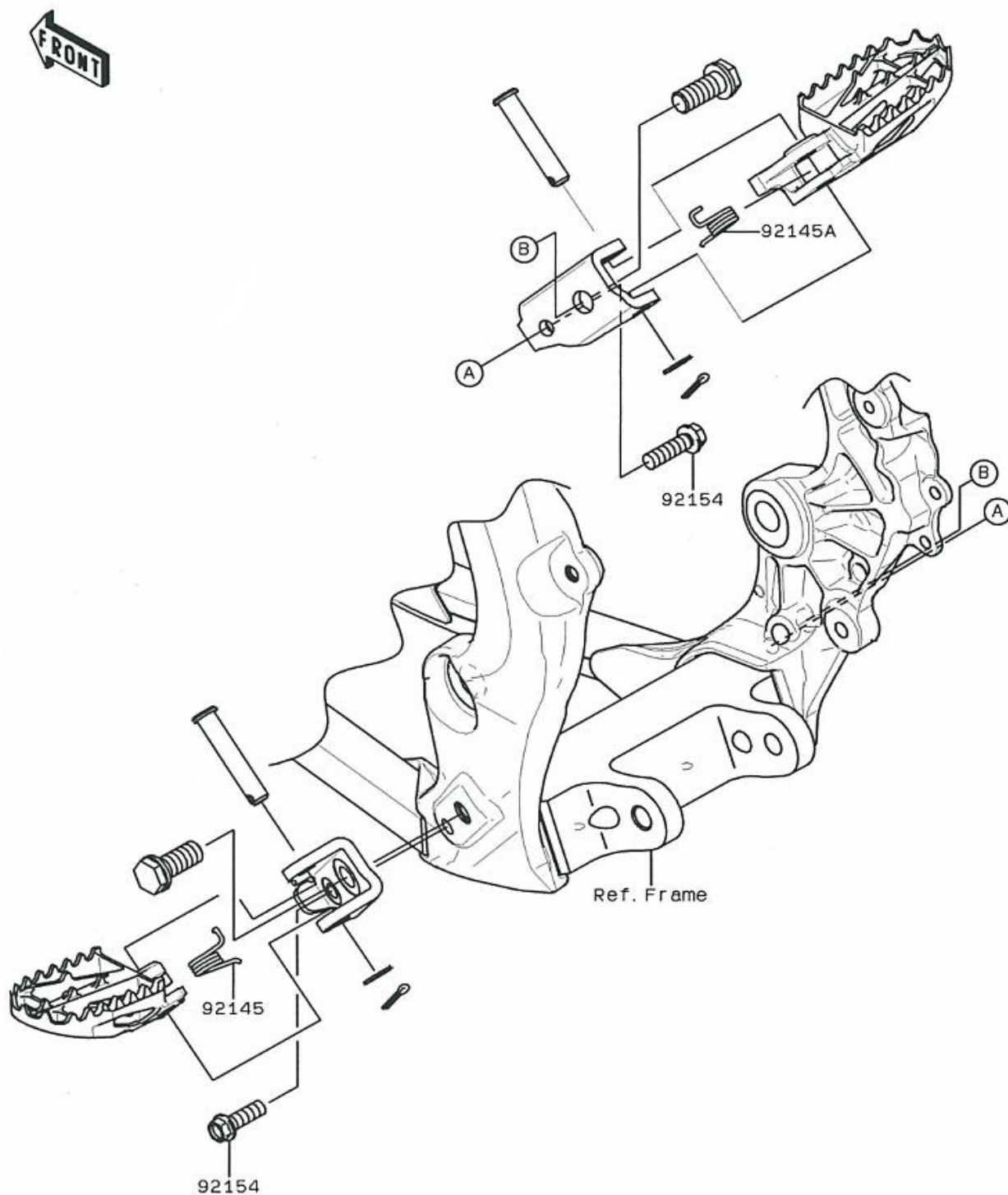
Modifications from '10 KX450EAF to '11 KX450EBF

- S: '11→'10 interchangeable as a set
- O: '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Frame

KX450E

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Bolt, M8	92153-0838	92154-0515	The surface treatment has been changed.			○	×
Spring, LH	92145-0198	92145-0800	↑			○	×
Spring, RH	92145-0199	92145-0801	↑			○	×



Fender

Modifications from '10 KX450EAF to '11 KX450EBF

Frame

KX450E

- S: '11→'10 interchangeable as a set
- : '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Part name

'10 part #

'11 part #

Modifications

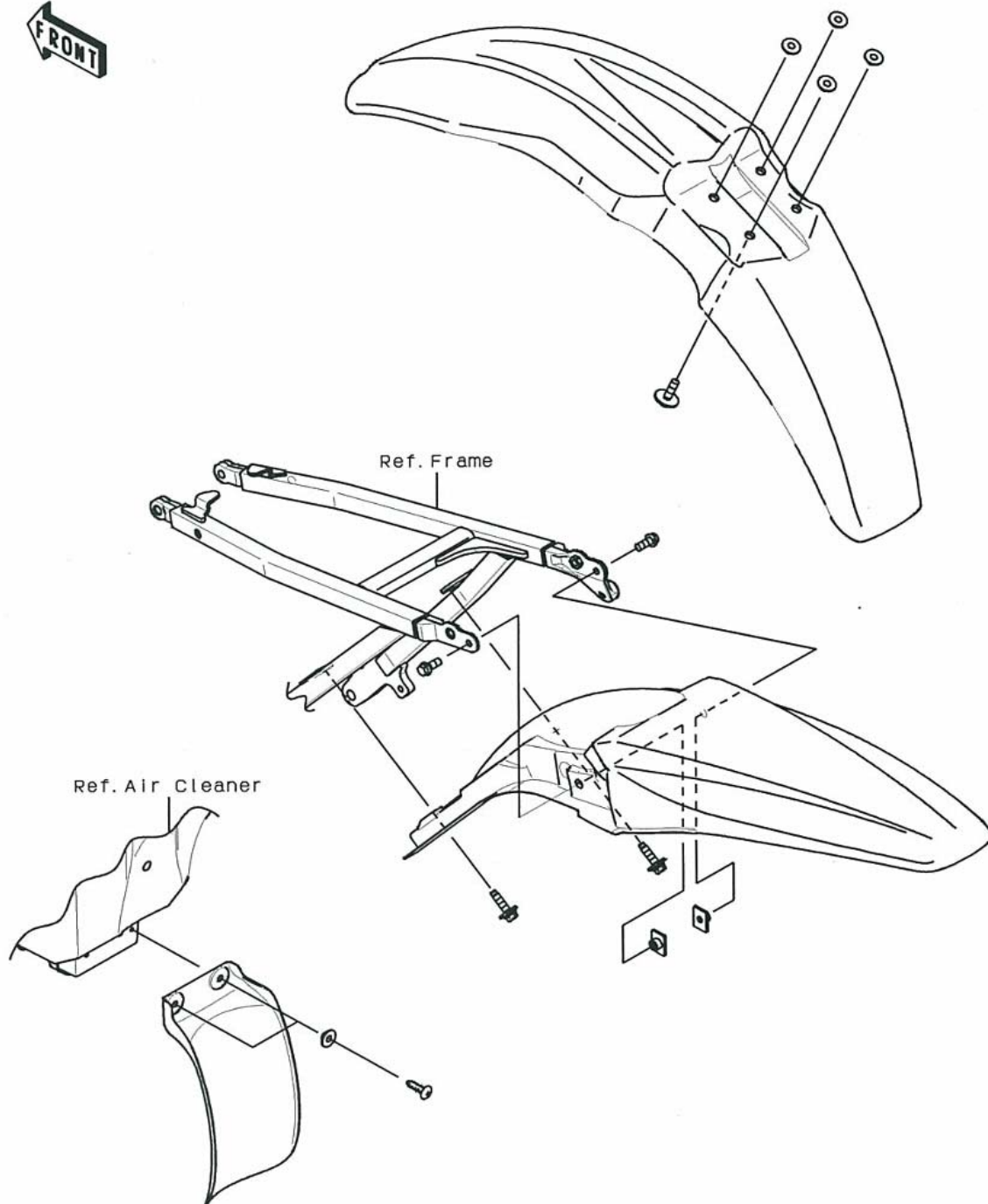
1

2

3

Inter-change

Not modified.



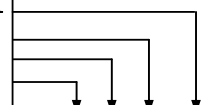
Stand

Modifications from '10 KX450EAF to '11 KX450EBF

Frame

KX450E

- S: '11→'10 interchangeable as a set
- : '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement



Part name

'10 part #

'11 part #

Modifications

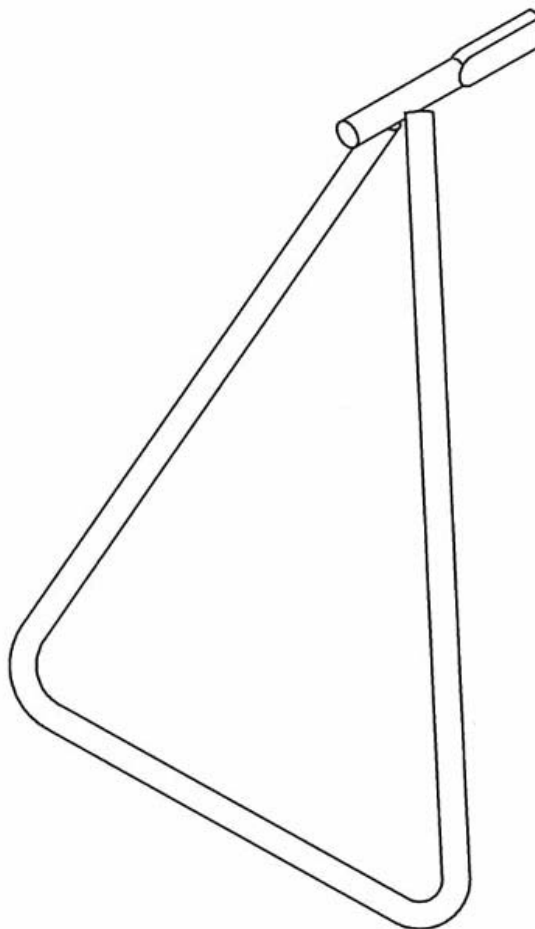
1

2

3

Inter-change

Not modified.



Wheel, tire

Modifications from '10 KX450EAF to '11 KX450EBF

- S: '11→'10 interchangeable as a set
- O: '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Frame

KX450E

Part name

'10 part #

'11 part #

Modifications

1

2

3

Inter-change



Not modified.

(STEEL)

(OPTION)

(OPTION)

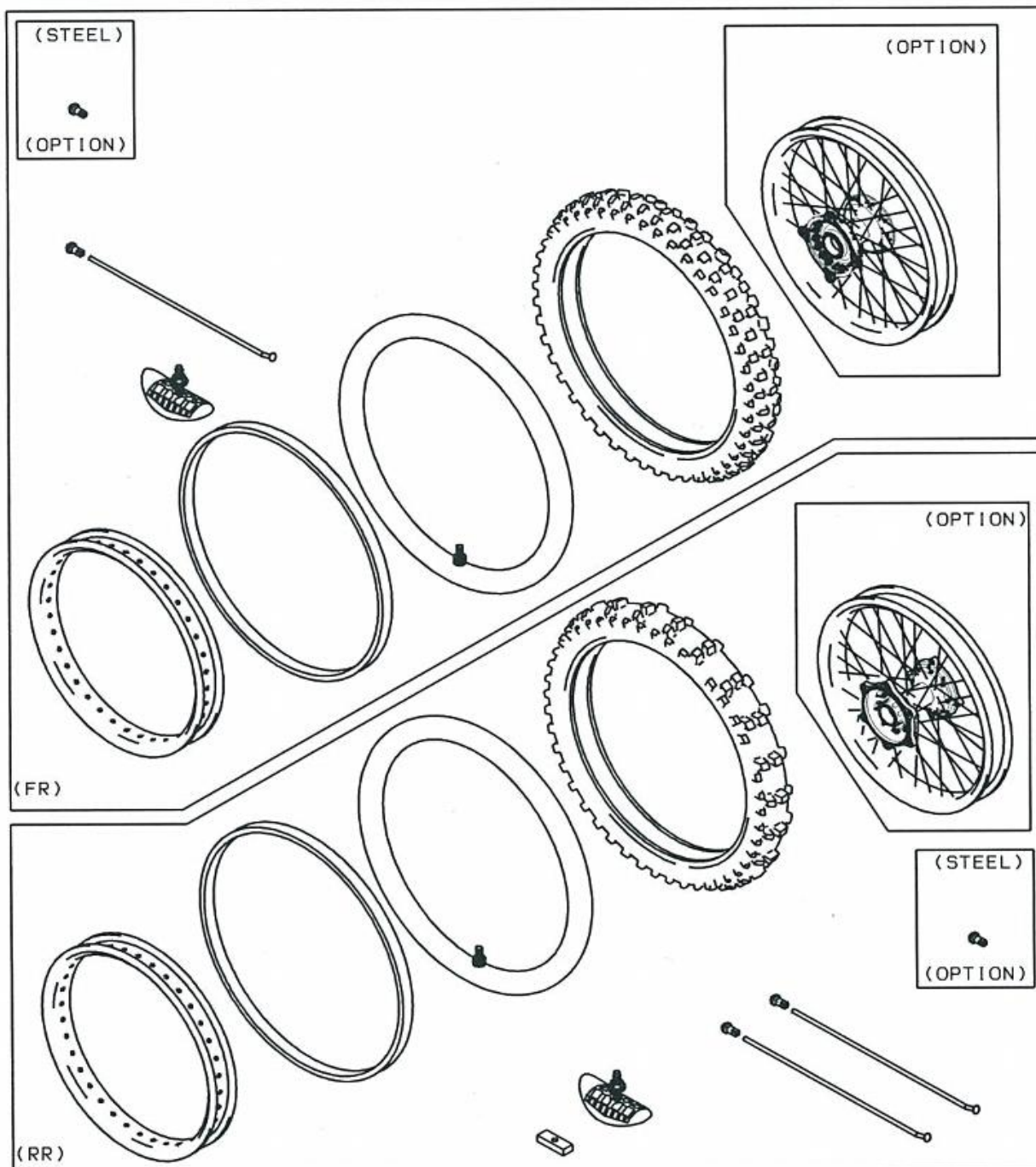
(FR)

(OPTION)

(STEEL)

(OPTION)

(RR)



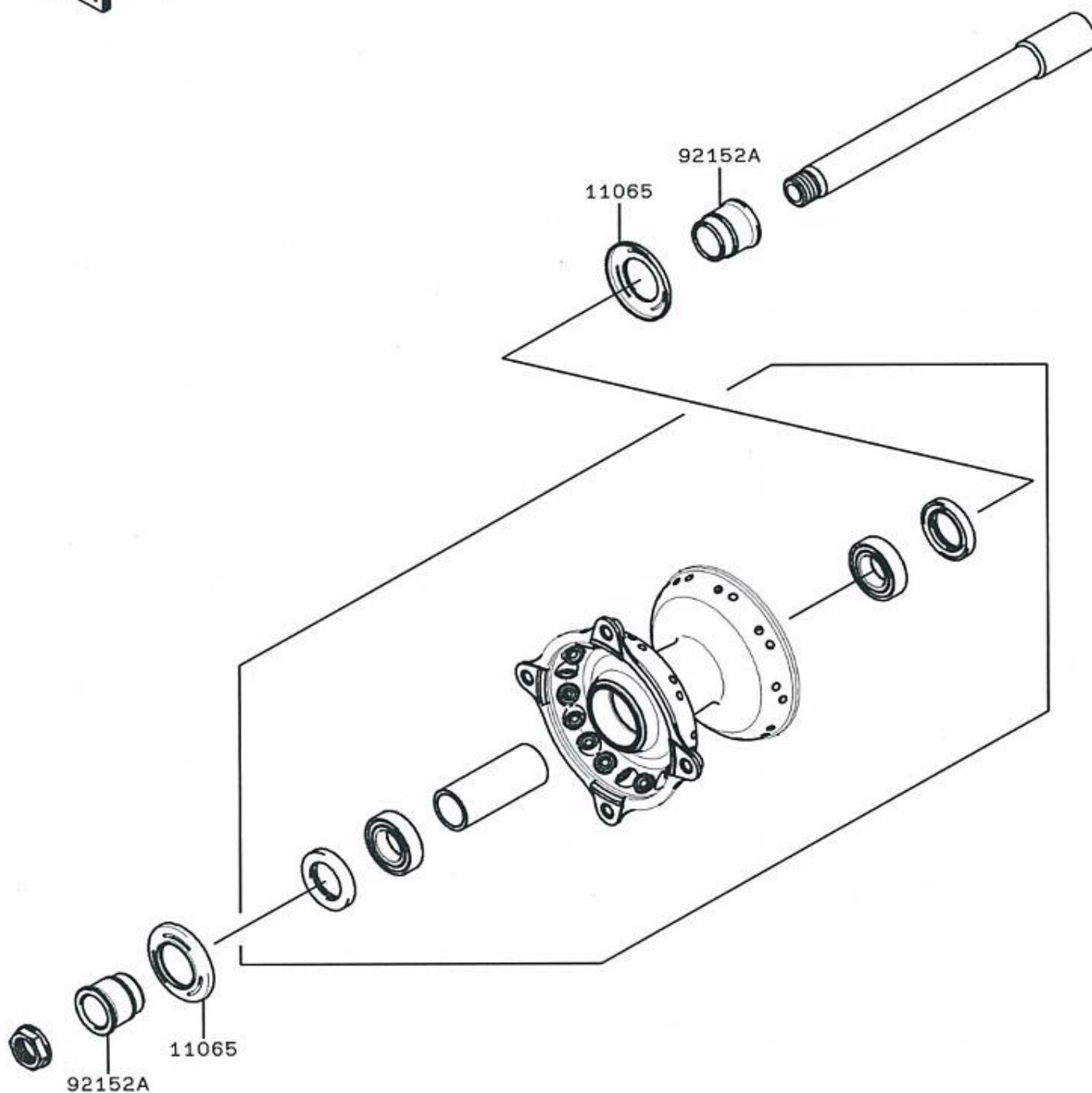
Front hub

Modifications from '10 KX450EAF to '11 KX450EBF

Frame KX450E

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Collar	92152-0324	92152-0845	Reshaped: Outer diameter has been changed from 25-mm to 27.5 mm.	○			×
Cap	11012-1581	11065-0350	Redesigned: Inner diameter has been changed from 25-mm to 27.5 mm.			○	×



Rear hub & chain

Modifications from '10 KX450EAF to '11 KX450EBF

- S: '11→'10 interchangeable as a set
- O: '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Frame KX450E

Part name

'10 part #

'11 part #

Modifications

1

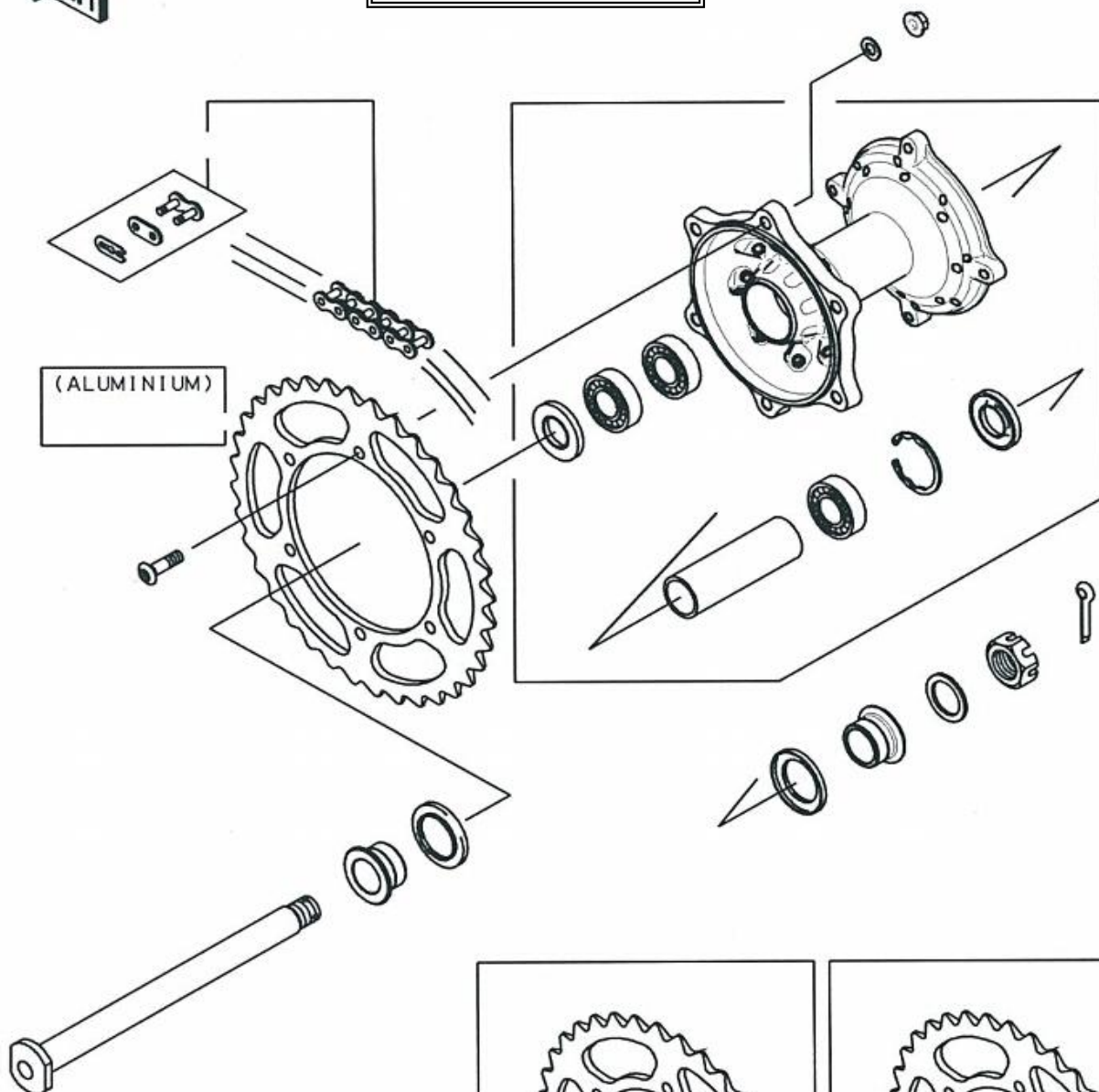
2

3

Inter-change



Not modified.



(OPTION)
(ALUMINIUM)

(OPTION)
(STEEL)

Pedal

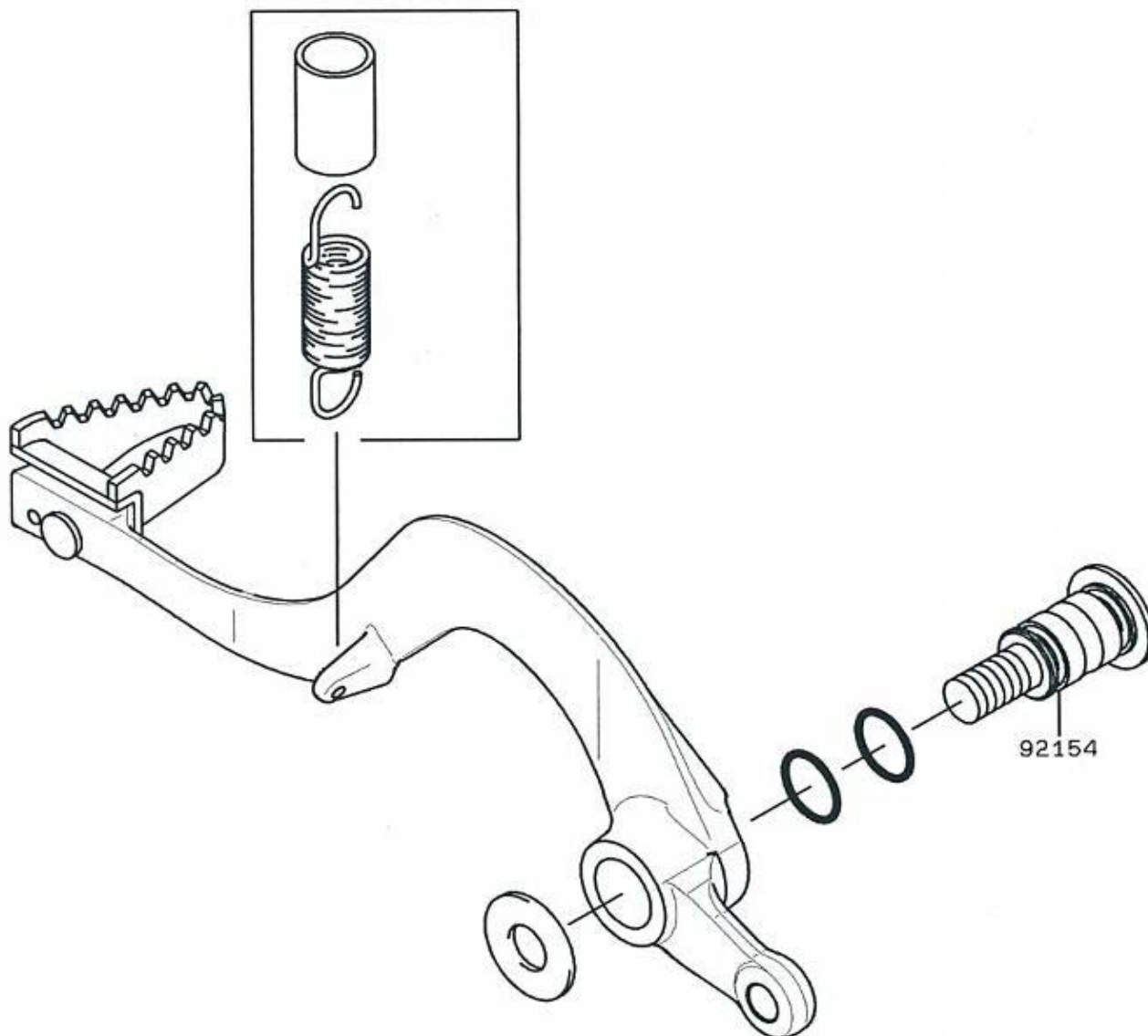
Modifications from '10 KX450EAF to '11 KX450EBF

- S: '11→'10 interchangeable as a set
- : '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Frame

KX450E

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Bolt, M10	92153-0974	92154-0516	The surface treatment has been changed.			○	○



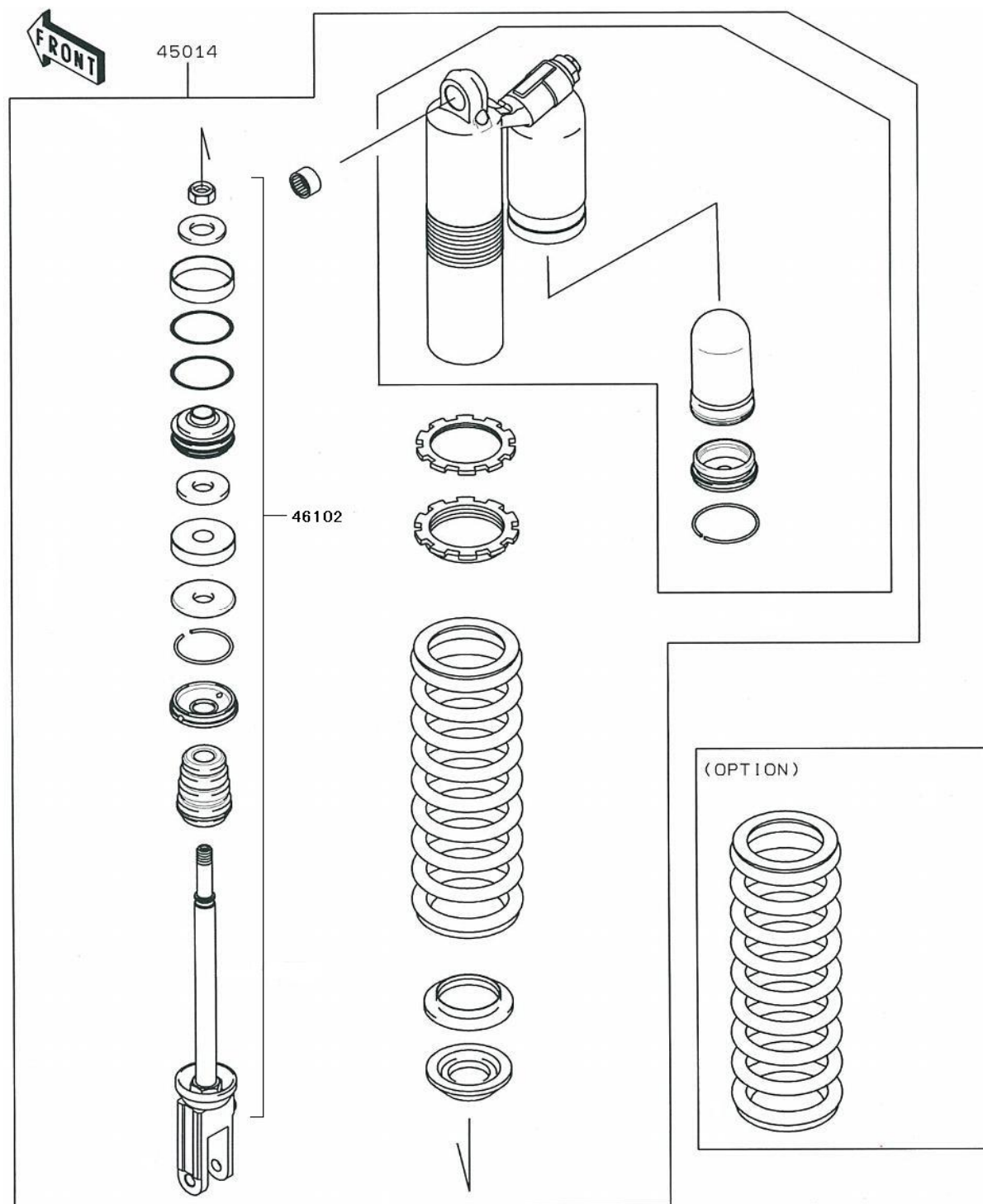
Shock absorber

Modifications from '10 KX450EAF to '11 KX450EBF

- S: '11→'10 interchangeable as a set
- : '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Frame	KX450E
-------	--------

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Shock absorber	45014-0295	45014-0329	The valve specifications and comp ADJ alumite color have been changed (JPN).	○			○
Rod	46102-0147	46102-0155	The valve specifications have been changed (JPN).	○			○



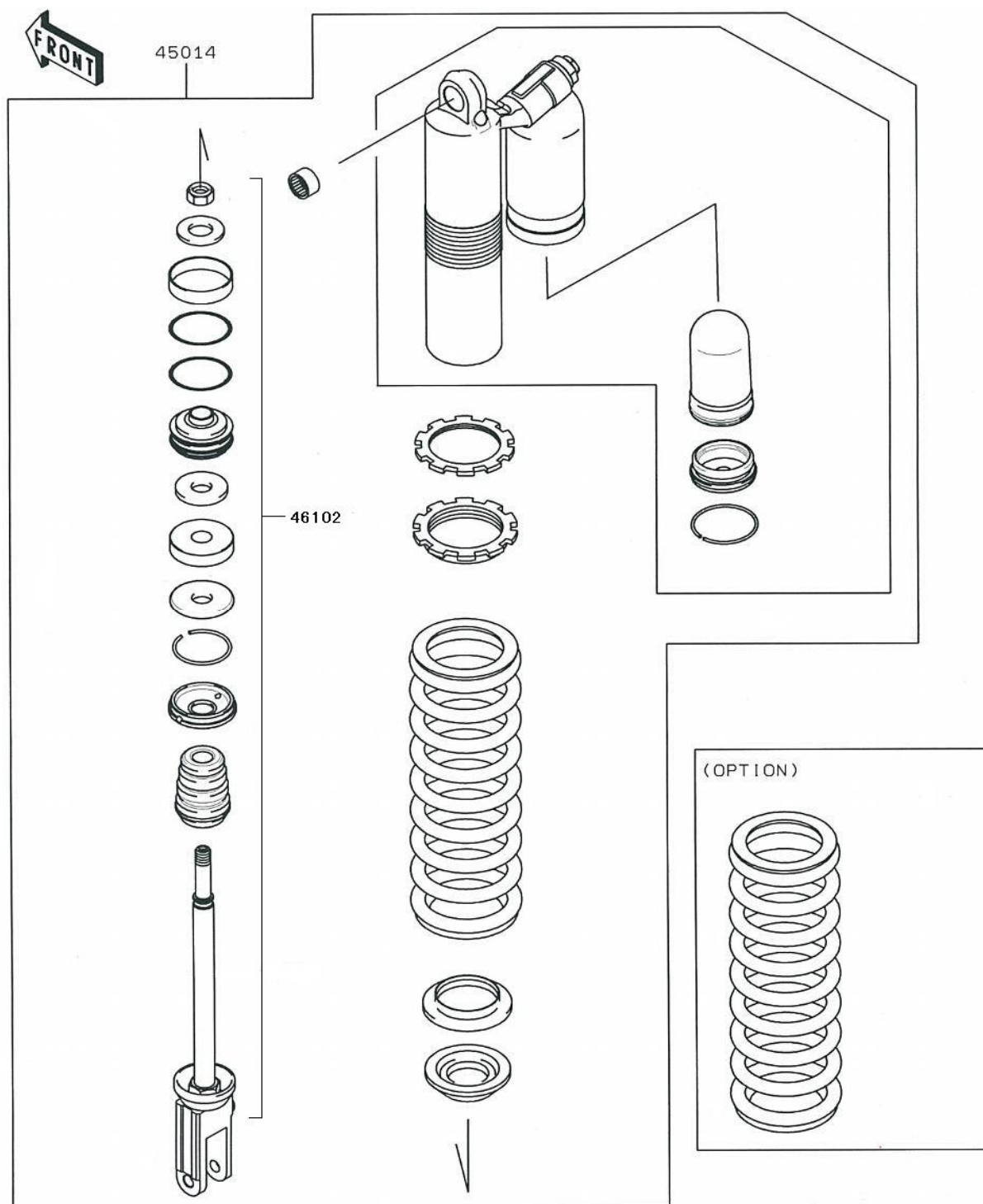
Shock absorber

Modifications from '10 KX450EAF to '11 KX450EBF

○ S: '11→'10 interchangeable as a set
 ○ O: '11→'10 interchangeable
 3: Others
 2: Reliability improvement
 1: Performance improvement

Frame KX450E

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Shock absorber	45014-0295	45014-0310	The valve specifications and comp ADJ alumite color have been changed (US/CN/AU).	○			○
Rod	46102-0147	46102-0155	The valve specifications have been changed (US/CN/AU).	○			○



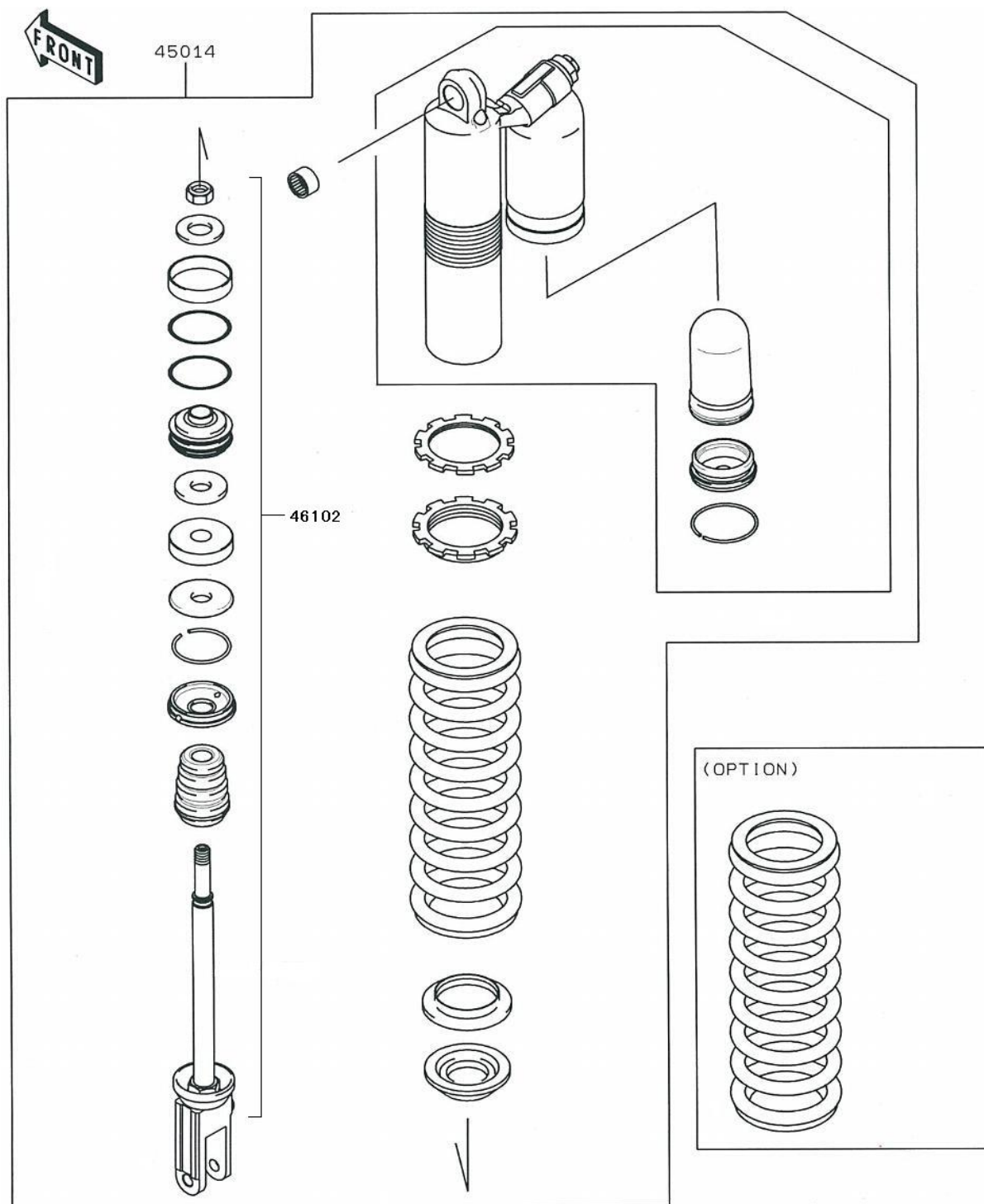
Shock absorber

Modifications from '10 KX450EAF to '11 KX450EBF

- S: '11→'10 interchangeable as a set
- : '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Frame	KX450E
-------	--------

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Shock absorber	45014-0296	45014-0328	The valve specifications and comp ADJ alumite color have been changed (EU/BR).	○			○
Rod	46102-0150	46102-0563	The valve specifications have been changed (EU/BR).	○			○



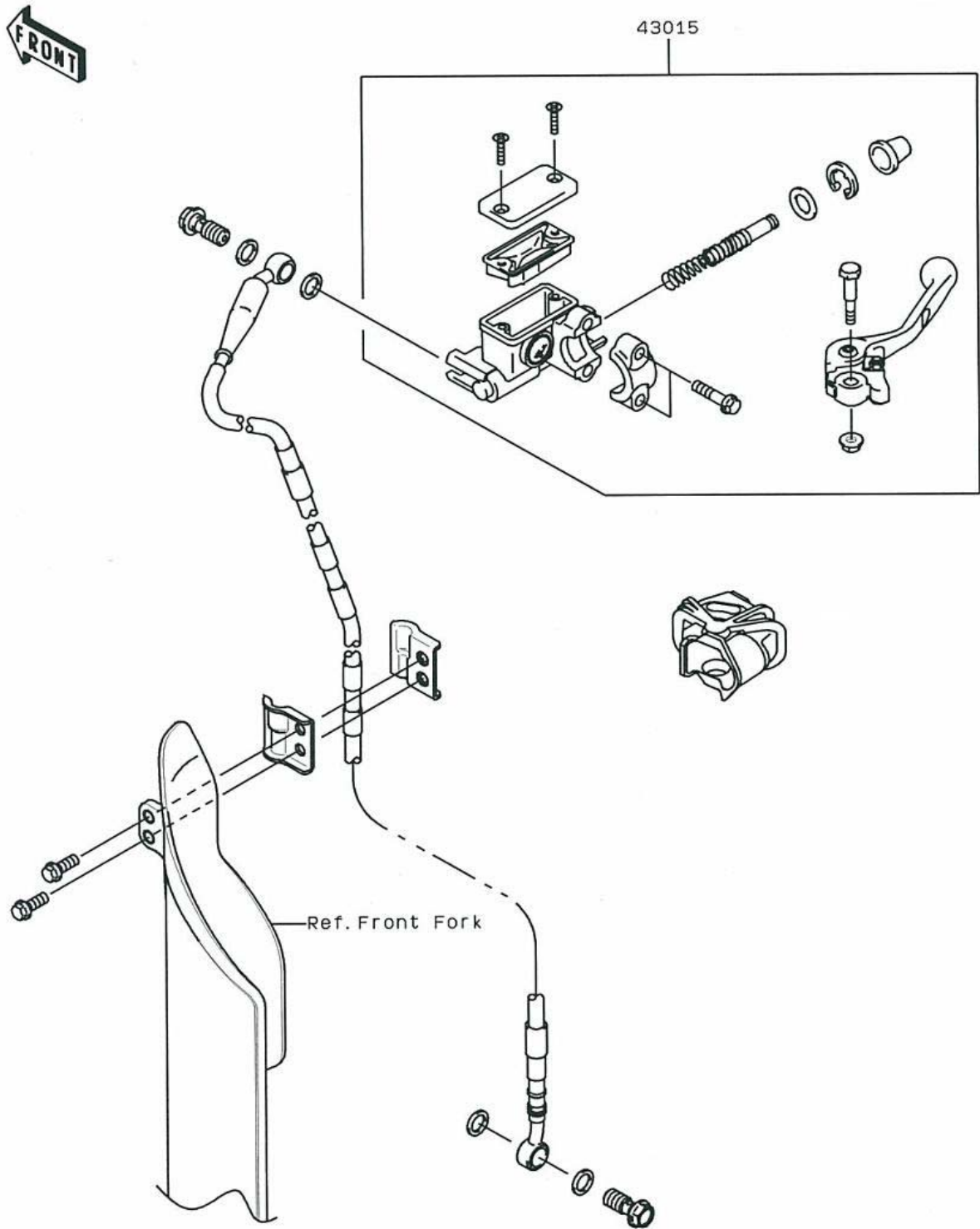
Front master cylinder

Modifications from '10 KX450EAF to '11 KX450EBF

Frame	KX450E
-------	--------

- S: '11→'10 interchangeable as a set
○ : '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Cylinder (master)	43015-0155	43015-0167	The body anticorrosion treatment has been changed.			○	○



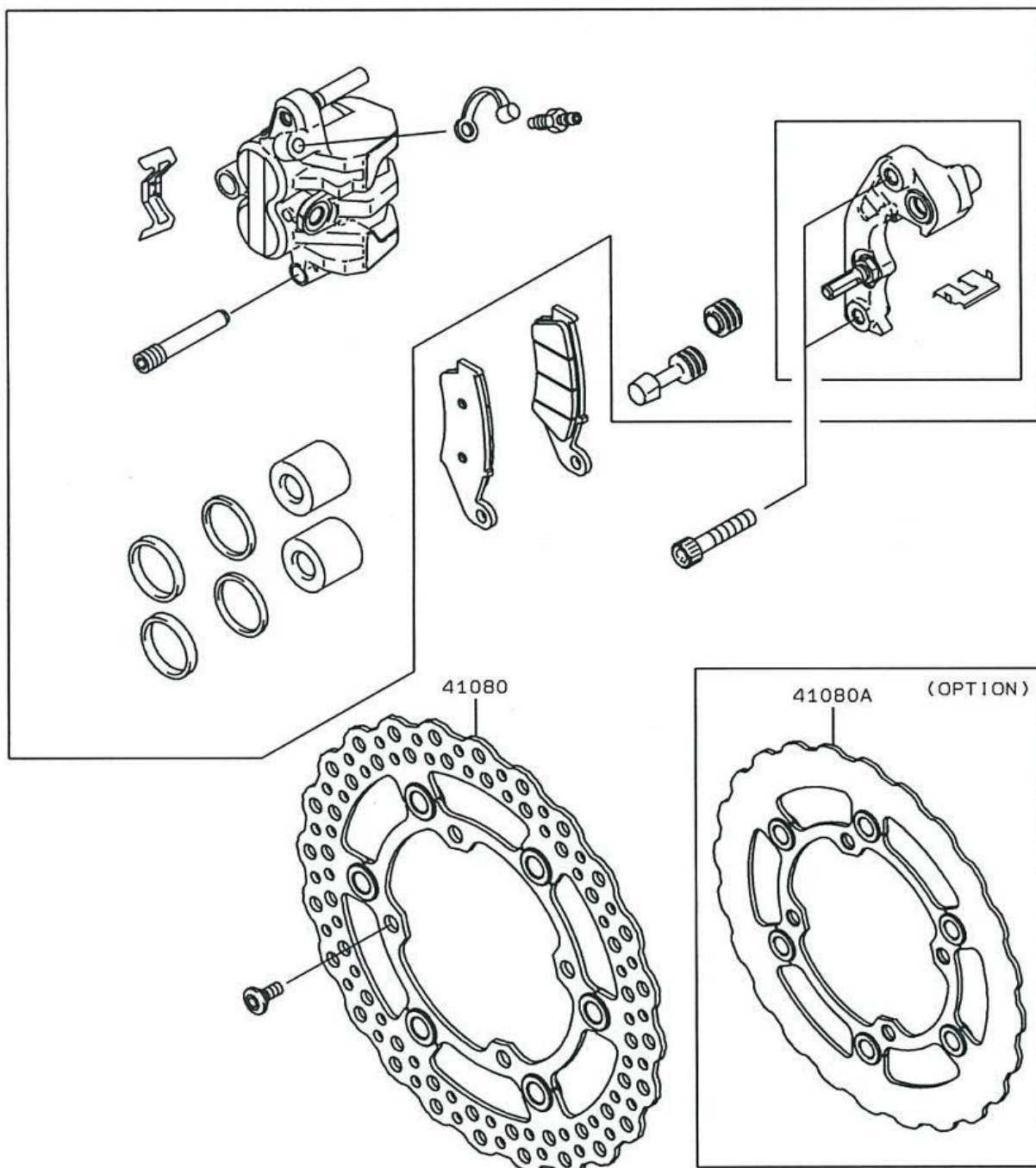
Front brake

Modifications from '10 KX450EAF to '11 KX450EBF

- S: '11→'10 interchangeable as a set
- : '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Frame KX450E

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Disc	41080-0090	41080-0192	Reshaped, outer shape			○	○
Disc (optional)	41080-0082	41080-0193	↑			○	○



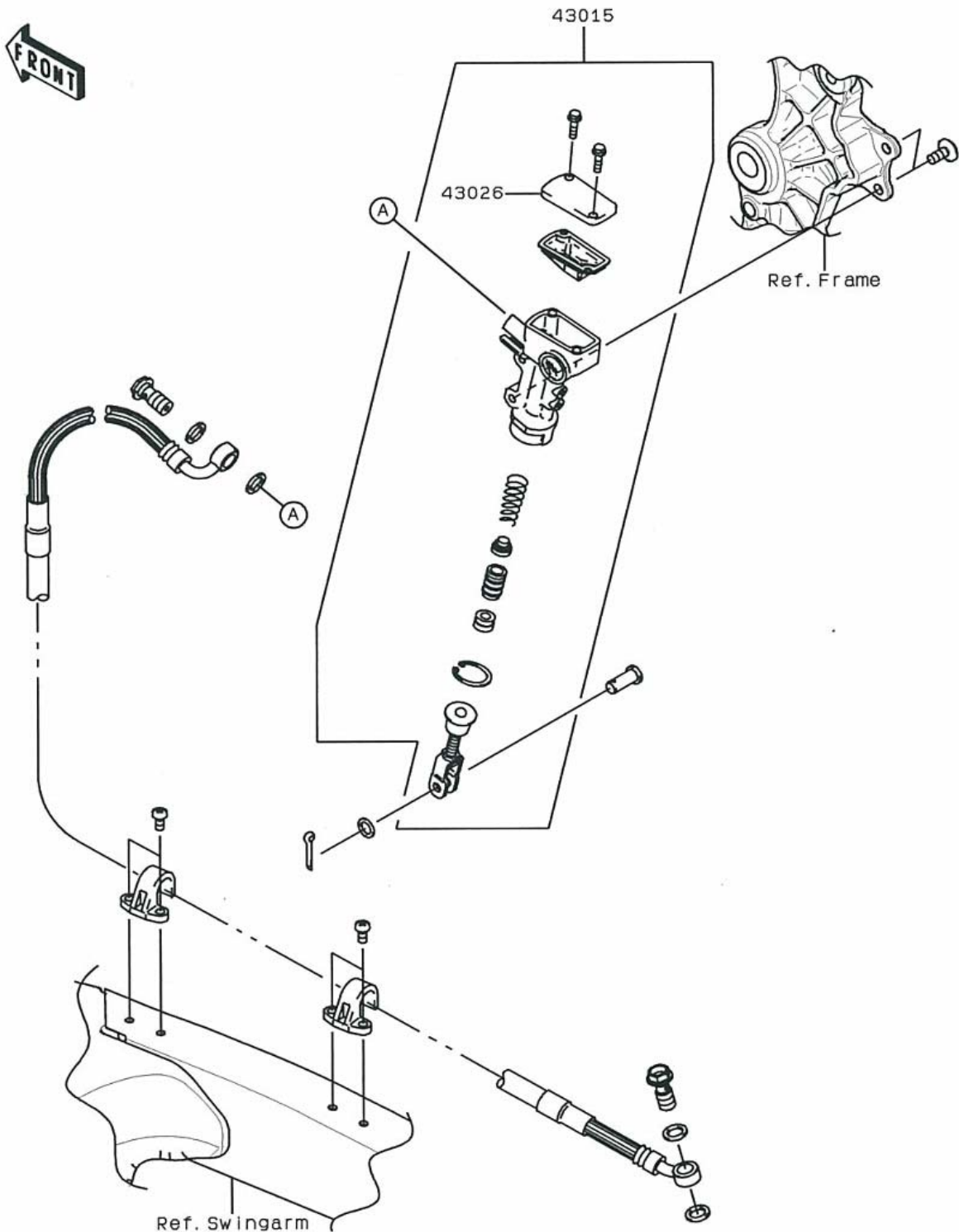
Rear master cylinder

Modifications from '10 KX450EAF to '11 KX450EBF

Frame	KX450E
-------	--------

- S: '11→'10 interchangeable as a set
- O: '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Cylinder assembly (master)	43015-0142	43015-0168	The cap anticorrosion treatment has been changed.			○	○
Cap (brake)	43026-0008	43026-0023	↑			○	○



Rear brake

Modifications from '10 KX450EAF to '11 KX450EBF

- S: '11→'10 interchangeable as a set
- : '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Frame

KX450E

Part name

'10 part #

'11 part #

Modifications

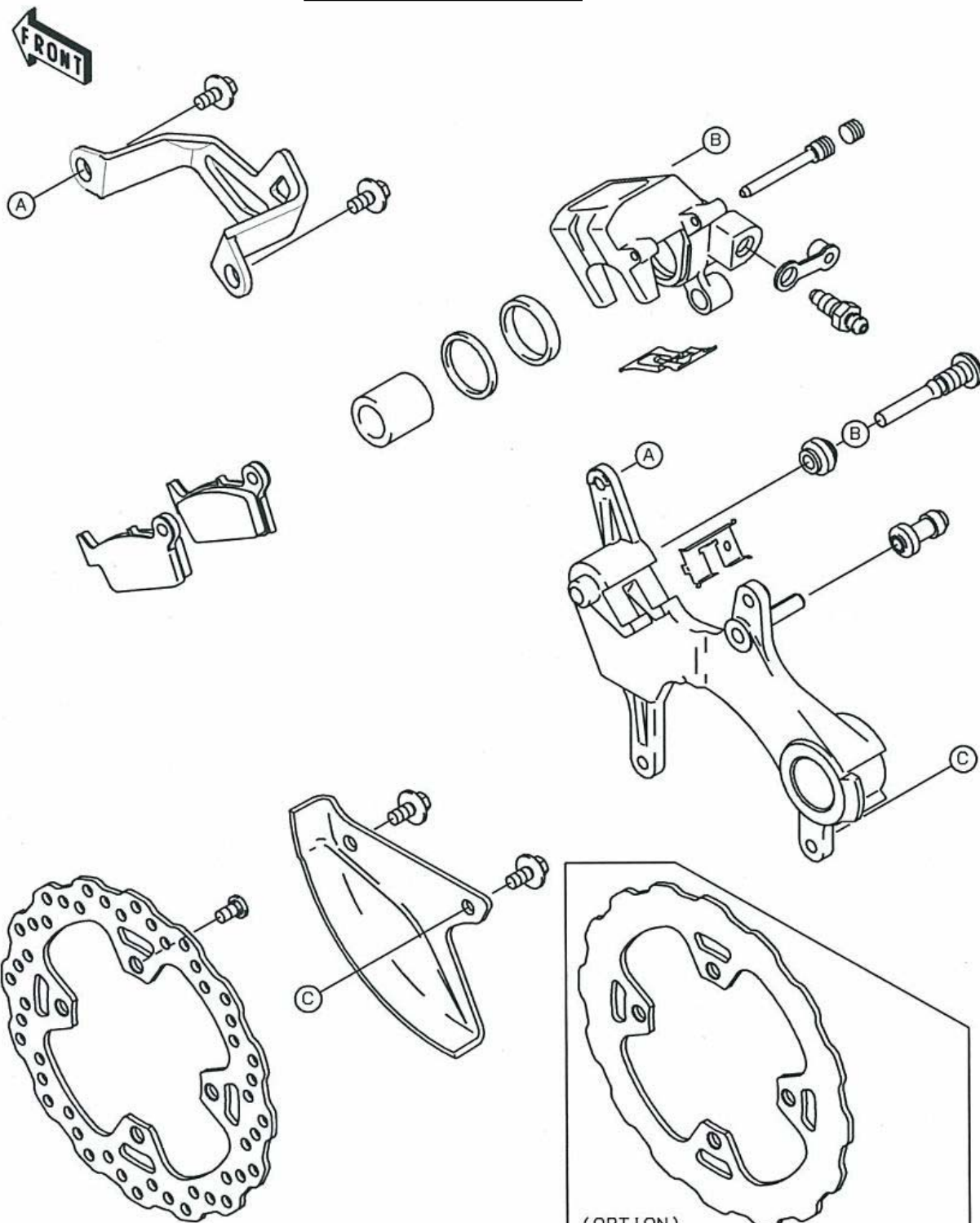
1

2

3

Inter-change

Not modified.



Handlebar

Modifications from '10 KX450EAF to '11 KX450EBF

- S: '11→'10 interchangeable as a set
- O: '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Frame KX450E

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
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FRONT

Not modified.

Ref. Front Fork

(OPTION)

Not modified.



-Ref. Front Fork

(OPTION)

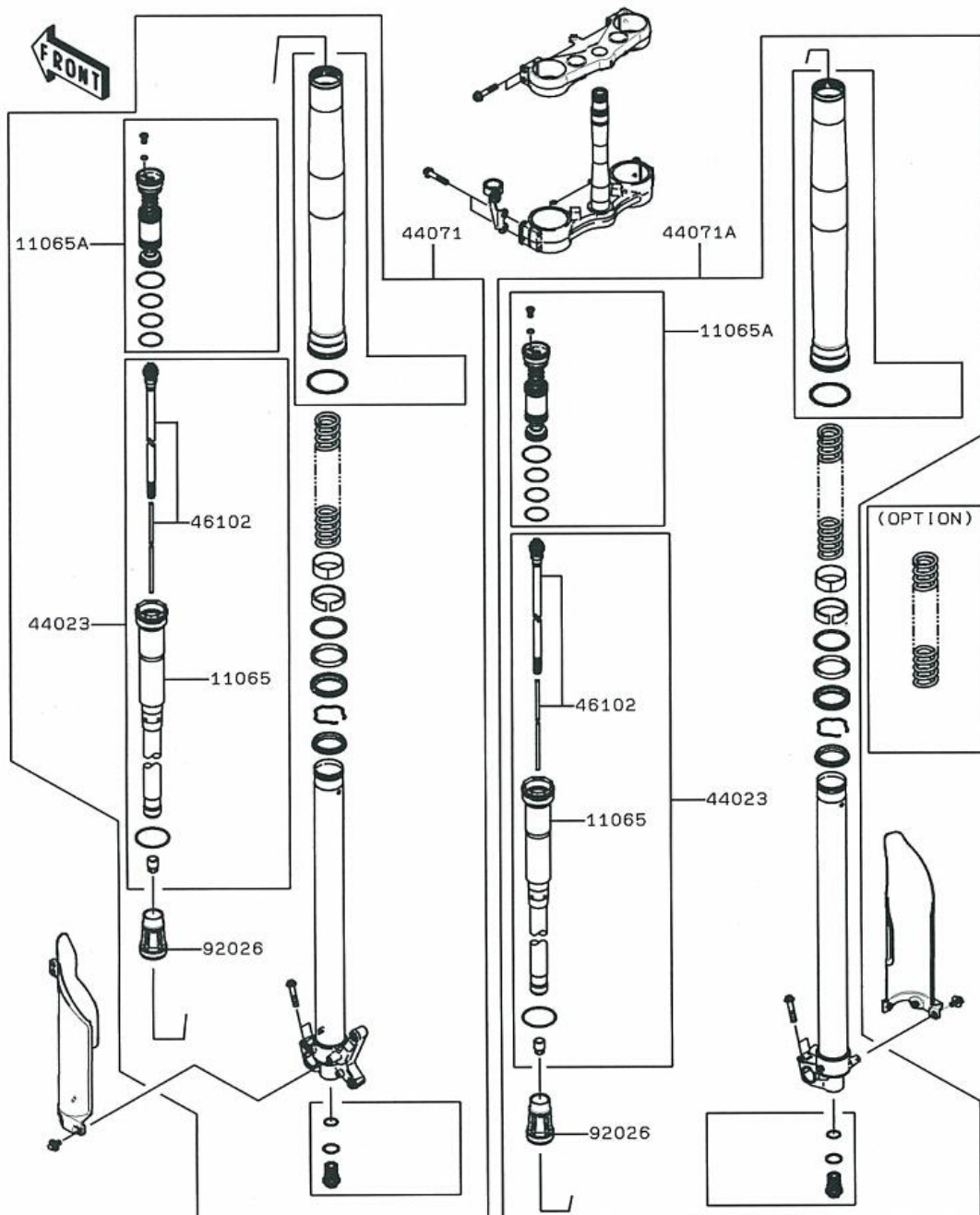
Front fork

Modifications from '10 KX450EAF to '11 KX450EBF

Frame KX450E

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Fork (front)	44011-0312	44011-0346	The structure of each section and valve specifications have been changed (JPN).	○			○
Damper assembly, fork, LH	44071-0667	44071-0742	↑	○			○ S
Damper assembly, fork, RH	44071-0668	44071-0743	↑	○			○ S
Cylinder set (fork)	44023-0084	44023-0087	↑	○			○ S
Cap, cylinder comp	11065-0332	11065-0364	Partially reshaped.			○	○
Cap, base valve	11065-0351	11065-0365	Alumite color: From colorless to blue			○	○
Rod, piston	46102-0148	46102-0156	The valve structure and valve specifications have been changed.	○			○
Spacer	92026-0097	92026-0161	Unified the material from AL and metal to resin.	○			○ S

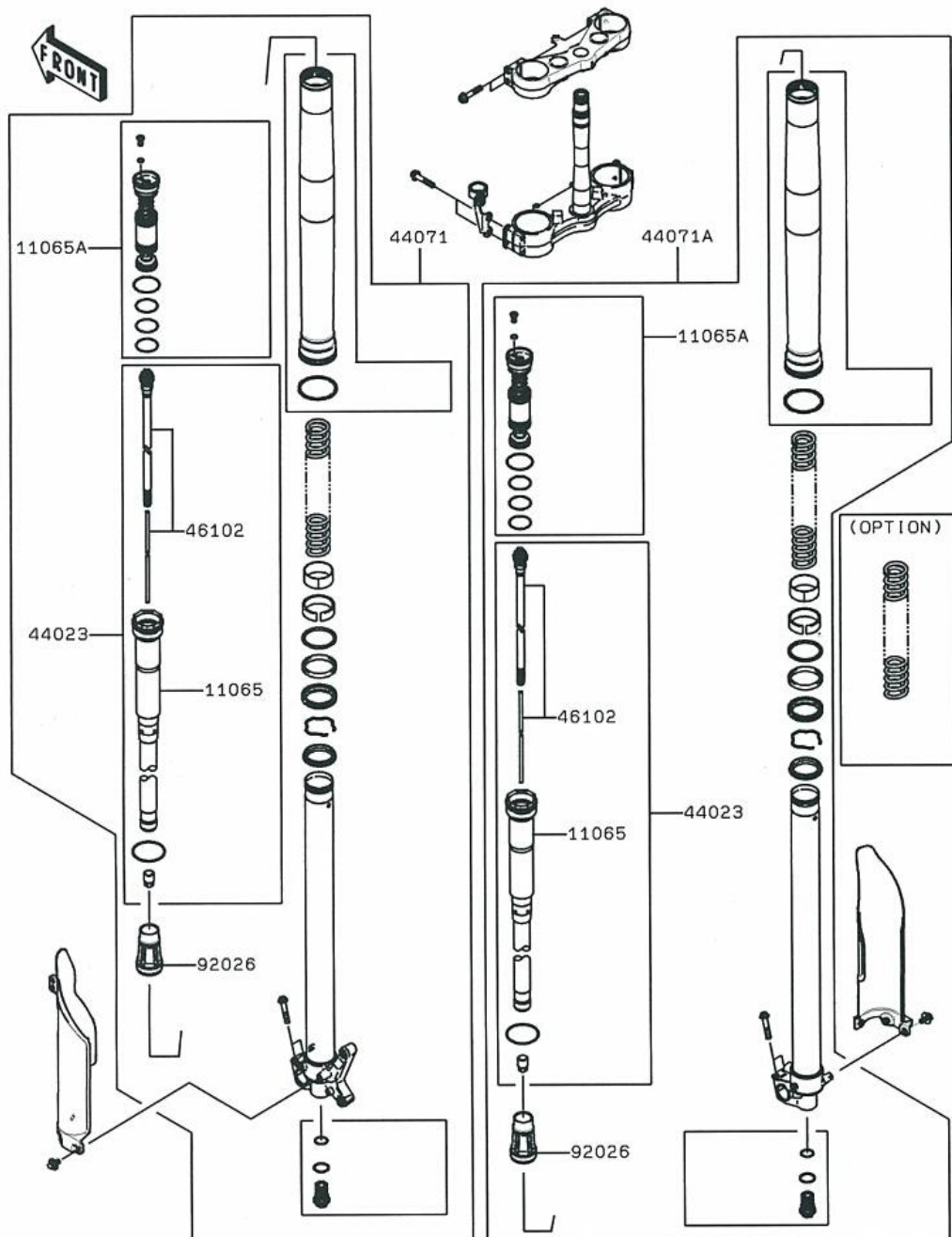


Front fork

Modifications from '10 KX450EAF to '11 KX450EBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Fork (front)	44011-0318	44011-0328	The structure of each section and valve specifications have been changed (US/CN/AU).	○			○
Damper assembly, fork, LH	44071-0627	44071-0697	↑	○			○ S
Damper assembly, fork, RH	44071-0628	44071-0698	↑	○			○ S
Cylinder set (fork)	44023-0084	44023-0087	↑	○			○ S
Cap, cylinder comp	11065-0332	11065-0364	Partially reshaped.			○	○
Cap, base valve	11065-0333	11065-0365	Alumite color: From colorless to blue			○	○
Rod, piston	46102-0148	46102-0156	The valve structure and valve specifications have been changed.	○			○
Spacer	92026-0097	92026-0161	Unified the material from AL and metal to resin.	○			○ S



Front fork

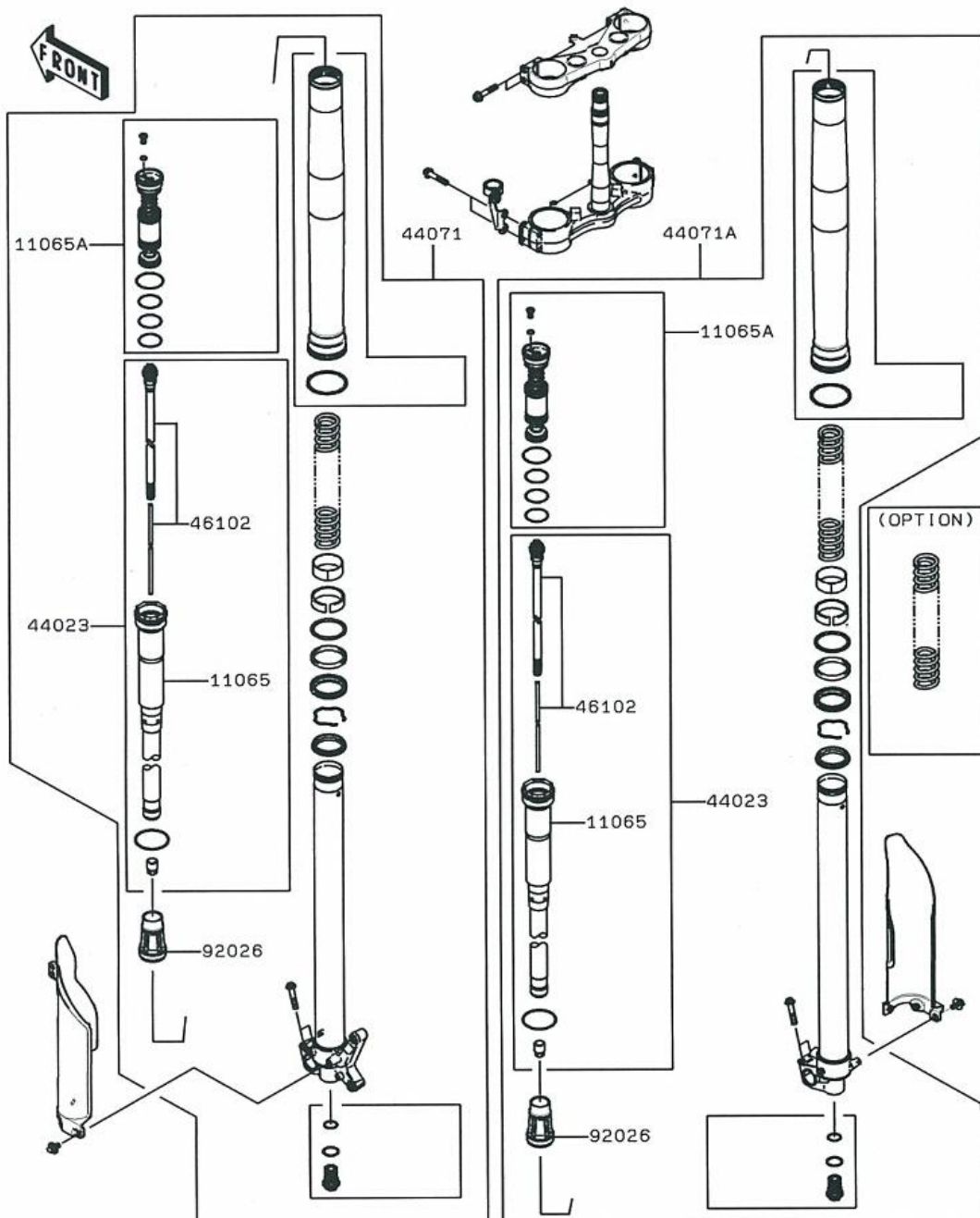
Modifications from '10 KX450EAF to '11 KX450EBF

Frame

KX450E

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Fork (front)	44011-0319	44011-0345	The structure of each section and valve specifications have been changed (EU/BR).	○			○
Damper assembly, fork, LH	44071-0680	44071-0736	↑	○			○ S
Damper assembly, fork, RH	44071-0681	44071-0737	↑	○			○ S
Cylinder set (fork)	44023-0086	44023-0087	↑	○			○ S
Cap, cylinder comp	11065-0332	11065-0364	Partially reshaped.			○	○
Cap, base valve	11065-0346	11065-0707	Alumite color: From colorless to blue			○	○
Rod, piston	46102-0151	46102-0156	The valve structure and valve specifications have been changed.	○			○
Spacer	92026-0097	92026-0161	Unified the material from AL and metal to resin.	○			○ S



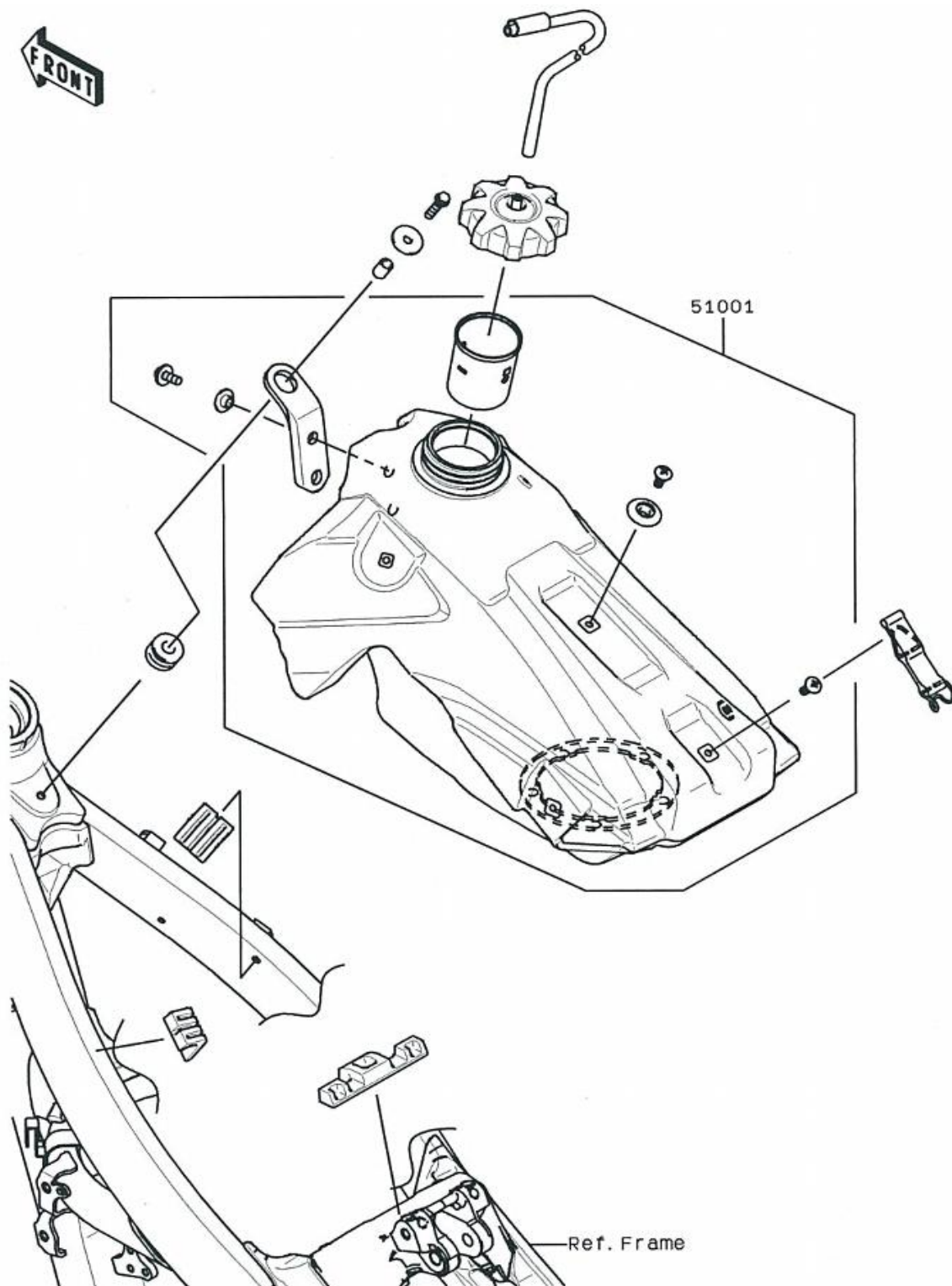
Fuel tank

Modifications from '10 KX450EAF to '11 KX450EBF

O S: '11→'10 interchangeable as a set
 O: '11→'10 interchangeable
 3: Others
 2: Reliability improvement
 1: Performance improvement

Frame KX450E

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Tank-comp (fuel)	51001-0261	51001-0390	The pump mounting angle has been changed.		O		O S



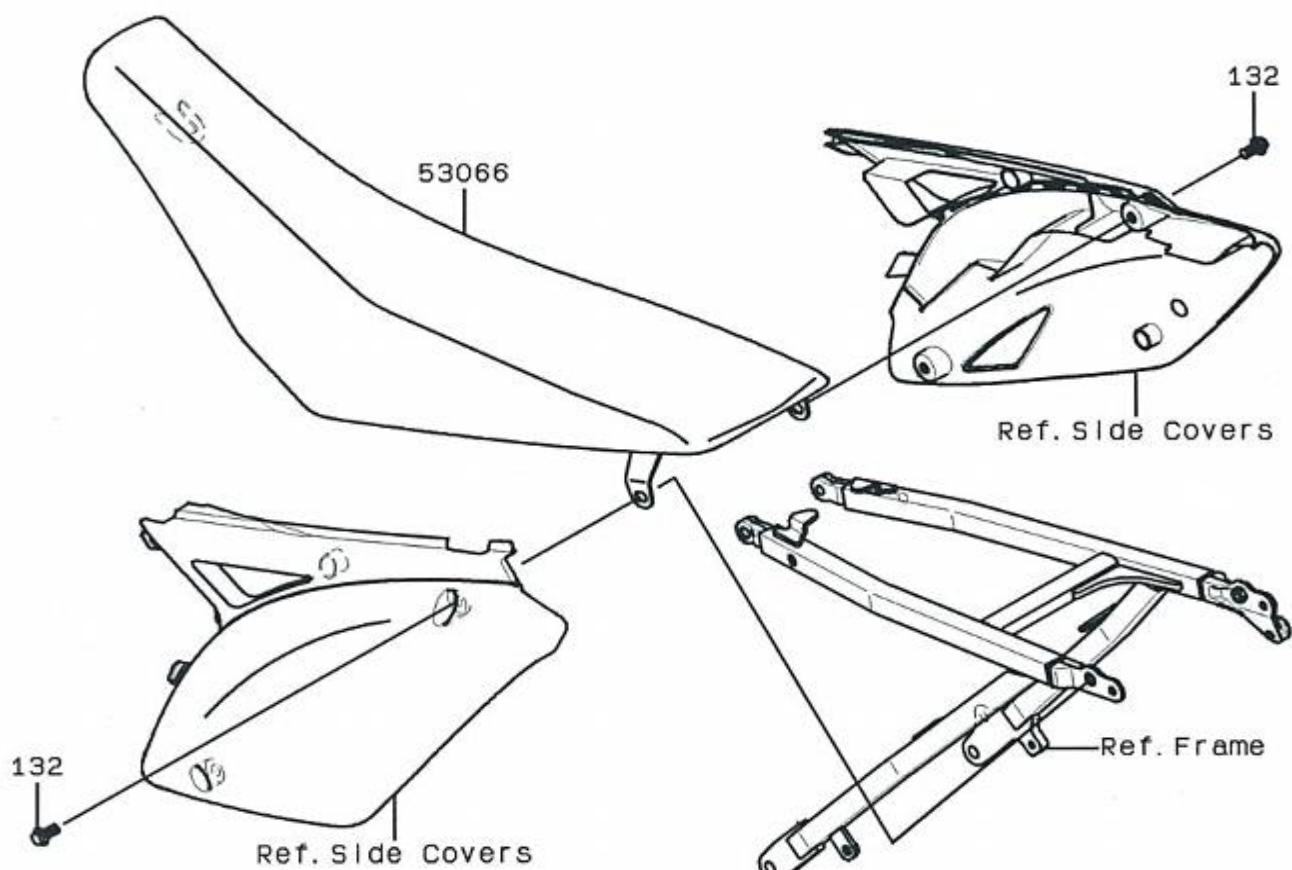
Seat

Modifications from '10 KX450EAF to '11 KX450EBF

Frame

KX450E

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Seat assembly	53066-0244	53066-0279	The side leather pattern has been changed.	○			○
Bolt, M8	92153-1308	132BA0816	The surface treatment has been changed.			○	○



Cables

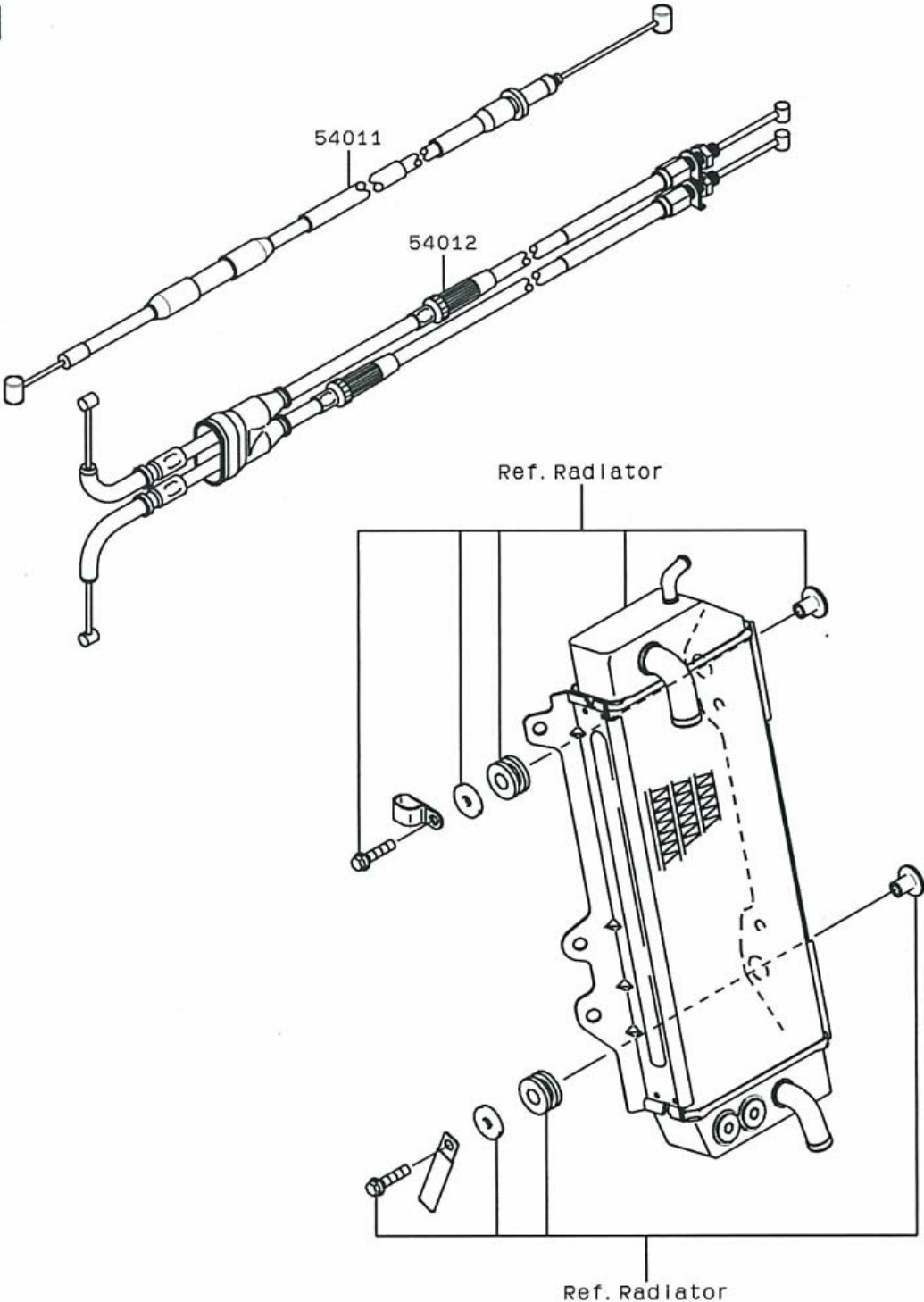
Modifications from '10 KX450EAF to '11 KX450EBF

Frame	KX450E
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- O S: '11→'10 interchangeable as a set
O: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
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Not modified.



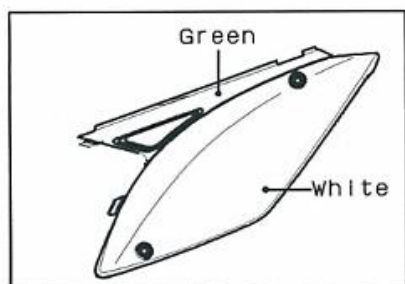
Side cover

Modifications from '10 KX450EAF to '11 KX450EBF

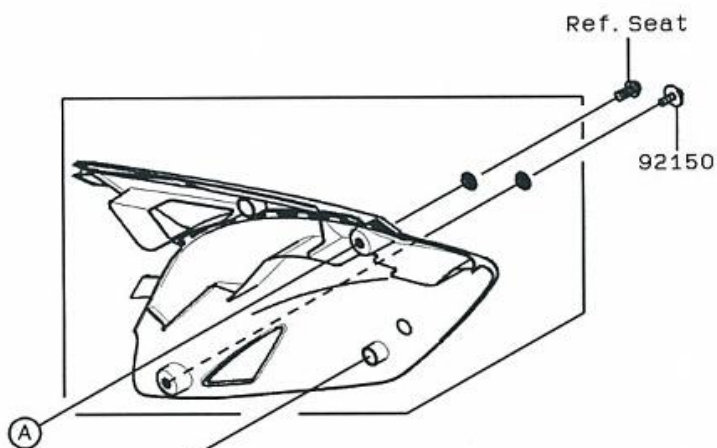
- S: '11→'10 interchangeable as a set
- : '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Frame KX450E

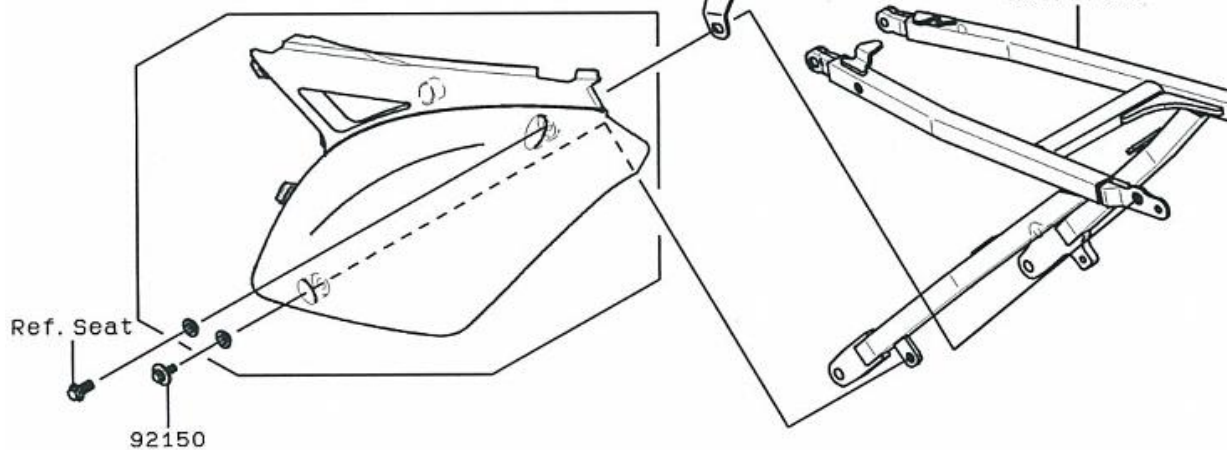
Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Bolt, M6	92153-0863	92150-1506	The surface treatment has been changed.			○	○



WOD



Ref. Seat



Harness

Modifications from '10 KX450EAF to '11 KX450EBF

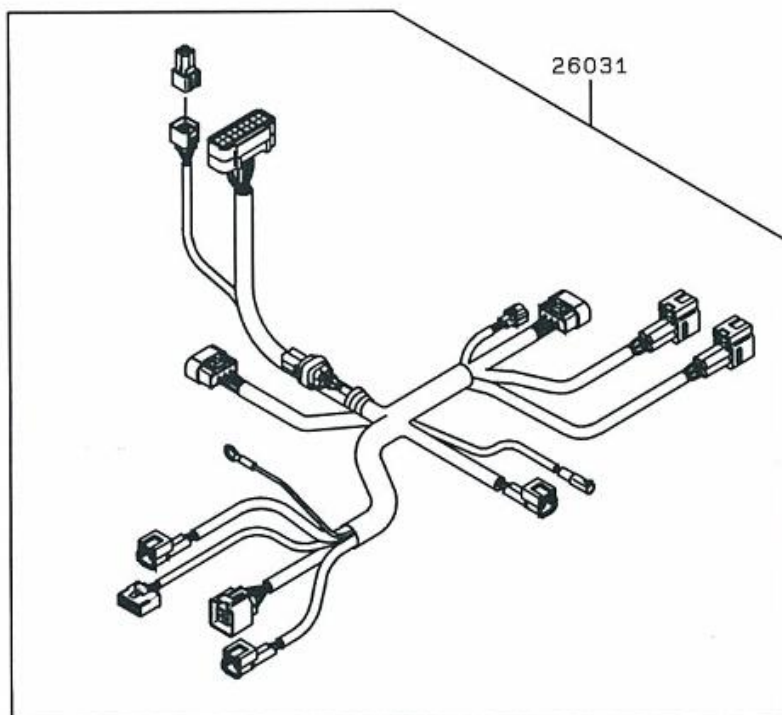
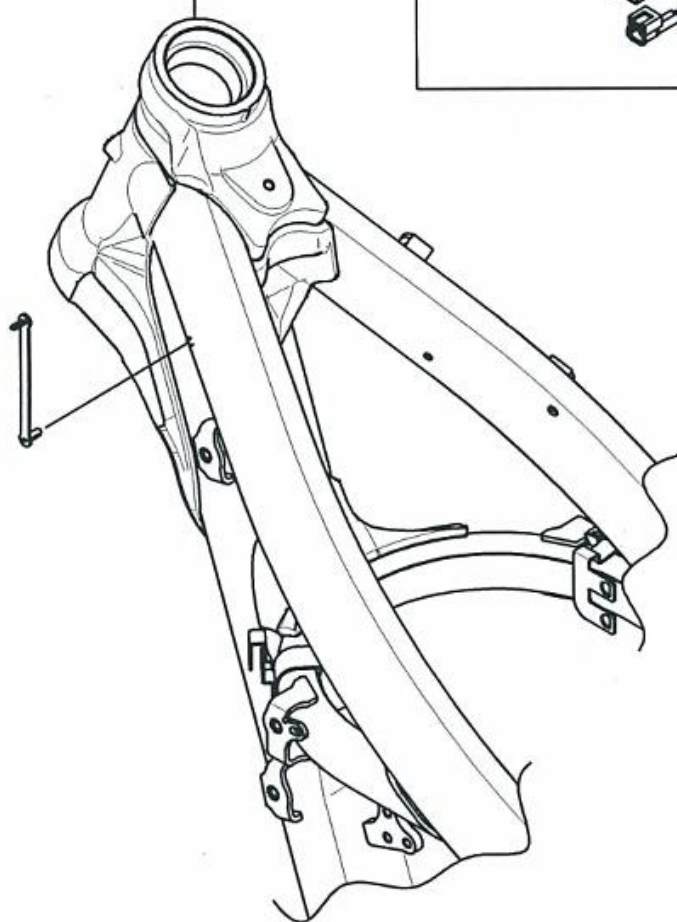
- S: '11→'10 interchangeable as a set
- : '11→'10 interchangeable
- 3: Others
- 2: Reliability improvement
- 1: Performance improvement

Frame KX450E

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Harness	26031-0795	26031-0930	The optional connector routing has been changed.				○ ○ S



Ref. Frame



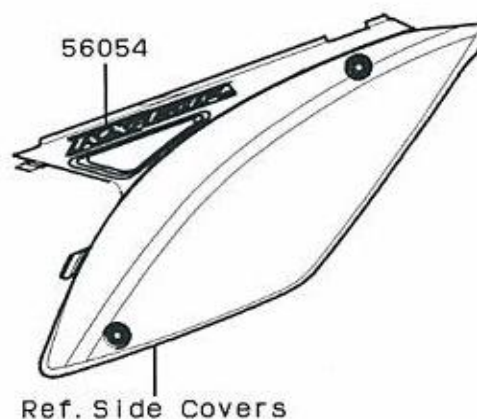
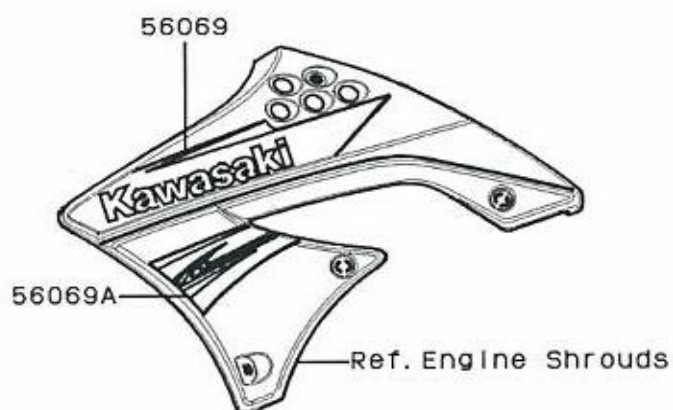
Decals

Modifications from '10 KX450EAF to '11 KX450EBF

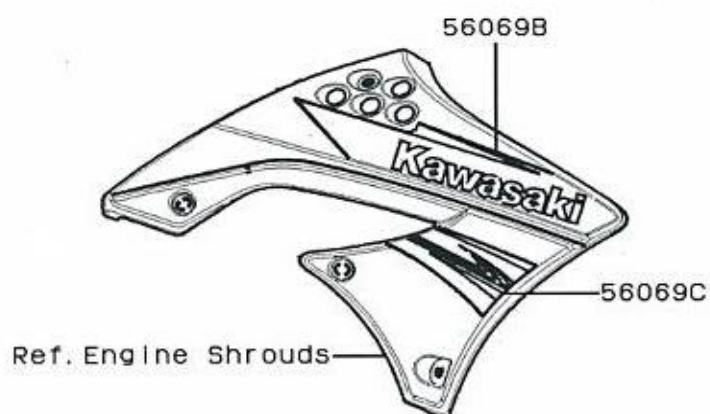
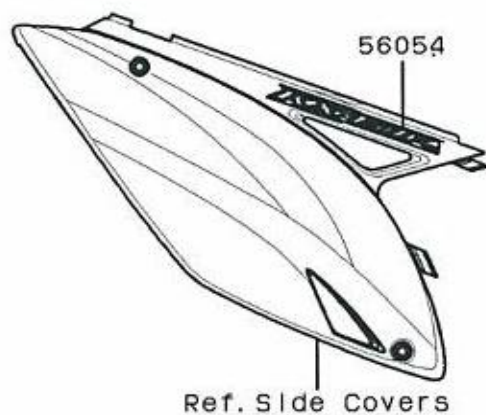
○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame		KX450E					
Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Pattern, shroud, upper, L	56054-0466	56069-0894	New graphics			○	×
Pattern, shroud, lower, L	56069-0036	56069-0895	↑			○	×
Pattern, shroud, upper, R	56054-0466	56069-0896	↑			○	×
Pattern, shroud, lower, R	56069-0037	56069-0897	↑			○	×
Mark, side cover	56054-0467	56054-0694	↑			○	×

(LH)



(RH)



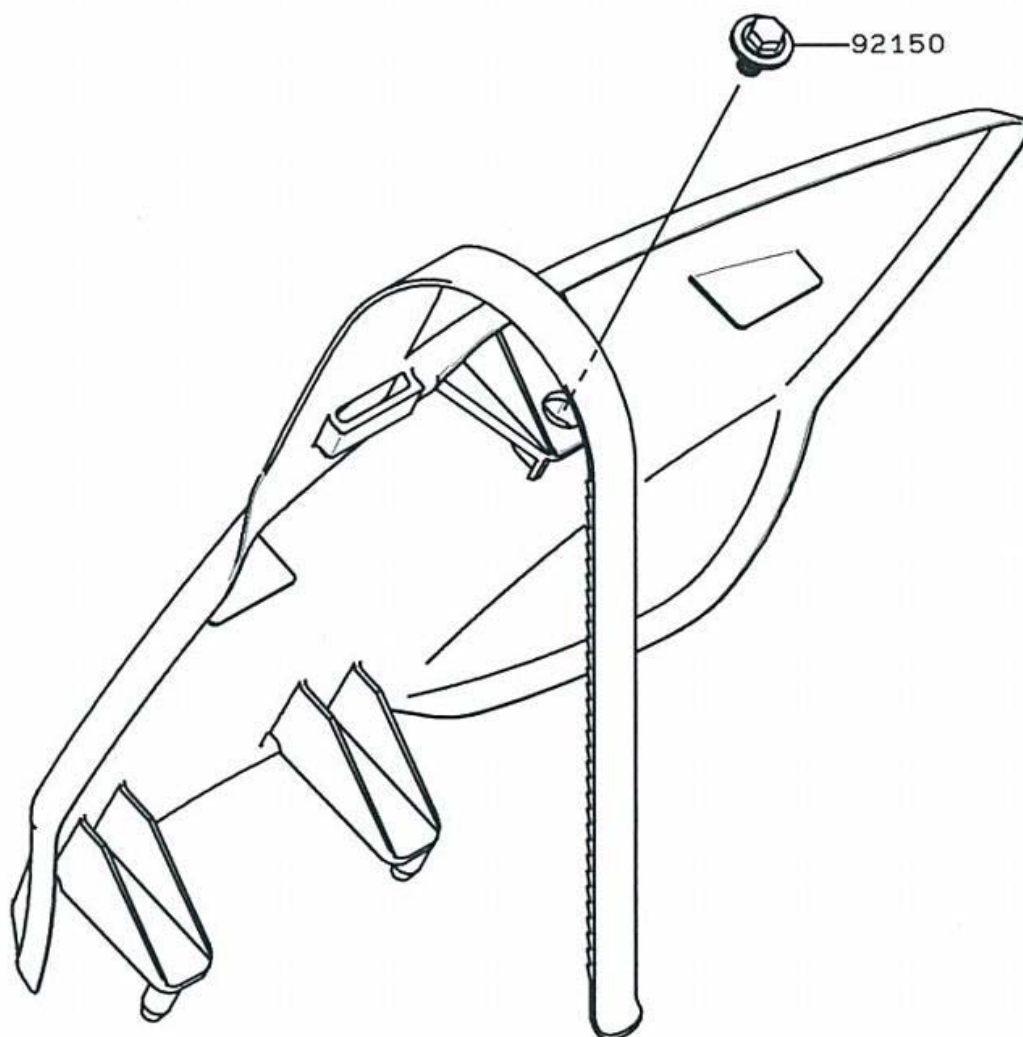
Accessories

Modifications from '10 KX450EAF to '11 KX450EBF

○ S: '11→'10 interchangeable as a set
 ○: '11→'10 interchangeable
 3: Others
 2: Reliability improvement
 1: Performance improvement

Frame KX450E

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Bolt, M6	92153-0503	92150-1435	The surface treatment has been changed.			○	○



Suspension Specifications (Standard)

1. Front fork

1-1. Fork extrusion amount

Japanese model	United States model	European model
10 mm	←	5 mm

1-2. Spring settings

	Japanese model	United States model	European model
Spring rate (N/mm)	K = 4.7/EA	←	←
Initial setting (mm)	0	←	←
Spring free length (mm)	470	←	←

1-3. Damping force adjustment

	Japanese model	United States model	European model
Rebound (tension) damping	10-click return, total 20-click damping force adjustment	10-click return, total 20-click damping force adjustment	10-click return, total 20-click damping force adjustment
Compression side	8-click return, 22-click damping force adjustment in total	10-click return, 22-click damping force adjustment in total	13-click return, 22-click damping force adjustment in total

1-4. Volume of hydraulic oil and oil level adjusting range

- Inside of damper comp

	Japanese model	United States model	European model
Oil amount (cm ³)	198	←	←

- Outside of damper comp

	Japanese model	United States model	European model
Oil amount (cm ³)	330	335	340
Oil level adjusting range (cm ³)	320 to 380	←	←

2. Shock absorber

2-1. Spring settings

	Japanese model	United States model	European model
Spring rate (N/mm)	54	←	←
Initial setting (mm)	128.5	←	←
Spring free length (mm)	255	←	←
Initial adjusting range (mm)	126.5 to 138.5	←	←

2-2. Damping force adjustment

		Japanese model	United States model	European model
	Rebound (tension) damping	19-click return, total 33-click damping force adjustment	18-click return, total 33-click damping force adjustment	16-click return, total 33-click damping force adjustment
Compression side	High speed	3/4 turns out*, and 2 turns in total *Counterclockwise from the fully seated position	1-1/4 turns out*, and 2 turns in total *Counterclockwise from the fully seated position	1-1/4 turns out*, and 2 turns in total *Counterclockwise from the fully seated position
	Low speed	14-click return, total 22-click damping force adjustment	10-click return, total 22-click damping force adjustment	9-click return, total 22-click damping force adjustment

Optional Parts (JPN)

1. Wheels

1-1. Front wheel

Part name	Part #
Iron nipple	41032-1077
Wheel subassembly	41090-0080

1-2. Rear wheel

Part name	Part #
Wheel subassembly	41090-0081
Iron nipple	41032-1085

2. Sprocket

Material	Number of teeth	Part #	Material	Number of teeth	Part #
Aluminum	48T	42041-1448	Iron	48T	42041-1383
	49T	42041-1449		49T	42041-1384
	50T (STD)	42041-1450		50T	42041-1408
	51T	42041-1451		51T	42041-1428
	52T	42041-0001		52T	42041-1429

3. Brake disc

	Specs	Part #
Front	No petal disc hole	41080-0082
Rear	↑	41080-0094

4. Springs

4-1. Fork spring

Spring rate (N/mm)	Oil level adjusting range (cm ³)	Standard oil amount (cm ³)	Part #
K = 4.6	320 to 380	328	44026-0148
K = 4.8	↑	331	44026-0149

4-2. Shock spring

Spring rate (N/mm)	Initial adjusting range (mm)	Part #	Identification
K = 52	126.5 to 138.5	92145-0638	Yellow
K = 56	↑	92145-0762	White

5. Handle holder (for Renthal's Fat Bar)

Part name	Specs	Part #
Holder (upper)	For 28.6 mm dia	46012-0020
Holder (lower)	For 28.6 mm dia	46012-0021
Holder (lower)	For 22.2 mm dia	46012-0048

Optional Parts (US/CN/AU)

1. Wheels

1-1. Front wheel

Part name	Part #
Iron nipple	41032-1077
Wheel subassembly	41090-0080

1-2. Rear wheel

Part name	Part #
Wheel subassembly	41090-0081
Iron nipple	41032-1085

2. Sprocket

Material	Number of teeth	Part #	Material	Number of teeth	Part #
Aluminum	48T	42041-1448	Iron	48T	42041-1383
	49T	42041-1449		49T	42041-1384
	50T (STD)	42041-1450		50T	42041-1408
	51T	42041-1451		51T	42041-1428
	52T	42041-0001		52T	42041-1429

3. Brake disc

	Specs	Part #
Front	No petal disc hole	41080-0082
Rear	↑	41080-0094

4. Springs

4-1. Fork spring

Spring rate (N/mm)	Oil level adjusting range (cm ³)	Standard oil amount (cm ³)	Part #
K = 4.6	320 to 380	333	44026-0148
K = 4.8	↑	336	44026-0149

4-2. Shock spring

Spring rate (N/mm)	Initial adjusting range (mm)	Part #	Identification
K = 52	126.5 to 138.5	92145-0638	Yellow
K = 56	↑	92145-0762	White

5. Handle holder (for Renthal's Fat Bar)

Part name	Specs	Part #
Holder (upper)	For 28.6 mm dia	46012-0020
Holder (lower)	For 28.6 mm dia	46012-0021
Holder (lower)	For 22.2 mm dia	46012-0048

Optional Parts (EU/BR)

1. Wheels

1-1. Front wheel

Part name	Part #
Iron nipple	41032-1077
Wheel subassembly	41090-0080

1-2. Rear wheel

Part name	Part #
Wheel subassembly	41090-0081
Iron nipple	41032-1085

2. Sprocket

Material	Number of teeth	Part #	Material	Number of teeth	Part #
Aluminum	48T	42041-1448	Iron	48T	42041-1383
	49T	42041-1449		49T	42041-1384
	50T (STD)	42041-1450		50T	42041-1408
	51T	42041-1451		51T	42041-1428
	52T	42041-0001		52T	42041-1429

3. Brake disc

	Specs	Part #
Front	No petal disc hole	41080-0082
Rear	↑	41080-0094

4. Springs

4-1. Fork spring

Spring rate (N/mm)	Oil level adjusting range (cm ³)	Standard oil amount (cm ³)	Part #
K = 4.6	320 to 380	338	44026-0148
K = 4.8	↑	341	44026-0149

4-2. Shock spring

Spring rate (N/mm)	Initial adjusting range (mm)	Part #	Identification
K = 52	126.5 to 138.5	92145-0638	Yellow
K = 56	↑	92145-0762	White

5. Handle holder (for Renthal's Fat Bar)

Part name	Specs	Part #
Holder (upper)	For 28.6 mm dia	46012-0020
Holder (lower)	For 28.6 mm dia	46012-0021
Holder (lower)	For 22.2 mm dia	46012-0048

Identifying the KX450E Suspension Springs

1. Front fork

Part #	Spring rate (N/mm)	Spring length (mm)	Identifica- tion slit	'06		'07 to '09		'10 and '11		Remarks
				Standard	Optional	Standard	Optional	Standard	Optional	
44026-0087	4.5	480	1-2	—	○	—	—	—	—	
44026-0086	4.6	480	—	○	—	—	—	—	—	The 2006 standard parts, and no identification used.
44026-0088	4.7	480	1-4	—	○	—	—	—	—	
44026-0105	4.5	470	1-2	—	—	—	○	—	—	
44026-0096	4.6	470	—	—	—	○	—	—	—	The 2007 to 2009 standard parts, and no identification used.
44026-0106	4.7	470	1-4	—	—	—	○	—	—	
44026-0148	4.6	470	1-3	—	—	—	—	—	○	
44026-0146	4.7	470	—	—	—	—	—	○	—	The 2010 to 2011 standard parts, and no identification used.
44026-0149	4.8	470	1-5	—	—	—	—	—	○	

2. Shock absorber

Part #	Spring rate (N/mm)	Spring length (mm)	Identifica- tion paint	'06 to '08		'09		'10 and '11	
				Standard	Optional	Standard	Optional	Standard	Optional
92145-0016	52	260	Yellow	—	○	—	—	—	—
92145-0244	54	260	Pink	○	—	—	—	—	—
92145-0383	56	260		—	○	—	—	—	—
92145-0715	50	255	Blue	—	—	—	○	—	—
92145-0638	52	255	Yellow	—	—	○	—	—	○
92145-0716	54	255	Pink	—	—	—	○	○	—
92145-0762	56	255	White	—	—	—	—	—	○

6. KX450EBF Suspension Explanatory Material

Modifications and Improvements of KX450F 2011-Year Model Suspension System

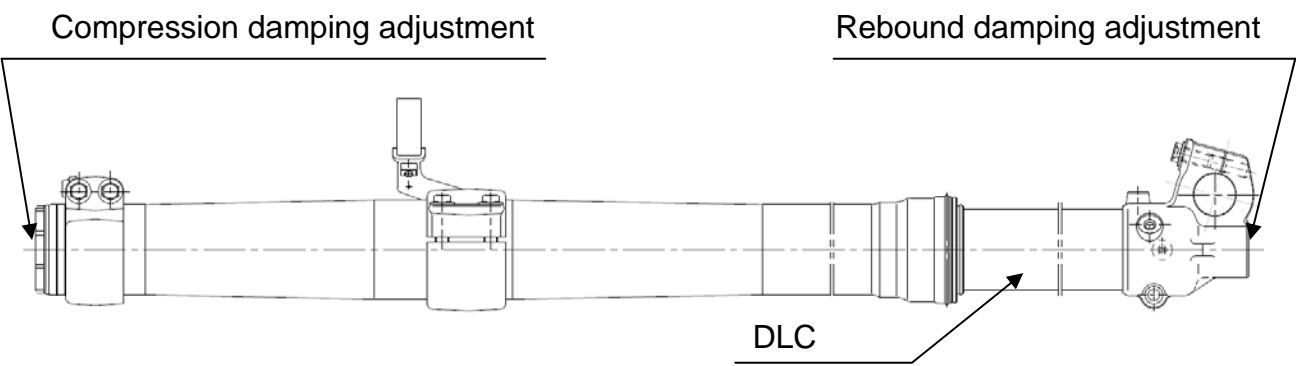
1. Front fork

Modifications

- The material of the main spring support collar was changed from aluminum to resin, and the weight of the fork was reduced.
- The damping force generation part was redesigned to enhance the stability and flexibility of damping force characteristics.

The basic design of the 2010 model is being continuously used, and a new air/oil separation system has been adopted for the front fork. This structure completely separates the "air section" (in the cylinder cartridge) for damping force generation from the "oil section" of the inner and outer tubes (of the front fork) and uses the free piston to pressurize the air section.

The new front fork can suppress the generation of bubbles that causes reduced damping force and response delay. The damping force can be maintained constantly, and both the drivability and riding quality can be improved. The inner tube is coated with DLC (Diamond-like carbon) to improve its operability.

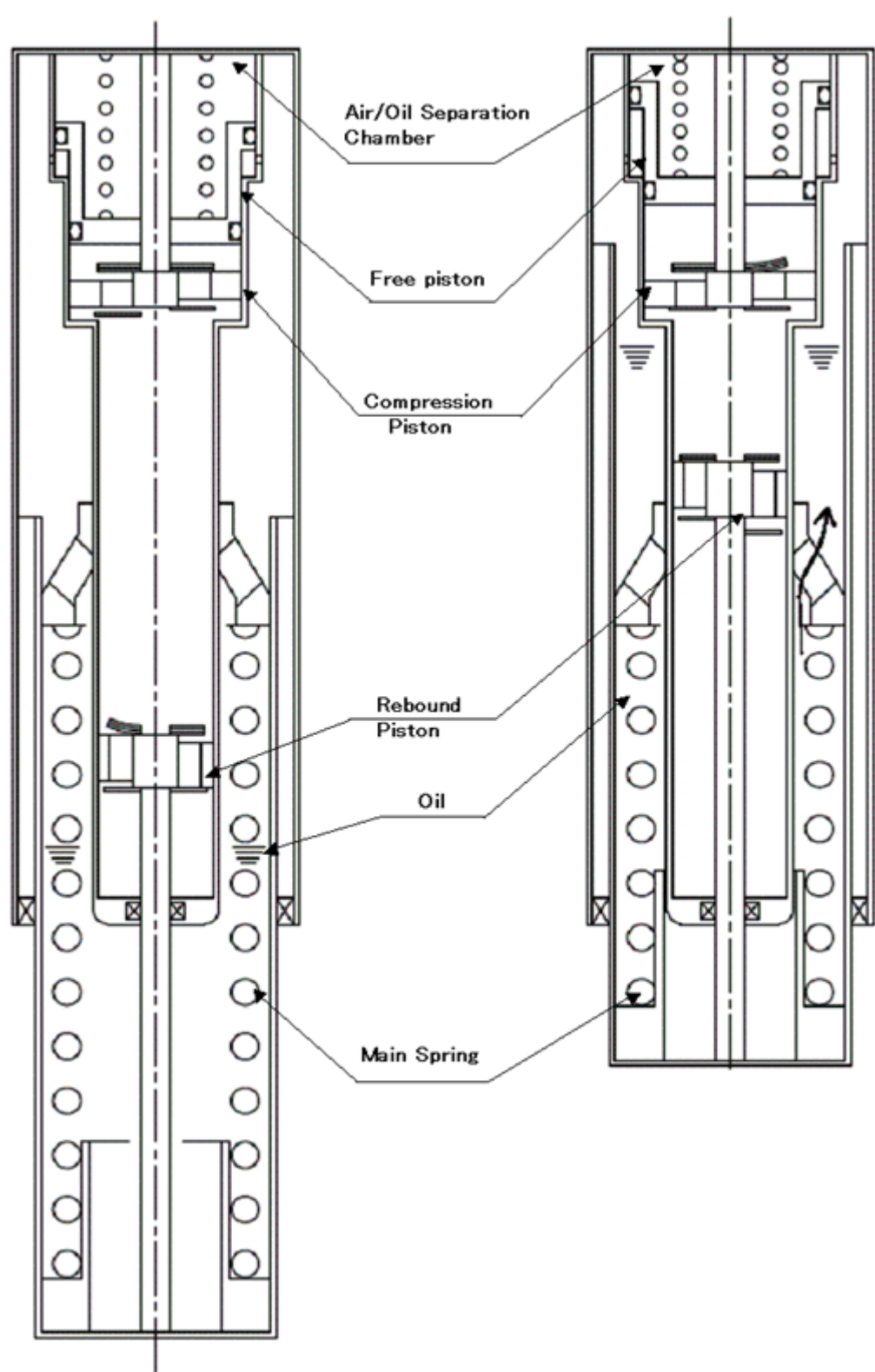


Interchangeability with the 2010 model

Parts	Interchangeability
Damper assembly	Yes
Inner tube	Yes
Spring	Yes
Under bracket comp	Yes
Upper bracket	Yes
Seal, metal	Yes

Operation Principle of KX450F 2011-Year Model Suspension System

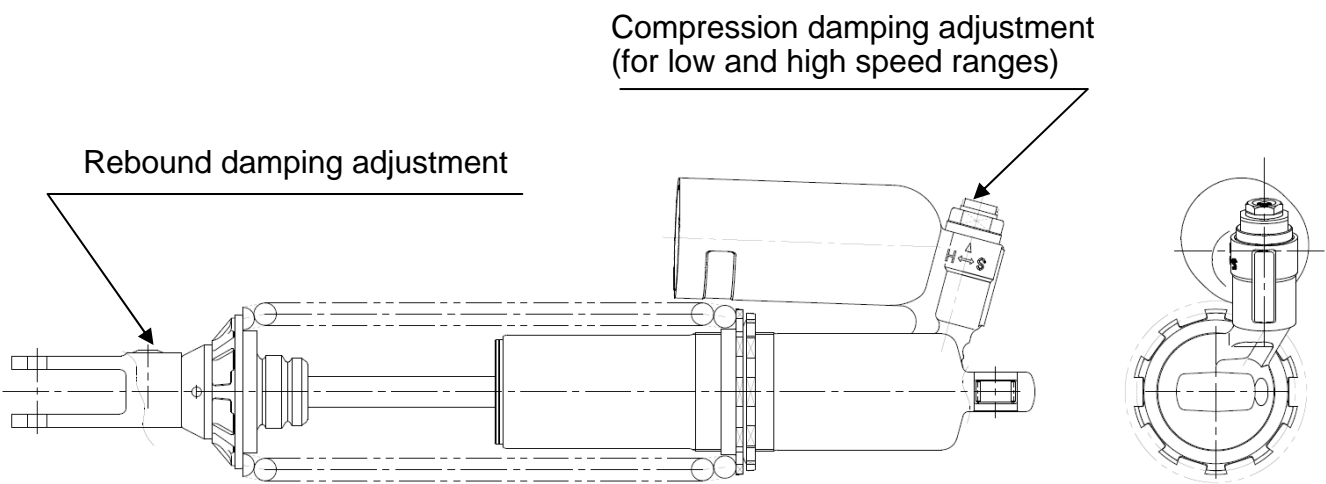
Air/Oil Separation System Front Fork



Modifications and Improvements of KX450F 2011-Year Model Suspension System

2. Rear shock absorber

The basic design of the 2010 model is being continuously used, and compression damping can be adjusted for low and high speed ranges, thus allowing wider settings.



Interchangeability with the 2009 model

Parts	Interchangeability
Damper assembly	Yes
Spring	Yes

Specifications of KX450F 2011-Year Model

Suspension System

Front fork

Destination	United States model	Japanese model	European model
Rebound adjuster	10-level return	10-level return	10-level return
Compression adjuster	10-level return	8-level return	13-level return
Standard spring (spring constant)	4.7 N/mm	4.7 N/mm	4.7 N/mm
Standard oil quantity	335 cc	330 cc	340 cc
Allowable oil quantity	320 to 380 cc	320 to 380 cc	320 to 380 cc

Rear shock absorber

Destination	United States model	Japanese model	European model
Rebound adjuster	18-level return	19-level return	16-level return
Compression adjuster (for low speed range)	10-level return	14-level return	9-level return
Compression adjuster (for high speed range)	1.125 rotations return	0.75 rotations return	1.25 rotations return
Standard spring (spring constant)	54 N/mm	54 N/mm	54 N/mm
Standard spring length	128.5 mm	128.5 mm	128.5 mm
Allowable spring length	126.5 to 138.5 mm	126.5 to 138.5 mm	126.5 to 138.5 mm

Front fork optional spring

Spring constant (N/mm)	Part #	Identification (number of slits)	Remarks
K = 4.6	44026-0148	1 to 3 slits	Interchangeable with the 2010 model
K = 4.8	44026-0149	1 to 5 slits	Interchangeable with the 2010 model

Rear shock absorber optional spring

Spring constant (N/mm)	Part #	Identification (Paint color)	Remarks
K = 52	92145-0638	Yellow	Interchangeable with the 2010 model
K = 56	92145-0762	White	Interchangeable with the 2010 model

Oils

	Oil name	Kawasaki part number
Front fork (1 liter)	KHL15-10	J5002-0009
Rear shock absorber (1 liter)	K2-C	J5002-0008