Shop Manual

CBF300NA

1. General Information
2. Fuel & Engine
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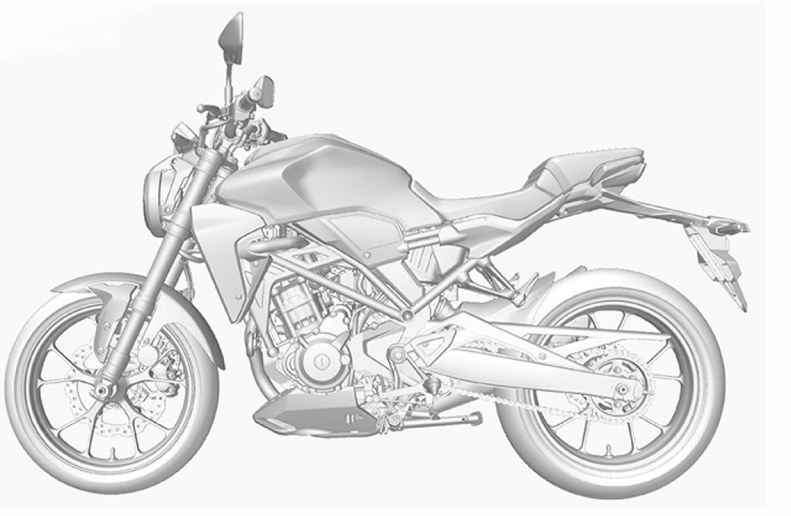

Spec

This book is Specific Shop Manual.
Refer to “Basic Shop Manual” for basic and common maintenance instructions.

CBF300NA-J (2018)
CBF300NA-K (2019)

1. GENERAL INFORMATION

A Few Words About Safety

Service Information

The service and repair information contained in this manual is intended for use by qualified, professional technicians.

Attempting service or repairs without the proper training, tools, and equipment could cause injury to you or others. It could also damage the vehicle or create an unsafe condition.

This manual describes the proper methods and procedures for performing service, maintenance and repairs. Some procedures require the use of specially designed tools and dedicated equipment. Any person who intends to use a replacement part, service procedure or a tool that is not recommended by Honda, must determine the risks to their personal safety and the safe operation of the vehicle.

If you need to replace a part, use genuine Honda parts with the correct part number or an equivalent part. We strongly recommend that you do not use replacement parts of inferior quality.

For Your Customer's Safety

Proper service and maintenance are essential to the customer's safety and the reliability of the vehicle. Any error or oversight while servicing a vehicle can result in faulty operation, damage to the vehicle, or injury to others.

⚠WARNING

Improper service or repairs can create an unsafe condition that can cause your customer to be
seriously hurt or killed.

Follow the procedures and precautions in this manual and other service materials carefully.

For Your Safety

Because this manual is intended for the professional service technician, we do not provide warnings about many basic shop safety practices (e.g., Hot parts–wear gloves). If you have not received shop safety training or do not feel confident about your knowledge of safe servicing practice, we recommended that you do not attempt to perform the procedures described in this manual.

Some of the most important general service safety precautions are given below. However, we cannot warn you of every conceivable hazard that can arise in performing service and repair procedures. Only you can decide whether or not you should perform a given task.

⚠WARNING

Failure to properly follow instructions and precautions can cause you to be seriously hurt or killed.

Follow the procedures and precautions in this manual carefully.

Important Safety Precautions

Make sure you have a clear understanding of all basic shop safety practices and that you are wearing appropriate clothing and using safety equipment. When performing any service task, be especially careful of the following:

- Read all of the instructions before you begin, and make sure you have the tools, the replacement or repair parts, and the skills required to perform the tasks safely and completely.
- Protect your eyes by using proper safety glasses, goggles or face shields any time you hammer, drill, grind, pry or work around pressurized air or liquids, and springs or other stored-energy components. If there is any doubt, put on eye protection.
- Use other protective wear when necessary, for example gloves or safety shoes. Handling hot or sharp parts can cause severe burns or cuts. Before you grab something that looks like it can hurt you, stop and put on gloves.
- Protect yourself and others whenever you have the vehicle up in the air. Any time you lift the vehicle, either with a hoist or a jack, make sure that it is always securely supported. Use jack stands.

Make sure the engine is off before you begin any servicing procedures, unless the instruction tells you to do otherwise. This will help eliminate several potential hazards:

- Carbon monoxide poisoning from engine exhaust. Be sure there is adequate ventilation whenever you run the engine
- Burns from hot parts or coolant. Let the engine and exhaust system cool before working in those areas.
- Injury from moving parts. If the instruction tells you to run the engine, be sure your hands, fingers and clothing are out of the way.

Gasoline vapors and hydrogen gases from batteries are explosive. To reduce the possibility of a fire or explosion, be careful when working around gasoline or batteries.

- Use only a nonflammable solvent, not gasoline, to clean parts.
- Never drain or store gasoline in an open container.
- Keep all cigarettes, sparks and flames away from the battery and all fuel-related parts.

How To Use This Manual

This manual is "Spec (Specific)" Service Manual. The service and repair information for this model is described in this manual as specific information. Refer to “Basic" Service Manual for basic/common service information and instructions.

Follow the Maintenance Schedule recommendations to ensure that the vehicle is in peak operating condition. Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Find the section you want on this page, then turn to the table of contents on the first page of the section.

Your safety, and the safety of others, is very important. To help you make informed decisions we have provided safety messages and other information throughout this manual. Of course, it is not practical or possible to warn you about all the hazards associated with servicing this vehicle.
You must use your own good judgement.
You will find important safety information in a variety of forms including:

- Safety Labels – on the vehicle
- Safety Messages – preceded by a safety alert symbol ⚠ and one of three signal words, DANGER, WARNING, or CAUTION. These signal words mean:

⚠DANGER You WILL be KILLED or SERIOUSLY HURT if you don’t follow instructions.

⚠WARNING You CAN be KILLED or SERIOUSLY HURT if you don’t follow instructions.

⚠CAUTION You CAN be HURT if you don’t follow instructions.

- Instructions – how to service this vehicle correctly and safely.

As you read this manual, you will find information that is preceded by a **NOTICE** symbol. The purpose of this message is to help prevent damage to your vehicle, other property, or the environment.

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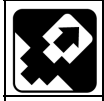
SYMBOLS

The symbols used throughout this manual show specific service procedures. If supplementary information is required pertaining to these symbols, it would be explained specifically in the text without the use of the symbols.

INSTRUCTION SYMBOL

	Removal or Disassembly procedure. Disconnect the connector.		Installation or Assembly procedure. Connect the connector.
	Order of removal/disassembly with a point of note.		Order of installation/assembly with a point of note.
	Tighten specified torque.		Replace with a new one before assembly.
	Check the part for an inspection.		Measure the part for an inspection.
	Turn ignition switch to OFF.		Turn ignition switch to ON.
	Start the engine.		Measure a resistance or check continuity.
	Measure a voltage.		Measure an ampere.
	Use the Honda special tool.		Refer to “Basic” Service Manual for the instruction.

LUBRICATION AND SEAL SYMBOL

	Use the recommend engine oil.		Apply molybdenum oil solution (mixture of an engine oil and molybdenum grease in a ration of 1:1).
	Apply a specified grease. Use a multi-purpose grease unless otherwise specified.		Apply a liquid sealant.
	Apply a locking agent. Use a medium strength one unless otherwise specified.		Use DOT 3 or DOT 4 brake fluid.
	Use a specified fork oil or suspension fluid.		

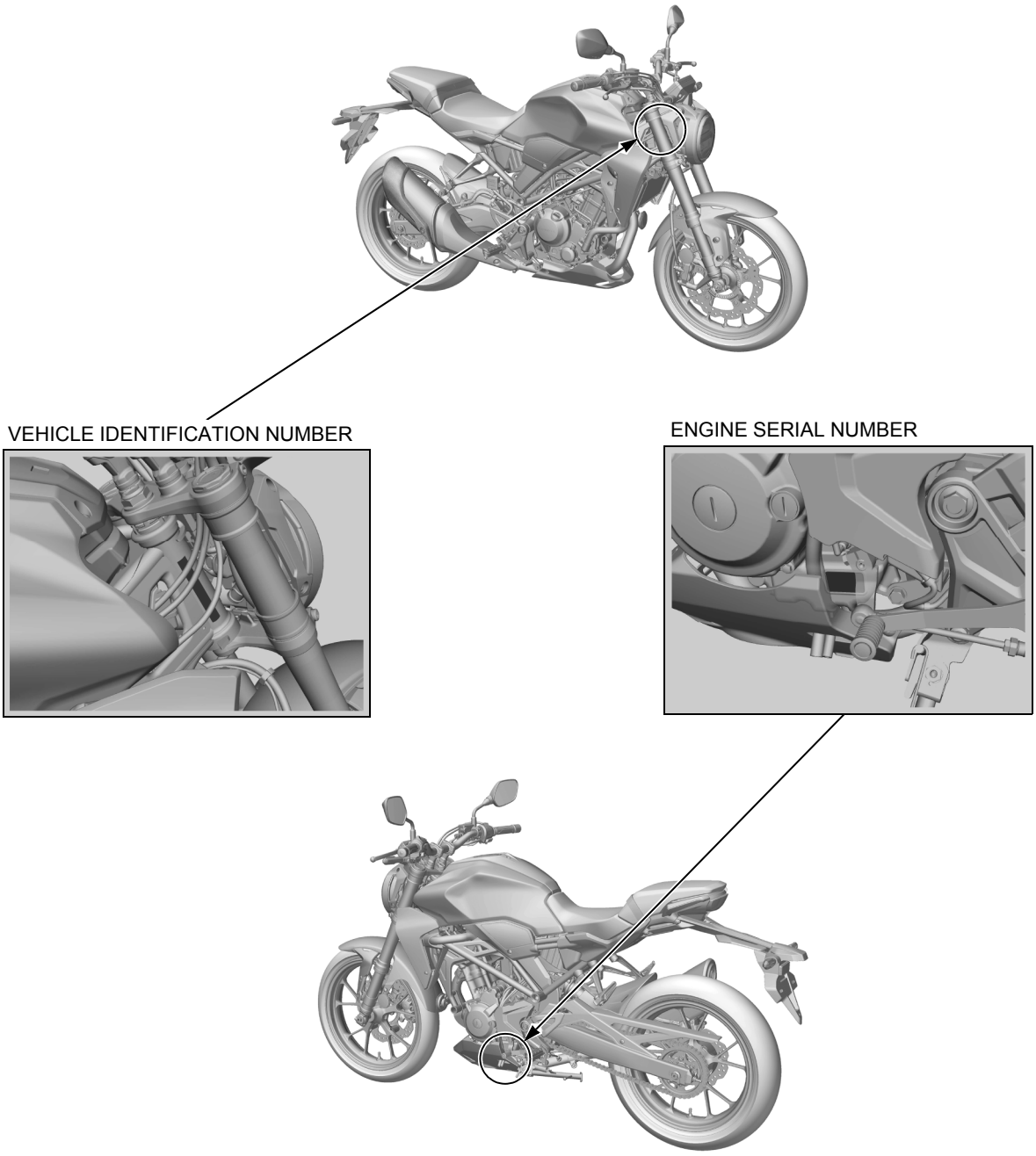
MODEL IDENTIFICATION

- Model name: CBF300NA-J

TYPE CODE	DESTINATION CODE	REGION	FRONT TURN SIGNAL/ POSITION LIGHT	EVAP	SIDESTAND SWITCH
CBF300NA	KO	Korea	O	O	O
CBF300NA	TH	Thailand	–	O	–

- Model name: CBF300NA-K

TYPE CODE	DESTINATION CODE	REGION	FRONT TURN SIGNAL/ POSITION LIGHT	EVAP	SIDESTAND SWITCH
CBF300NA	U	Australia, New zealand	O	–	O



SPECIFICATIONS

GENERAL SPECIFICATIONS

ITEM			SPECIFICATIONS
DIMENSIONS	Overall length	TH model	2,012 mm
		KO,U model	2,020 mm
	Overall width	TH model	888 mm
		KO,U model	805 mm
	Overall height	TH model	1,052 mm
		KO,U model	1,050 mm
	Wheelbase	TH model	1,352 mm
		KO,U model	1,355 mm
	Seat height	TH, KO model	801 mm
		U model	800 mm
	Footpeg height		331 mm
	Ground clearance	TH model	151 mm
		KO,U model	150 mm
	Curb weight	TH model	143 kg
		KO model	145 kg
		U model	144 kg
	Maximum weight capacity	TH model	130 kg
		KO model	150 kg
		U model	180 kg
FRAME	Frame type		Diamond type
	Front suspension		Telescopic fork
	Front wheel travel		118 mm
	Rear suspension		Swingarm
	Rear wheel travel		132 mm
	Front tire size		110/70R17M/C 54H
	Rear tire size		150/60R17M/C 66H
	Front tire brand		GPR-300F M (DUNLOP)
	Rear tire brand		GPR-300 M (DUNLOP)
	Front brake		Hydraulic disc brake
	Rear brake		Hydraulic disc brake
	Caster angle		24°44’
	Trail length		93 mm
	Fuel tank capacity	TH model	10.0 liters
		KO,U model	10.1 liters

ITEM				SPECIFICATIONS
ENGINE	Cylinder arrangement			Single cylinder 20° inclined from vertical
	Bore and stroke	TH model		76.000 x 63.047 mm
		KO,U model		76.0 x 63.0 mm
	Displacement	TH model		286.01 cm^3
		KO,U model		286 cm^3
	Compression ratio			10.7 : 1
	Valve train			Chain driven, DOHC
	Intake valve	opens		19° BTDC at 1 mm lift
		closes		34° ABDC at 1 mm lift
	Exhaust valve	opens		40° BBDC at 1 mm lift
		closes		0° TDC at 1 mm lift
	Lubrication system			Forced pressure and wet sump
	Oil pump type			Trochoid
	Cooling system			Liquid cooled
	Air filtration			Viscous paper filter
	Engine dry weight			35.4 kg
	Emission control system			Crankcase emission control system Secondary air supply system Three-way catalytic converter Evaporative emission control system (Except U type)
FUEL SYSTEM	Type			PGM-FI
	Throttle bore			38 mm
DRIVE TRAIN	Clutch system			Multi-plate, wet
	Clutch operation system			Cable operating
	Transmission			6 speed
	Primary reduction			2.807 (73/26)
	Final reduction			2.571 (36/14)
	Gear ratio		1st	3.416 (41/12)
			2nd	2.250 (36/16)
			3rd	1.650 (33/20)
			4th	1.350 (27/20)
			5th	1.166 (28/24)
			6th	1.038 (27/26)
	Gearshift pattern			Left foot operated return system
				1 - N - 2 - 3 - 4 - 5 - 6
ELECTRICAL	Ignition system			Full transistorized
	Starting system			Electric starter motor
	Charging system			Triple phase output alternator
	Regulator/rectifier			SCR shorted, triple phase full-wave rectification
	Lighting system			Battery

FUEL & ENGINE SPECIFICATIONS

FUEL SYSTEM

ITEM	SPECIFICATIONS
Throttle body identification number	GQ9SA
Idle speed	1,400 ± 100 rpm
Throttle grip freeplay	2 – 6 mm
Fuel pressure at idle	267 – 326 kPa
Fuel pump flow (at 12 V)	103 cm^3 minimum/10 seconds

LUBRICATION SYSTEM

Unit: mm

ITEM		STANDARD	LIMIT
Engine oil capacity	After draining	1.4 liters	–
	After draining/filter change	1.5 liters	–
	After disassembly	1.8 liters	–
Recommended engine oil		Honda “4-stroke motorcycle oil” or an equivalent motor oil. API service classification: SG or higher JASO T903 standard: MA Viscosity: SAE 10W-30	–
Oil pump rotor	Tip clearance	0.15	0.20

COOLING SYSTEM

ITEM			SPECIFICATIONS
Coolant capacity	Replacement		0.71 liters
	After disassembly		0.79 liters
Radiator cap relief pressure			107.9 – 137.3 kPa
Thermostat	Begin to open		81 – 84°C
	Fully open		95°C
	Valve lift		4.5 mm minimum
Recommended antifreeze		TH model	Honda PRE-MIX Coolant
		KO,U model	High quality ethylene glycol antifreeze containing silicatefree corrosion inhibitors
Standard coolant concentration		KO,U model	1:1 (mixture with distilled water)

CYLINDER HEAD/VALVE

Unit: mm

ITEM			STANDARD	LIMIT
Cylinder compression			1,294 kPa at 490 rpm	–
Valve clearance		IN	0.16 ± 0.03	–
		EX	0.27 ± 0.03	–
Camshaft	Cam lobe height	IN	30.931 – 31.171	30.9
		EX	30.839 – 31.079	30.8
	Oil clearance		0.020 – 0.062	0.10
Rocker arm, rocker arm shaft	Shaft O.D.	IN/EX	9.972 – 9.987	–
	Arm I.D.	IN/EX	10.000 – 10.015	10.06
Valve, valve guide	Valve stem O.D.	IN	4.475 – 4.490	4.465
		EX	4.465 – 4.480	4.455
	Valve guide I.D.	IN/EX	4.500 – 4.512	4.54
	Valve guide projection above cylinder head	IN/EX	13.8 – 14.0	–
	Valve seat width	IN/EX	0.90 – 1.10	1.50
Valve spring free length	Inner		34.58	33.9
	Outer		40.37	39.6
Cylinder head warpage			–	0.10
Exhaust pipe stud bolt height			21.5 – 22.5	–

CYLINDER/PISTON

Unit: mm

ITEM			STANDARD	LIMIT
Cylinder	I.D.		76.000 – 76.010	76.1
	Warpage		–	0.10
Piston, Piston pin	Piston O.D.		75.960 – 75.980 at 11 mm from bottom of skirt	75.88
	Piston pin bore I.D.		17.002 – 17.008	17.02
	Piston pin O.D.		16.994 – 17.000	16.98
Piston rings	Piston ring end gap	Top	0.28 – 0.38	0.5
		Second	0.40 – 0.55	0.7
		Oil (side rail)	0.20 – 0.70	0.9
	Piston ring-to-ring groove clearance	Top	0.040 – 0.080	–
		Second	0.015 – 0.050	–
Connecting rod small end I.D.			17.016 – 17.034	17.04

CLUTCH/GEARSHIFT LINKAGE

Unit: mm

ITEM		STANDARD	LIMIT
Clutch lever freeplay		10 – 20	–
Clutch	Disc thickness	2.30 – 2.50	2.10
	Plate warpage	–	0.10
	Clutch spring free length	36.8	36.1
Clutch outer guide I.D.		19.978 – 19.992	–
Mainshaft O.D. at clutch outer guide		19.966 – 19.980	–

ALTERNATOR/STARTER CLUTCH

Unit: mm

ITEM		STANDARD	LIMIT
Starter driven gear	I.D.	36.000 – 36.013	–
	O.D.	51.705 – 51.718	–

CRANKCASE/CRANKSHAFT/BALANCER

Unit: mm

ITEM			STANDARD	LIMIT
Connecting rod	Side clearance		0.05 – 0.50	0.60
	Radial clearance		0.004 – 0.016	0.05
Crankshaft	Runout	Right	–	0.03
		Left	–	0.02
	Main journal oil clearance		0.018 – 0.045	0.065
	Main journal O.D.		33.985 – 34.000	33.975
Main journal bearing area I.D.			38.000 – 38.018	38.036

TRANSMISSION

Unit: mm

ITEM			STANDARD	LIMIT
Transmission	Gear I.D.	M5, M6	23.000 – 23.021	–
		C1	23.020 – 23.041	–
		C2	25.000 – 25.021	–
		C3, C4	28.000 – 28.021	–
	Gear bushing O.D.	M5, M6	22.959 – 22.980	–
		C1	22.984 – 23.005	–
		C2	24.959 – 24.980	–
		C3, C4	27.959 – 27.980	–
	Gear bushing I.D.	M5, C1	20.000 – 20.021	–
		C2	22.000 – 22.021	–
		C3	25.000 – 25.021	–
	Mainshaft O.D.	at M5 bushing	19.959 – 19.980	–
	Countershaft O.D.	at C1 bushing	19.959 – 19.980	–
		at C2 bushing	21.959 – 21.980	–
		at C3 bushing	24.959 – 24.980	–
Shift fork, shift fork shaft	Fork I.D.		12.000 – 12.018	–
	Fork shaft O.D.		11.957 – 11.968	–
	Fork claw thickness		4.93 – 5.00	4.83
Shift drum	Shift drum O.D.	Left side	13.966 – 13.984	13.94
	Shift drum journal I.D.	Left side	14.000 – 14.027	14.06
	Shift drum-to-shift drum journal clearance	Left side	0.016 – 0.061	0.08

FRAME & CHASSIS SPECIFICATIONS

FRONT WHEEL/SUSPENSION/STEERING

Unit: mm

ITEM			STANDARD	LIMIT
Cold tire pressure	Driver only		200 kPa	–
	Driver and passenger		200 kPa	–
Axle runout			–	0.2
Wheel rim runout	Radial		–	2.0
	Axial		–	2.0
Wheel balance weight			60 g maximum	–
Fork	Spring free length	Right	312.1	305.9
		Left	372.3	364.9
	Recommended fluid		Honda Ultra Cushion Oil 10W or equivalent	–
	Fluid level	Right	99	–
		Left	111	–
	Fluid capacity	Right	513 ± 2.5 cm^3	–
		Left	425 ± 2.5 cm^3	–

REAR WHEEL/SUSPENSION

Unit: mm

ITEM			STANDARD	LIMIT
Cold tire pressure	Driver only		225 kPa	–
	Driver and passenger		225 kPa	–
Axle runout			–	0.2
Wheel rim runout	Radial		–	2.0
	Axial		–	2.0
Shock absorber pre-load adjuster standard position			2nd position from minimum	–
Wheel balance weight			60 g maximum	–
Drive chain slack			30 – 40	50
Drive chain size/link		DID	DID 520VF-108LE	–
		RK	RK 520KLO2-108LE	–

HYDRAULIC BRAKE

Unit: mm

ITEM		STANDARD	LIMIT
Front	Specified brake fluid	DOT 3 or 4 brake fluid	–
	Brake disc thickness	4.5 ± 0.2	3.5
	Brake disc warpage	–	0.30
	Master cylinder I.D.	12.700 – 12.743	–
	Master piston O.D.	12.657 – 12.684	–
	Caliper cylinder I.D.	25.400 – 25.450	–
	Caliper piston O.D.	25.318 – 25.368	–
Rear	Specified brake fluid	DOT 3 or 4 brake fluid	–
	Brake disc thickness	5.0 ± 0.2	4.0
	Brake disc warpage	–	0.30
	Master cylinder I.D.	12.700 – 12.743	–
	Master piston O.D.	12.657 – 12.684	–
	Caliper cylinder I.D.	33.960 – 34.010	–
	Caliper piston O.D.	33.878 – 33.928	–

ELECTRICAL SYSTEM SPECIFICATIONS

PGM-FI SYSTEM

ITEM	SPECIFICATIONS
IACV resistance (25°C)	110 – 150 Ω
IAT sensor resistance (40°C)	1.0 – 1.3 kΩ
ECT sensor resistance (20°C)	2.3 – 2.6 kΩ
Fuel injector resistance (20°C)	11 – 13 Ω
O_2 sensor heater resistance (20°C)	13 – 19 Ω
PAIR control solenoid valve resistance (20°C)	20 – 24 Ω
EVAP purge control solenoid valve resistance (20°C)	37 – 44 Ω

ABS SYSTEM

ITEM		SPECIFICATIONS
Air gap	Front (between the wheel sensor bracket of the fork and pulser ring)	0.58 – 1.10 mm
	Rear (between the caliper bracket and pulser ring)	0.89 – 1.34 mm

IGNITION SYSTEM

ITEM	SPECIFICATIONS
Spark plug	SIMR8A9 (NGK)
Spark plug gap	0.8 – 0.9 mm
Ignition coil peak voltage	100 V minimum
CKP sensor peak voltage	0.7 V minimum
Ignition timing ("F"mark)	10° BTDC at idle speed

BATTERY/CHARGING SYSTEM

ITEM			SPECIFICATIONS
Battery	Type		YTZ8V
	Capacity		12 V – 7 Ah (10 HR)
	Voltage	Fully charged	12.8 V minimum
		Needs charging	Below 12.3 V
	Charging current	Normal	0.7 A/5 – 10 h
		Quick	3.5 A/1 h
Current leakage			0.05 mA maximum
Alternator	Capacity		0.34 kW/5,000 rpm
	Charging coil resistance (20°C)		0.1 – 1.0 Ω

LIGHTS/METERS/SWITCHES

ITEM			SPECIFICATIONS
Fuse	Main fuse		30 A
	Sub fuse		10 A x 3
	Sub fuse		7.5 A x 3
	ABS MOTOR fuse		30 A
	ABS SOL fuse		20 A
	ABS ECU fuse		7.5 A
Fuel level sensor resistance		Full	5.5 – 8.5 Ω
		Empty	385 – 395 Ω

TORQUE VALUE

- Each fastener should be tightened to the standard torque value except the fasteners specified torque value.
- Q'TY: Quantity, DIA: Thread diameter (mm), TRQ: Tightening torque (N·m)

STANDARD TIGHTENING TORQUE

FASTENER TYPE	TRQ	FASTENER TYPE	TRQ
5 mm hex bolt and nut	5.2	5 mm screw	4.2
6 mm hex bolt and nut	10	6 mm screw	9.0
8 mm hex bolt and nut	22	6 mm flange bolt	12
10 mm hex bolt and nut	34	8 mm flange bolt and nut	27
12 mm hex bolt and nut	54	10 mm flange bolt and nut	39

FUEL PUMP UNIT

ITEM	Q'TY	DIA	TRQ	REMARKS
Fuel pump setting plate nut	4	6	12	➔2-4

FUEL TANK

ITEM	Q'TY	DIA	TRQ	REMARKS
Fuel filler cap bolt	3	4	1.8	

AIR CLEANER

ITEM	Q'TY	DIA	TRQ	REMARKS
Fuel tank bracket mount bolt	4	6	12	
Air cleaner cover screw	4	5	1.1	
Air cleaner element screw	2	5	1.1	

THROTTLE BODY

ITEM	Q'TY	DIA	TRQ	REMARKS
Throttle cable A lock nut (throttle body side)	1	6	4.5	
Throttle cable B lock nut (throttle body side)	1	6	4.5	
Sensor unit torx screw	3	5	3.4	
IACV setting plate torx screw	2	4	2.1	
Throttle cable holder screw	2	5	3.4	
Hose clamp stay screw	1	5	3.4	
Fuel hose stay screw	1	5	3.4	
Injector joint mounting bolt	2	5	5.1	

SECONDARY AIR SUPPLY SYSTEM

ITEM	Q'TY	DIA	TRQ	REMARKS
PAIR check valve cover bolt	2	5	5.2	

LUBRICATION SYSTEM

ITEM	Q'TY	DIA	TRQ	REMARKS
Oil drain bolt	1	12	24	

COOLING SYSTEM

ITEM	Q'TY	DIA	TRQ	REMARKS
Cooling fan nut	1	3	1.0	Apply locking agent.
Fan motor shroud bolt	2	6	8.4	
Fan motor screw	3	4	2.7	
Water pump impeller	1	7	10	

CYLINDER HEAD

ITEM	Q'TY	DIA	TRQ	REMARKS
Crankshaft hole cap	1	30	8.0	Apply engine oil.
Timing hole cap	1	14	6.0	Apply engine oil.
Cylinder head cover bolt	2	6	10	
Cam chain tensioner lifter plug	1	6	4.2	
Camshaft holder mounting bolt	8	6	12	Apply engine oil.
Cylinder head mounting nut	4	10	45	Apply engine oil.
Cylinder head sealing bolt	2	12	15	

CYLINDER/PISTON

ITEM	Q'TY	DIA	TRQ	REMARKS
Cylinder stud bolt	4	10	–	➔2-29

CLUTCH/GEARSHIFT LINKAGE

ITEM	Q'TY	DIA	TRQ	REMARKS
Clutch center lock nut	1	16	108	Lock nut; replace with a new one and stake. Apply engine oil.
Clutch lifter plate bolt	5	6	12	
Primary drive gear lock nut	1	16	108	Apply engine oil.
Shift drum stopper arm bolt	1	6	10	Apply locking agent.
Shift drum stopper plate bolt	1	6	10	Apply locking agent.

ALTERNATOR/STARTER CLUTCH

ITEM	Q'TY	DIA	TRQ	REMARKS
Starter clutch socket bolt	6	8	30	Apply locking agent.
Flywheel bolt	1	12	128	Apply engine oil.
CKP sensor mounting socket bolt	2	6	10	Apply locking agent. Coating width: 6.5 ± 1.0 mm from tip
Stator mounting socket bolt	3	6	10	

CRANKCASE/TRANSMISSION/BALANCER

ITEM	Q'TY	DIA	TRQ	REMARKS
Cam chain tensioner pivot bolt	1	6	10	Apply locking agent. Coating width: 6.5 ± 1.0 mm from tip
Balancer shaft nut	1	14	44	Apply engine oil.

ENGINE UNIT

ITEM		Q'TY	DIA	TRQ	REMARKS
Engine hanger plate bolt		2	10	54	
Engine hanger nut	Front upper	1	10	54	
	Front lower	1	10	54	
	Rear upper	1	10	54	
	Rear lower	1	10	54	
Drive sprocket fixing plate bolt		2	6	10	

BODY PANELS

ITEM	Q'TY	DIA	TRQ	REMARKS
Fuel tank cover mounting socket bolt (front)	2	5	4.2	
Fuel tank cover mounting socket bolt (side)	2	5	4.2	
Fuel tank cover mounting socket bolt (upper)	1	6	10	
Fuel tank cover mounting socket bolt (rear)	2	6	10	
Fuel tank inner cover screw	4	4	0.9	
Fuel tank inner cover socket bolt	2	5	4.2	
Radiator cover socket bolt	2	5	4.2	
Radiator cover inner cover socket bolt (front)	4	6	10	
Radiator cover inner cover socket bolt (rear)	2	5	4.2	
Under cowl socket bolt	2	6	10	
Under cowl screw	1	5	4.2	
Rear cowl socket bolt	2	5	4.2	
Rear center cover screw	2	5	0.9	
Drive chain case socket bolt	4	6	10	
License light stay socket bolt	4	6	10	
Rear fender A bolt	4	5	4.2	
Rear fender under cover socket bolt	1	5	4.2	
License light screw	2	4	1.2	
License light cover screw	4	4	0.9	
Reflector nut	1	5	1.5	Self lock nut
Front reflector nut	2	6	1.5	Self lock nut
Rear fender B socket bolt	2	6	10	
Rearview mirror lock nut	2	10	20	Left-hand threads
Rearview mirror adaptor bolt	2	10	20	
Single seat socket bolt	2	6	10	
Front fender socket bolt	6	6	10	
Step bracket socket bolt	2	8	35	
Step bolt	2	8	27	Pre-coated (ALOC) bolt, replace with a new one.
Swingarm pivot nut	1	14	88	Self lock nut
Pillion step mounting socket bolt	4	8	27	

SIDESTAND

ITEM	Q'TY	DIA	TRQ	REMARKS
Sidestand pivot bolt	1	10	10	
Sidestand pivot nut	1	10	44	Self lock nut
Sidestand switch bolt	1	6	10	Pre-coated (ALOC) bolt, replace with a new one.

EXHAUST PIPE/MUFFLER

ITEM	Q'TY	DIA	TRQ	REMARKS
Exhaust pipe stud bolt	2	8	–	➔3-15
Exhaust pipe joint nut	2	8	18	
Exhaust pipe mounting nut	1	8	27	
Muffler mounting nut	1	8	27	
Muffler band bolt	1	8	22.5	
Muffler cover bolt	1	6	10	
Muffler protector bolt	1	6	10	

FRONT WHEEL

ITEM	Q'TY	DIA	TRQ	REMARKS
Front axle nut	1	14	59	
Front axle holder bolt	2	8	24	
Front brake disc bolt	5	8	35	Pre-coated (ALOC) bolt, replace with a new one.

FORK

ITEM	Q'TY	DIA	TRQ	REMARKS
Top bridge pinch bolt	2	8	22	
Bottom bridge pinch bolt	2	10	32	
Fork socket bolt	1	8	20	Apply locking agent.
Fork cap	2	45	35	
Fork rod nut	2	–	20	

HANDLEBAR

ITEM	Q'TY	DIA	TRQ	REMARKS
Left handlebar switch screw	2	5	2.5	
Right handlebar switch screw	2	5	2.5	
Handlebar upper holder bolt	4	8	27	
Lower handlebar holder nut	2	8	27	Self lock nut

STEERING STEM

ITEM	Q'TY	DIA	TRQ	REMARKS
Steering stem nut	1	24	103	
Steering stem adjusting nut	1	26	–	➔3-23
Top bridge pinch bolt	2	8	22	
Headlight stay bolt	2	6	10	

REAR WHEEL

ITEM	Q'TY	DIA	TRQ	REMARKS
Rear axle nut	1	16	88	Self lock nut
Drive chain adjuster lock nut	2	8	21	
Driven sprocket nut	6	10	65	Self lock nut
Rear brake disc bolt	4	8	42	Pre-coated (ALOC) bolt, replace with a new one.
Pulser ring mounting bolt	4	5	7.0	Pre-coated (ALOC) bolt, replace with a new one.

REAR SUSPENSION

ITEM	Q'TY	DIA	TRQ	REMARKS
Shock absorber upper nut	1	10	44	Self lock nut
Shock absorber lower nut	1	10	44	Self lock nut
Swingarm pivot nut	1	14	88	Self lock nut
Drive chain slider bolt	1	5	5	Pre-coated (ALOC) bolt, replace with a new one.

FRONT BRAKE

ITEM	Q'TY	DIA	TRQ	REMARKS
Front brake hose oil bolt	2	10	34	
Front master cylinder bolt	2	6	12	
Front master cylinder reservoir cover screw	2	4	1.5	
Brake lever pivot bolt	1	6	1.0	
Brake lever pivot nut	1	6	5.9	
Front brake light switch screw	1	4	1.2	
Front brake caliper mounting bolt	2	10	45	Pre-coated (ALOC) bolt, replace with a new one.
Front brake caliper bleed valve	1	8	5.4	
Front brake caliper assembly torx bolt	3	8	27	Apply locking agent.

REAR BRAKE

ITEM	Q'TY	DIA	TRQ	REMARKS
Rear brake hose oil bolt	2	10	34	
Rear master cylinder bolt	2	6	12	
Rear master cylinder reservoir cover screw	2	4	1.5	
Rear master cylinder hose joint screw	1	4	1.5	Apply locking agent.
Rear master cylinder push rod lock nut	1	8	17	
Rear brake pad hanger pin	1	10	17	
Rear brake caliper bleed valve	1	8	5.4	

PGM-FI SYSTEM

ITEM	Q'TY	DIA	TRQ	REMARKS
ECT sensor	1	12	25	
O_2 sensor	1	12	25	
Bank angle sensor mounting bolt	2	6	10	

IGNITION SYSTEM

ITEM	Q'TY	DIA	TRQ	REMARKS
Spark plug	1	10	16	

ELECTRICAL STARTER

ITEM	Q'TY	DIA	TRQ	REMARKS
Neutral switch	1	10	12	
Negative brush screw	1	5	3.7	
Starter motor assembly bolt	2	5	4.9	

ABS

ITEM	Q'TY	DIA	TRQ	REMARKS
Modulator cover socket bolt	2	5	4.2	
Brake pipe joint nut	3	10	14	
Brake hose oil bolt	1	10	34	

BATTERY/CHARGING SYSTEM

ITEM	Q'TY	DIA	TRQ	REMARKS
Starter relay switch nut	1	6	4.9	
Fuel tank mount socket bolt	2	6	12	
Battery band bolt	1	6	10	

LIGHTING SYSTEM

ITEM	Q'TY	DIA	TRQ	REMARKS
Brake/taillight nut	2	6	9.0	
Headlight cover socket bolt	6	5	4.2	
Meter cover socket bolt	2	5	4.2	

COMBINATION METER

ITEM	Q'TY	DIA	TRQ	REMARKS
Meter screw	3	5	1.0	

ELECTRICAL COMPONENT

ITEM	Q'TY	DIA	TRQ	REMARKS
Ignition switch bolt	2	8	26	One-way bolt, replace with a new one.
Sidestand switch bolt	1	6	10	Pre-coated (ALOC) bolt, replace with a new one.

OTHERS

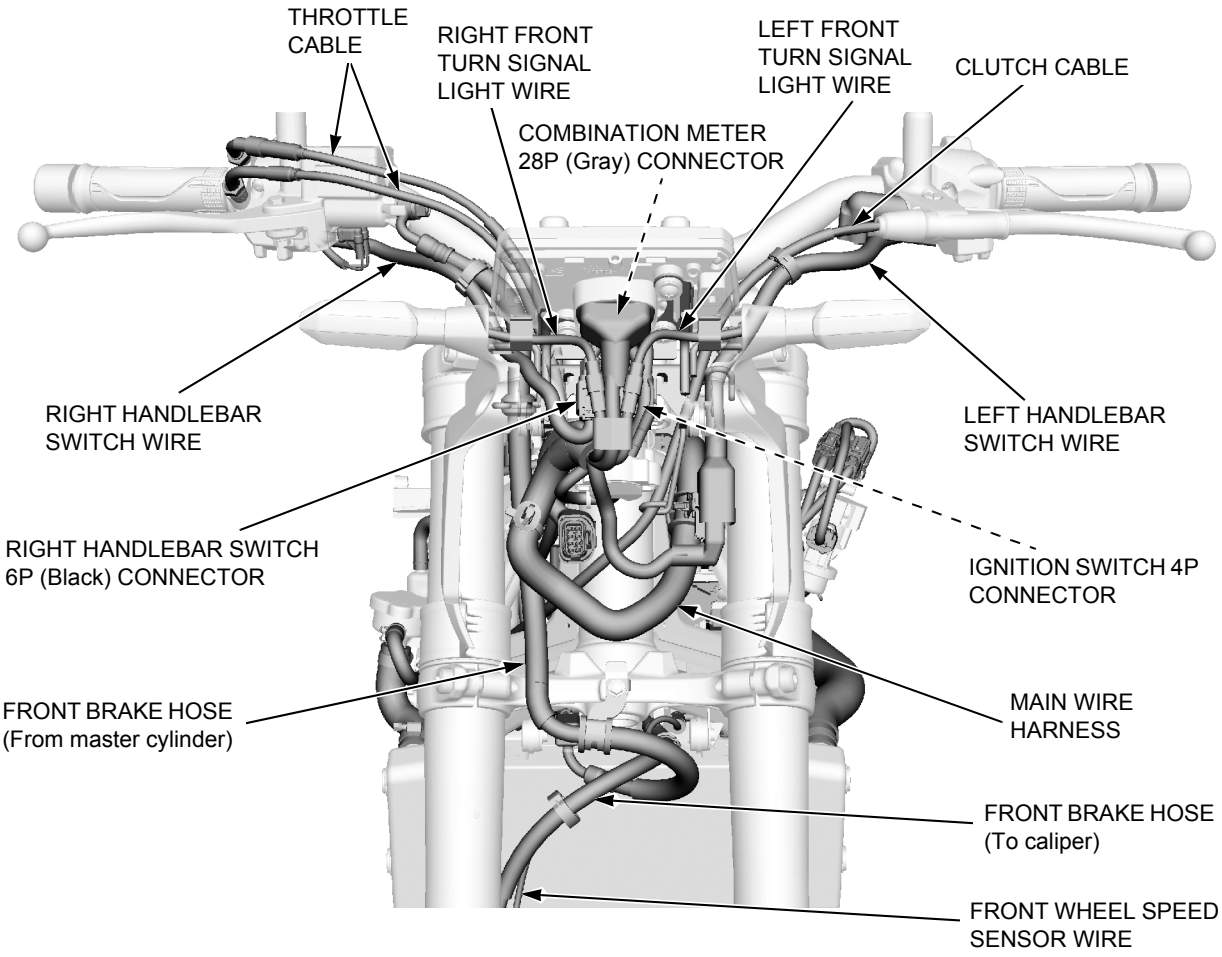
ITEM	Q'TY	DIA	TRQ	REMARKS
Throttle cable A lock nut (handlebar side)	1	10	1.5	
Throttle cable A adjusting lock nut (handlebar side)	1	7	3.8	
Throttle cable B lock nut (handlebar side)	1	12	1.5	
Clutch lever pivot bolt	1	6	1.0	
Clutch lever pivot nut	1	6	6.0	
Harness stay screw (headlight)	2	5	1.0	
Bank sensor bolt	2	6	11	
Gearshift spindle return spring pin	1	8	30	Apply locking agent.

SPECIAL TOOL LIST

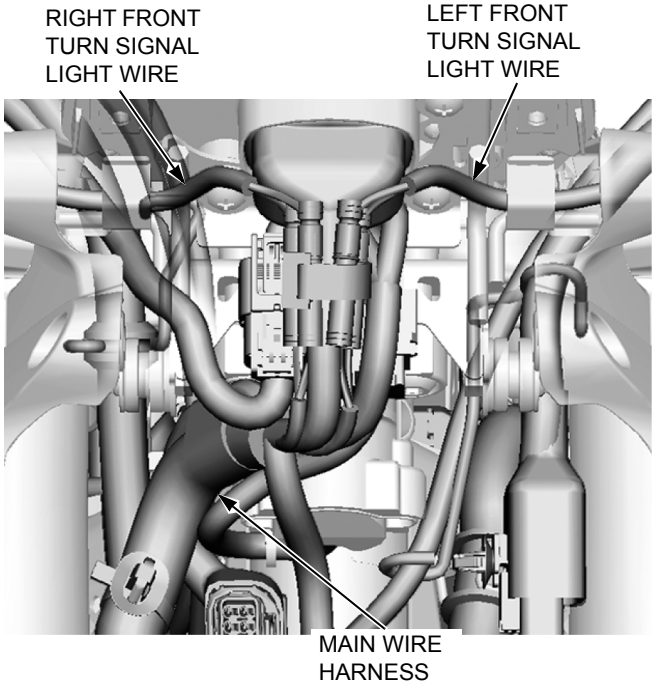
TITLE	TOOL No.	TOOL NAME
Fuel & Engine	07406-0040004	Fuel pressure gauge
	070MJ-K260100	Fuel pressure gauge attachment
	070MF-KVS0300	Fuel pump case remover
	070PZ-ZY30100	SCS connector
	07709-0010001	Timing cap wrench
	070MG-0010100	Cam chain tensioner lifter stopper
	07757-0010000	Valve spring compressor
	07959-KM30101	Valve spring compressor attachment
	07HMH-ML00101	Valve guide reamer, 4.5 mm
	07HMD-ML00101	Valve guide driver, 4.3 mm
	07743-0020000	Valve guide driver
	07724-0050002	Clutch center holder
	07724-0010200	Gear holder, M1.5
	07PAF-0010620	Pilot collar, 16 mm
	07746-0050200	Bearing remover head, 10 mm
	07725-0040001	Flywheel holder
	07733-0020001	Flywheel puller
	07724-0010100	Gear holder, M2.5
	070MF-KYJ0100	Metal installer set
Frame & Chassis	07746-0050400	Bearing remover head, 15 mm
	07746-0050100	Bearing remover shaft
	07746-0010300	Attachment, 42 x 47 mm
	07746-0040300	Pilot 15 mm
	07749-0010000	Driver
	070MA-MGP0100	Fork cap wrench
	07YMD-MCF0100	Fork seal driver, 43.2 mm
	07916-3710101	Steering stem socket
	070MF-MBZC120	Damper rod holder
	070MF-MBZC110	Spring collar holder
	070MF-MBZC130	Stopper plate
	07953-MJ10100	Remover attachment
	07953-MJ10200	Remover handle
	07946-3710500	Bearing remover
	07946-MB00000	Driver, 30 mm I.D.
	07746-0050500	Remover head, 17 mm
	07746-0010200	Attachment, 37 x 40 mm
	07746-0040400	Pilot 17 mm
	07746-0040500	Pilot 20 mm
	07914-SA50001	Snap ring pliers
Electrical System	07HGJ-0020100	Peak voltage adapter

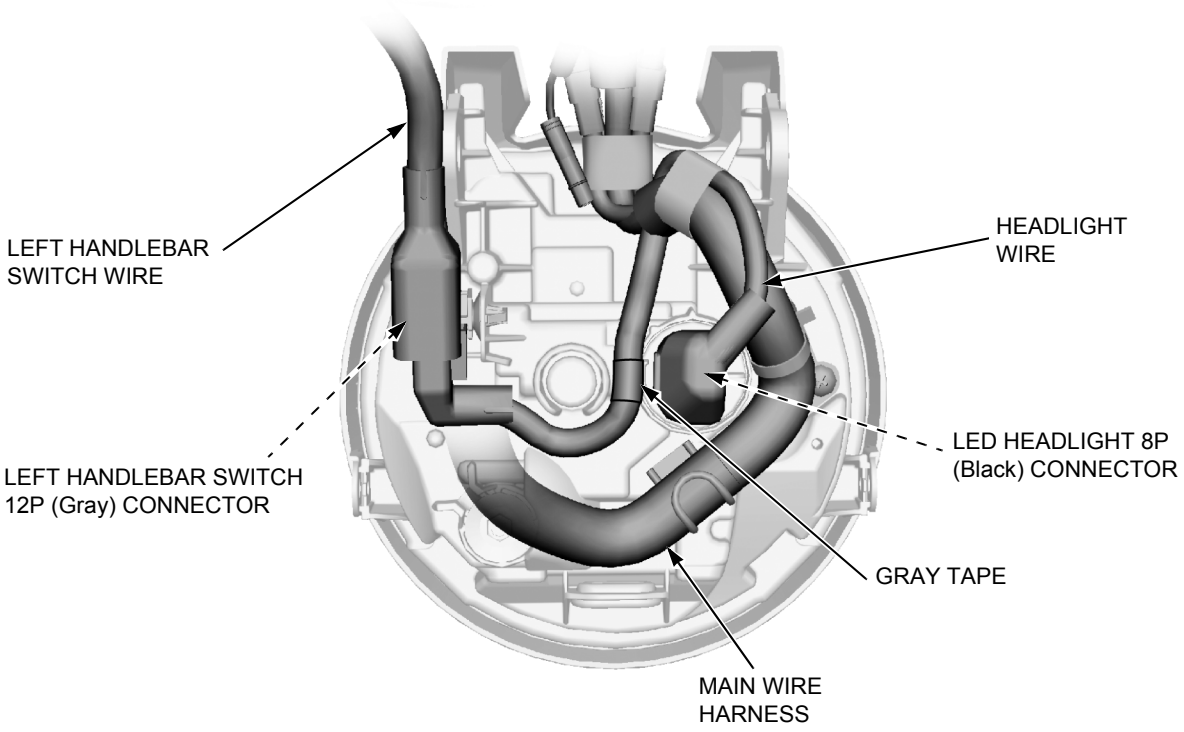
CABLE & HARNESS ROUTING

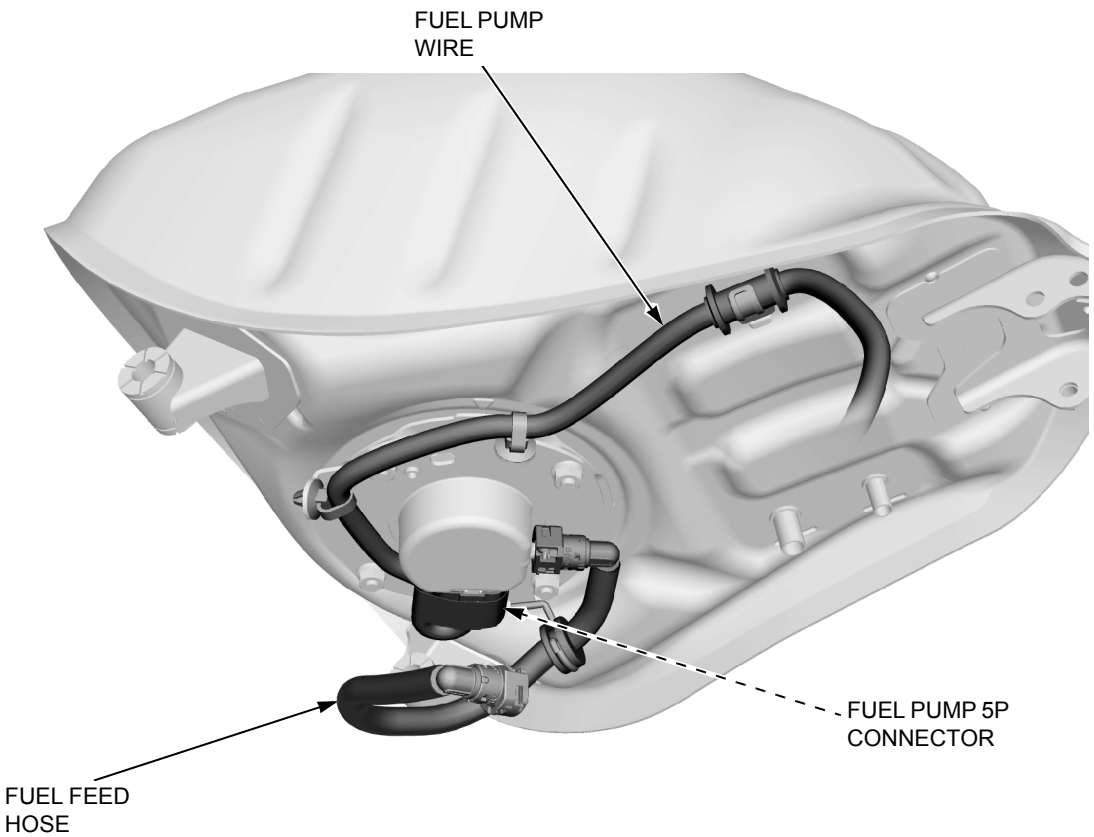
KO, U model shown:

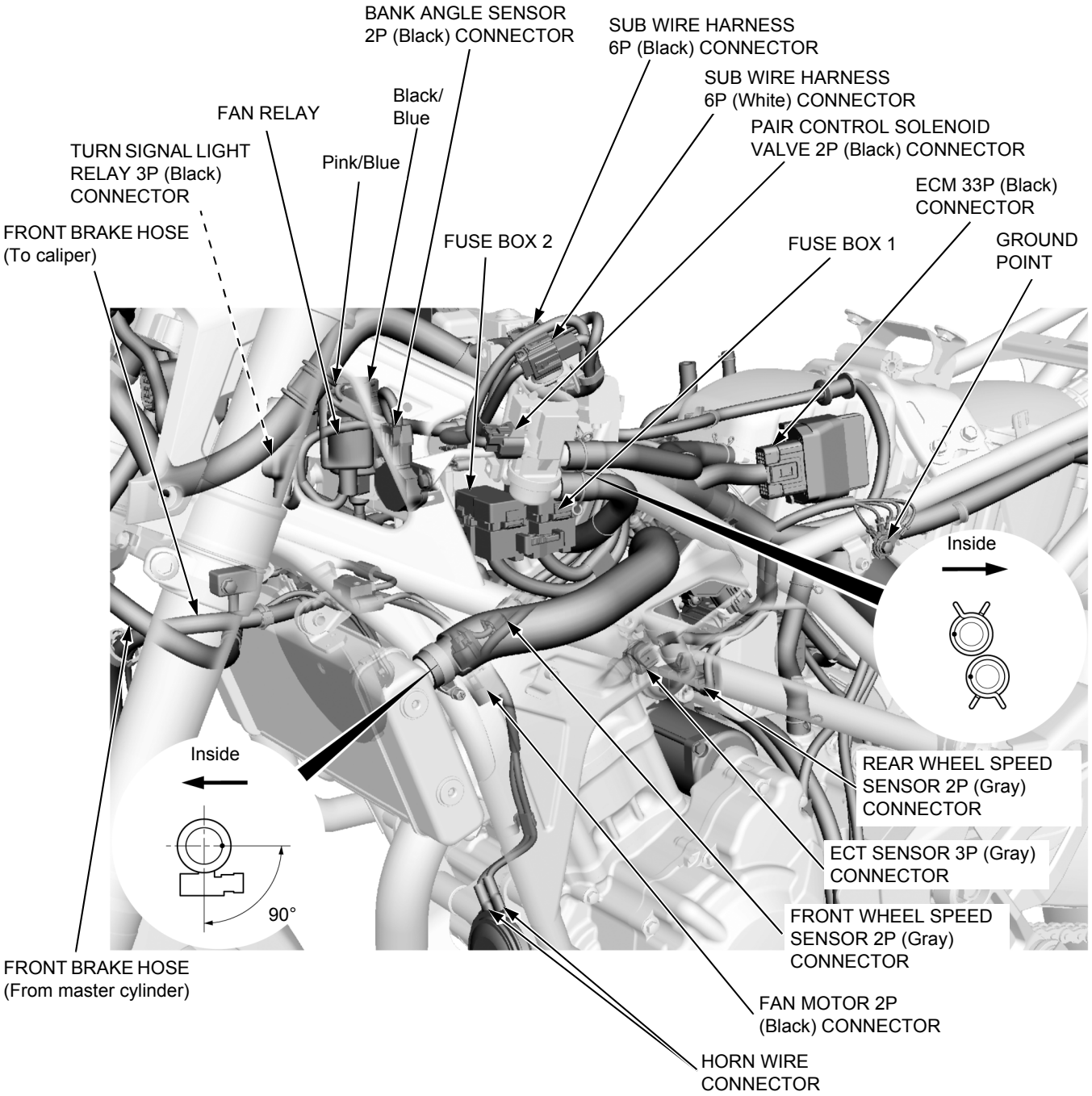


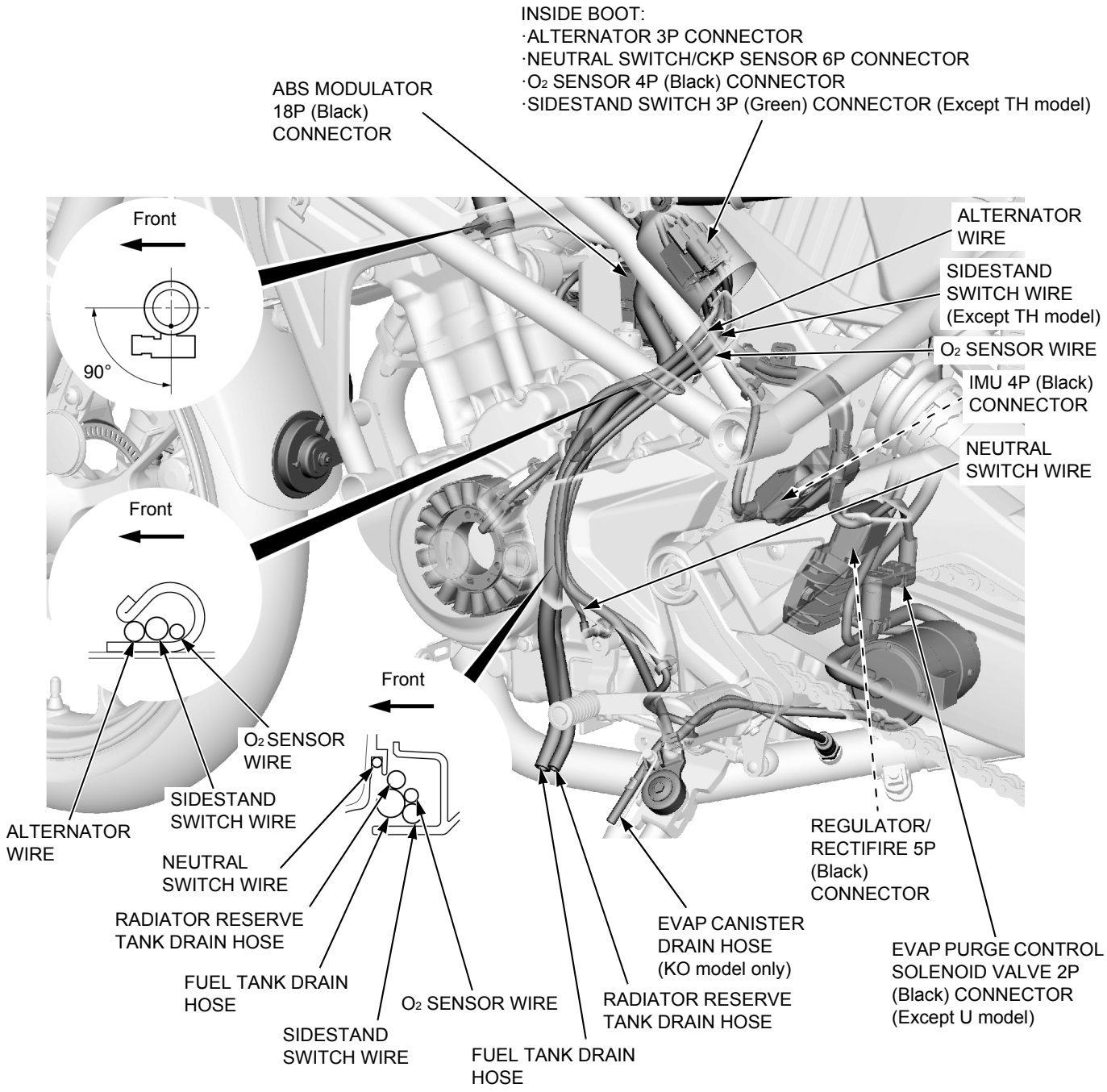
TH model:

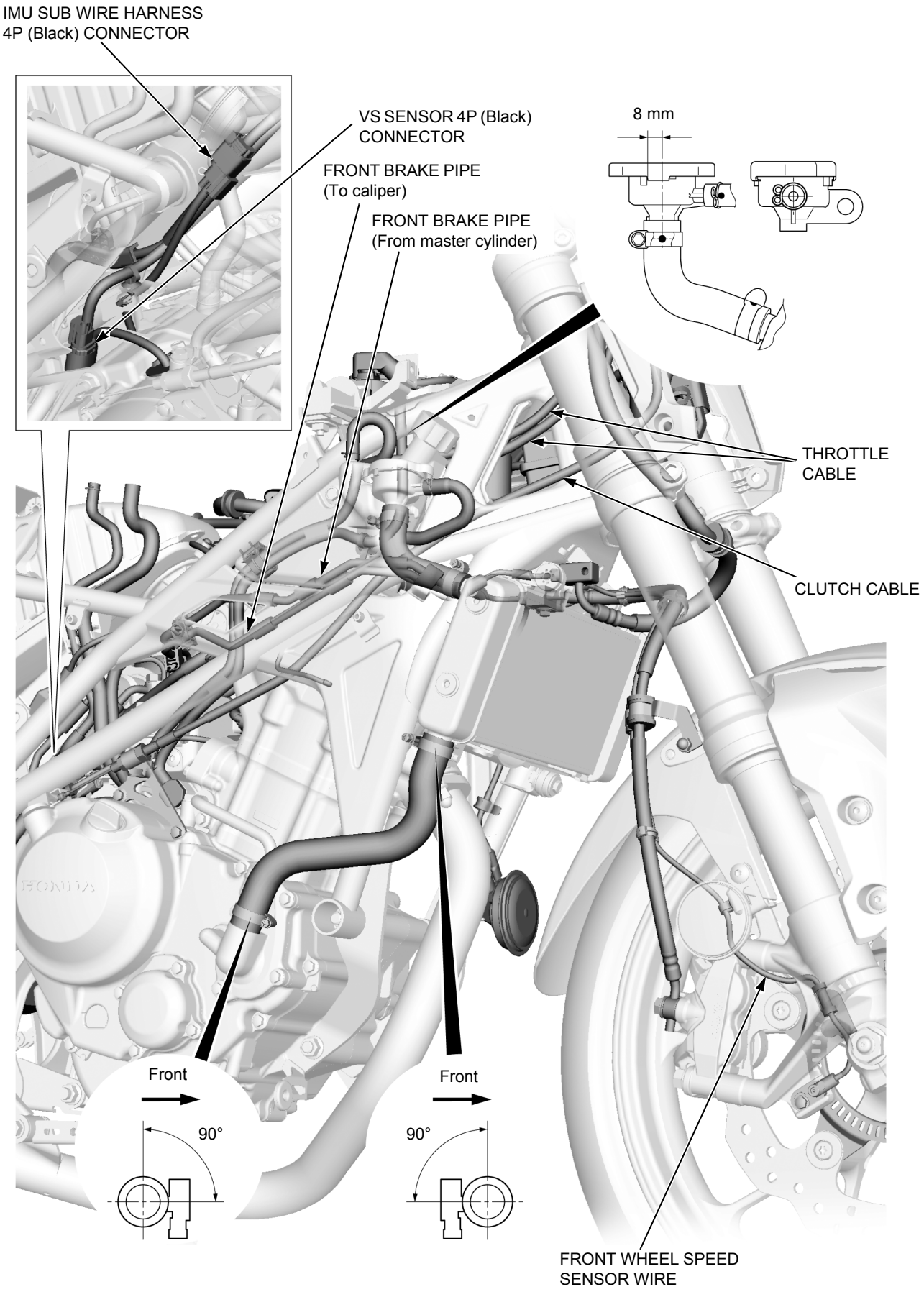


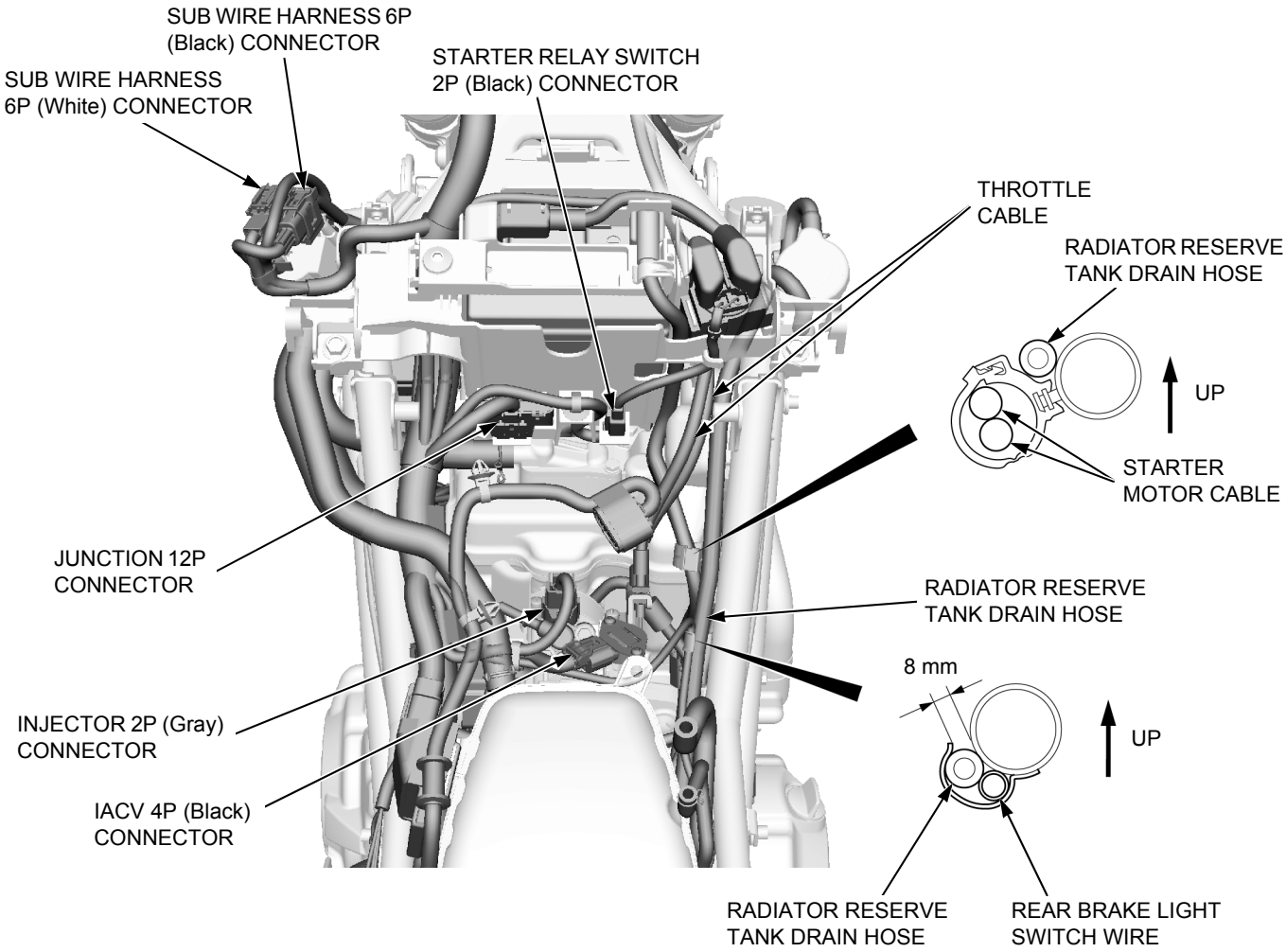

LEFT HANDLEBAR
SWITCH WIRE
HEADLIGHT
WIRE
LED HEADLIGHT 8P
(Black) CONNECTOR
LEFT HANDLEBAR SWITCH
12P (Gray) CONNECTOR
GRAY TAPE
MAIN WIRE
HARNESS

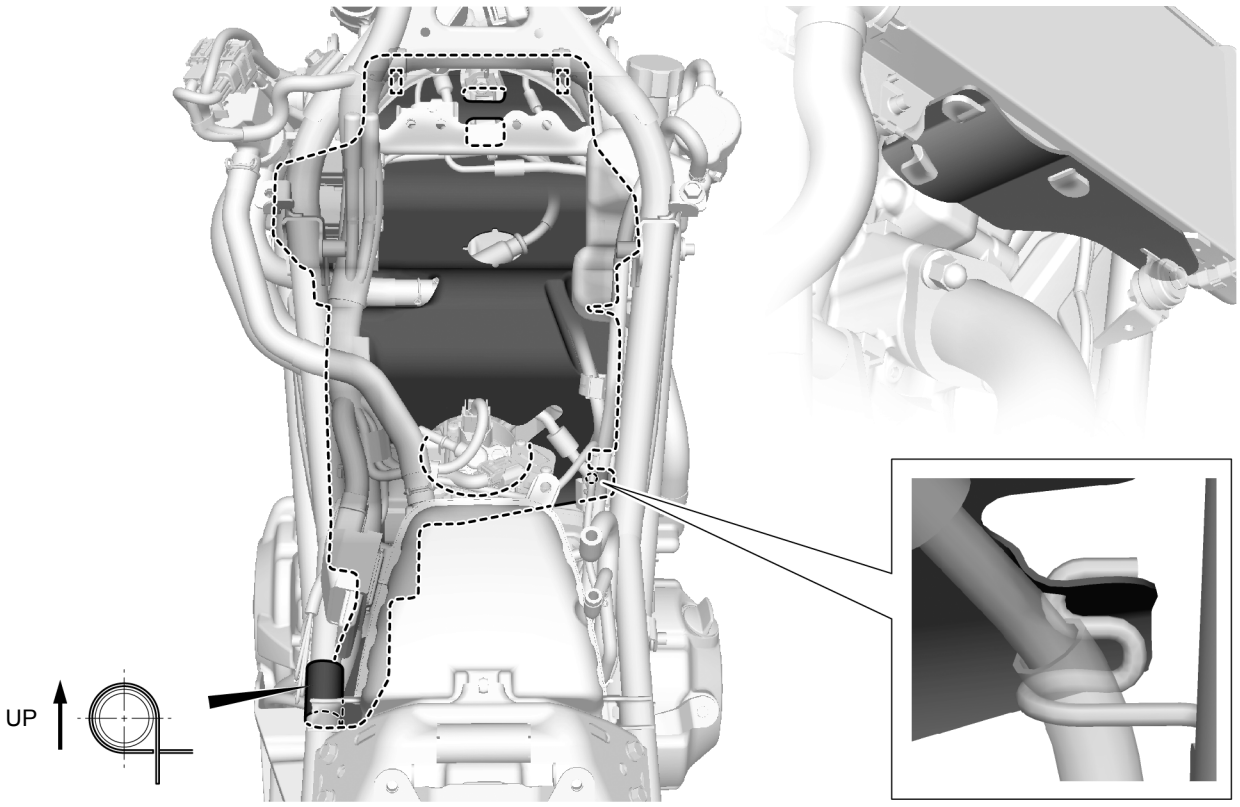

FUEL PUMP
WIRE
FUEL PUMP 5P
CONNECTOR
FUEL FEED
HOSE

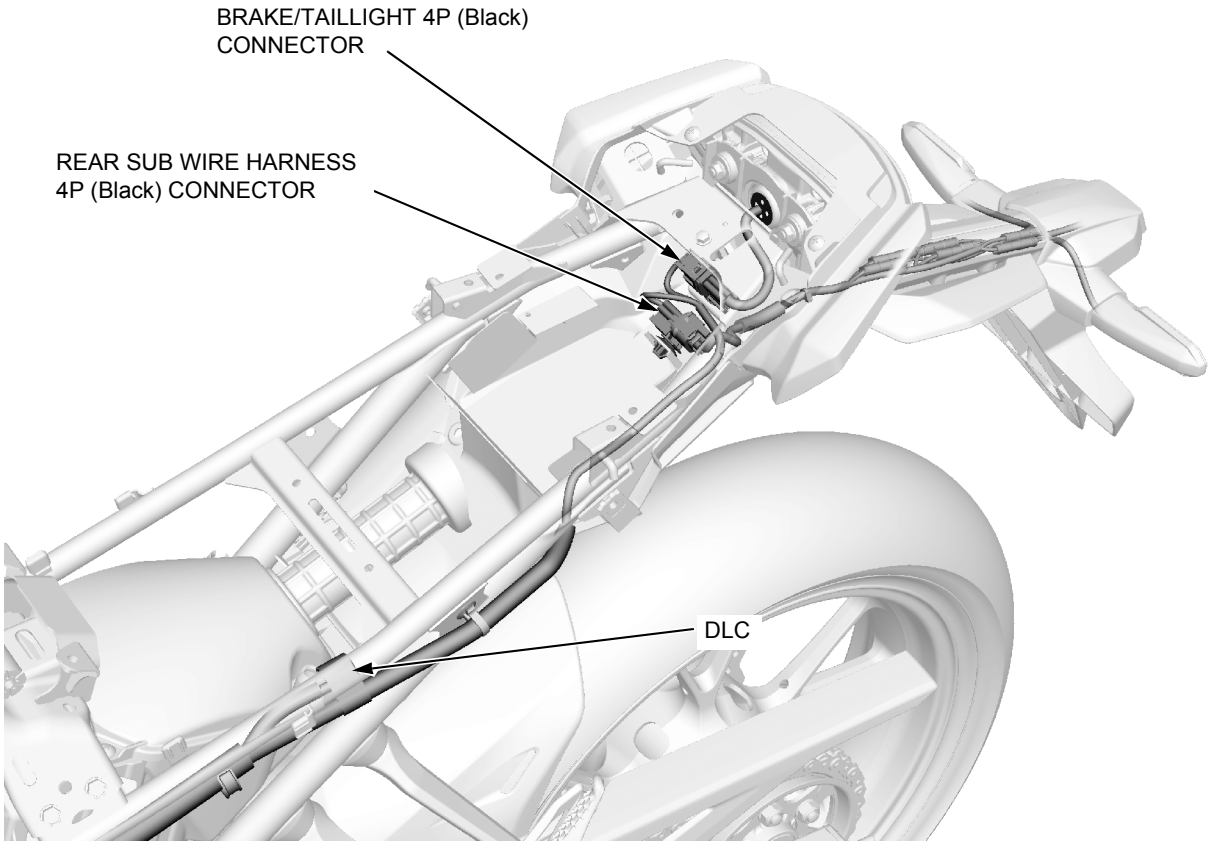

BANK ANGLE SENSOR
2P (Black) CONNECTOR
SUB WIRE HARNESS
6P (Black) CONNECTOR
SUB WIRE HARNESS
6P (White) CONNECTOR
PAIR CONTROL SOLENOID
VALVE 2P (Black) CONNECTOR
ECM 33P (Black)
CONNECTOR
GROUND
POINT
FUSE BOX 1
FUSE BOX 2
FAN RELAY
Black/
Blue
Pink/Blue
TURN SIGNAL LIGHT
RELAY 3P (Black)
CONNECTOR
FRONT BRAKE HOSE
(To caliper)
Inside
Inside
90°
REAR WHEEL SPEED
SENSOR 2P (Gray)
CONNECTOR
ECT SENSOR 3P (Gray)
CONNECTOR
FRONT WHEEL SPEED
SENSOR 2P (Gray)
CONNECTOR
FRONT BRAKE HOSE
(From master cylinder)
FAN MOTOR 2P
(Black) CONNECTOR
HORN WIRE
CONNECTOR

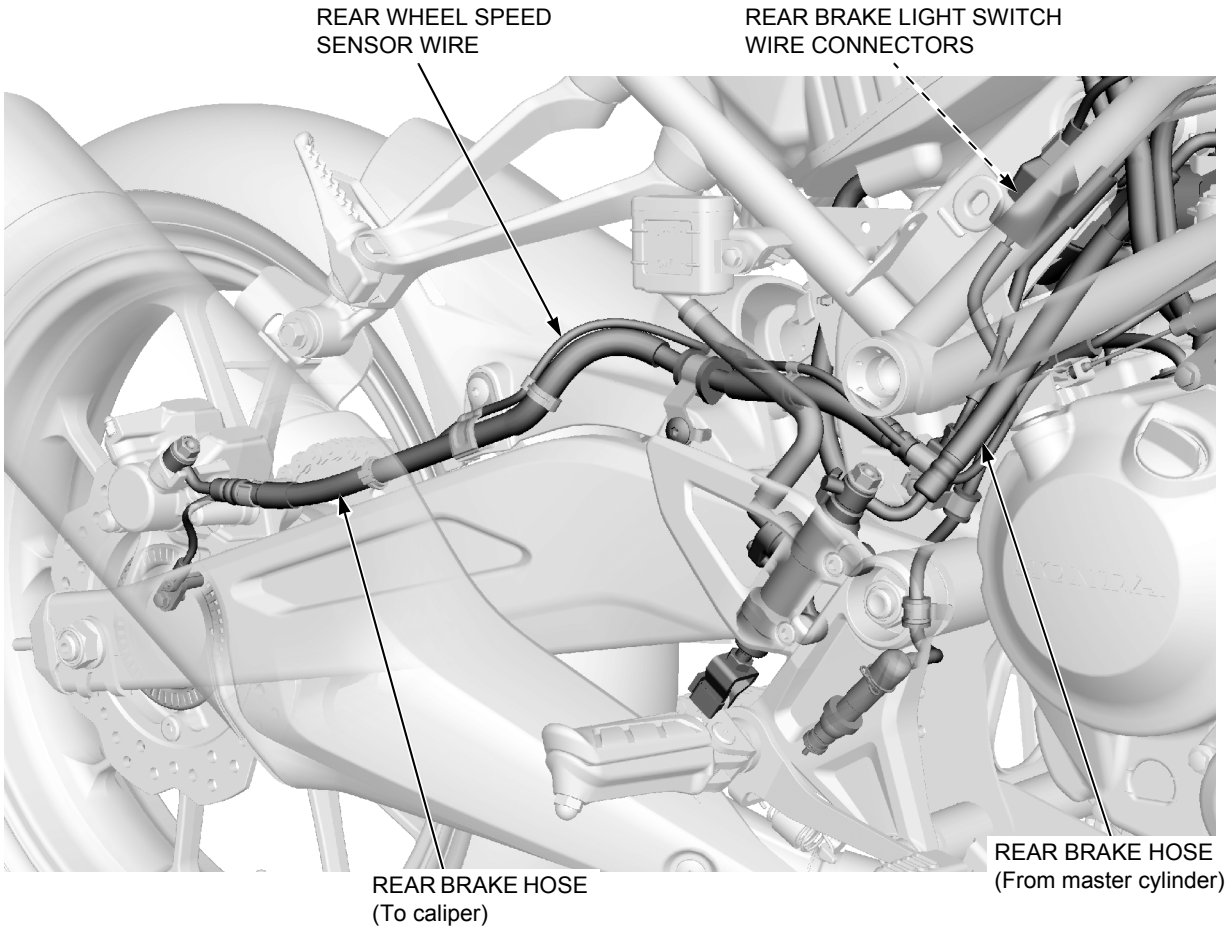

INSIDE BOOT:
·ALTERNATOR 3P CONNECTOR
·NEUTRAL SWITCH/CKP SENSOR 6P CONNECTOR
·O2 SENSOR 4P (Black) CONNECTOR
·SIDESTAND SWITCH 3P (Green) CONNECTOR (Except TH model)
ABS MODULATOR 18P (Black) CONNECTOR
Front
90°
ALTERNATOR WIRE
SIDESTAND SWITCH WIRE (Except TH model)
O2 SENSOR WIRE
IMU 4P (Black) CONNECTOR
NEUTRAL SWITCH WIRE
Front
Front
O2 SENSOR WIRE
SIDESTAND SWITCH WIRE
ALTERNATOR WIRE
NEUTRAL SWITCH WIRE
RADIATOR RESERVE TANK DRAIN HOSE
FUEL TANK DRAIN HOSE
SIDESTAND SWITCH WIRE
O2 SENSOR WIRE
FUEL TANK DRAIN HOSE
REGULATOR/ RECTIFIRE 5P (Black) CONNECTOR
EVAP CANISTER DRAIN HOSE (KO model only)
RADIATOR RESERVE TANK DRAIN HOSE
EVAP PURGE CONTROL SOLENOID VALVE 2P (Black) CONNECTOR (Except U model)


IMU SUB WIRE HARNESS
4P (Black) CONNECTOR
VS SENSOR 4P (Black)
CONNECTOR
FRONT BRAKE PIPE
(To caliper)
FRONT BRAKE PIPE
(From master cylinder)
8 mm
THROTTLE
CABLE
CLUTCH CABLE
Front
90°
Front
90°
FRONT WHEEL SPEED
SENSOR WIRE

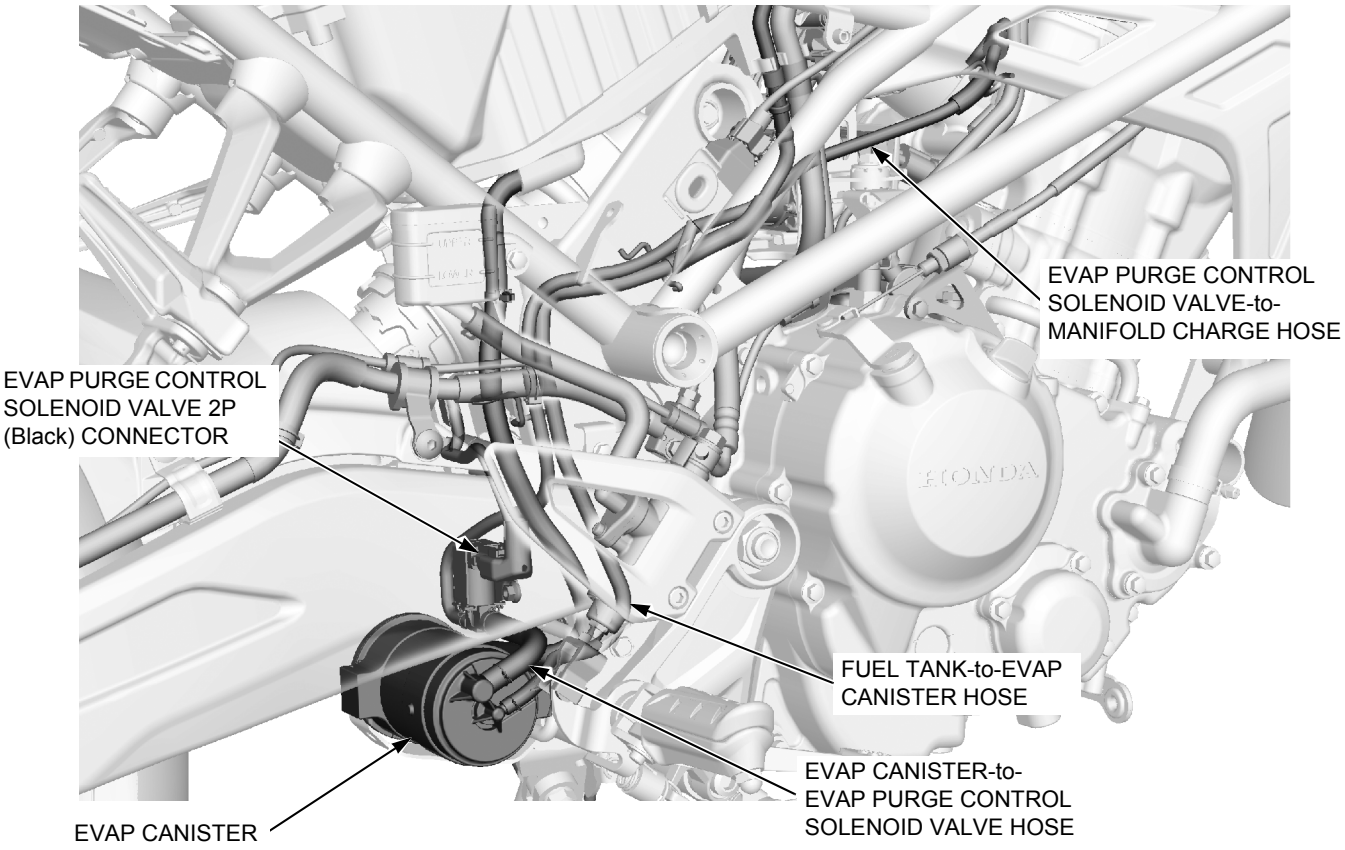

SUB WIRE HARNESS 6P
(Black) CONNECTOR
STARTER RELAY SWITCH
2P (Black) CONNECTOR
SUB WIRE HARNESS
6P (White) CONNECTOR
THROTTLE
CABLE
RADIATOR RESERVE
TANK DRAIN HOSE
UP
STARTER
MOTOR CABLE
JUNCTION 12P
CONNECTOR
RADIATOR RESERVE
TANK DRAIN HOSE
8 mm
INJECTOR 2P (Gray)
CONNECTOR
UP
IACV 4P (Black)
CONNECTOR
RADIATOR RESERVE
TANK DRAIN HOSE
REAR BRAKE LIGHT
SWITCH WIRE


UP

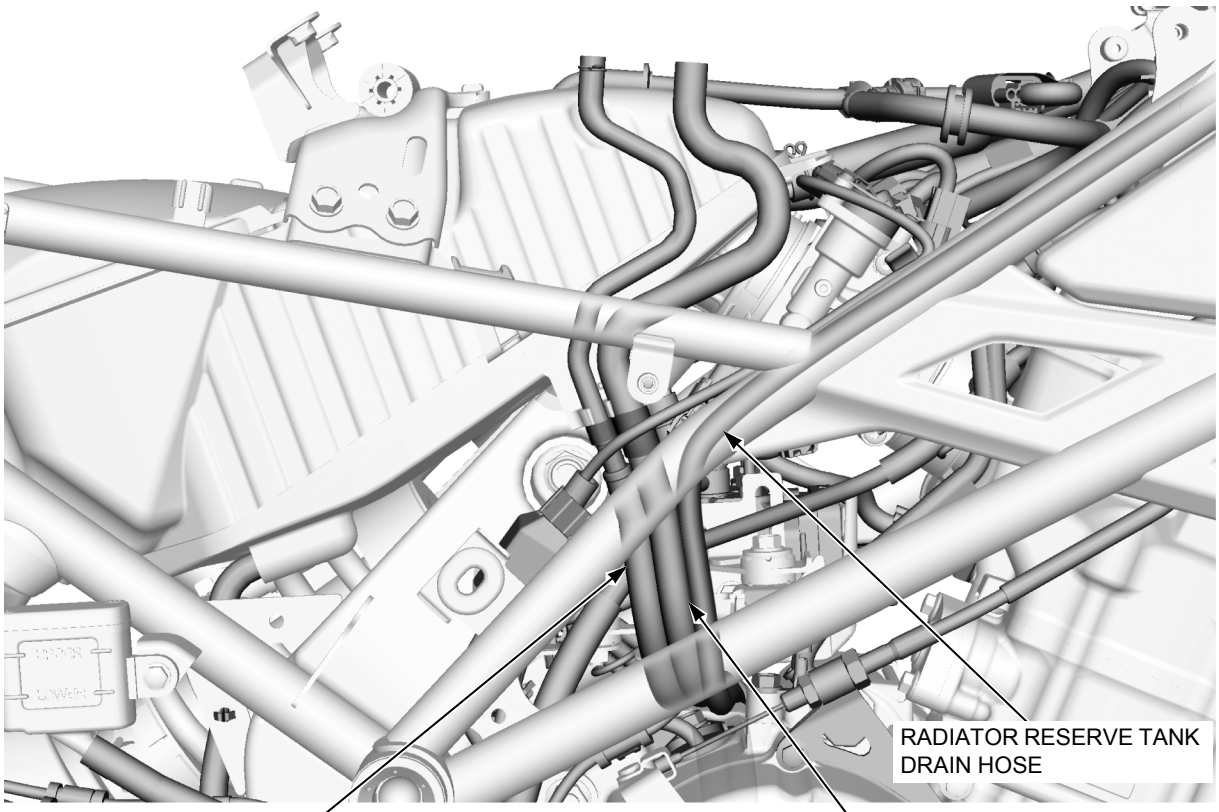

BRAKE/TAILLIGHT 4P (Black)
CONNECTOR
REAR SUB WIRE HARNESS
4P (Black) CONNECTOR
DLC

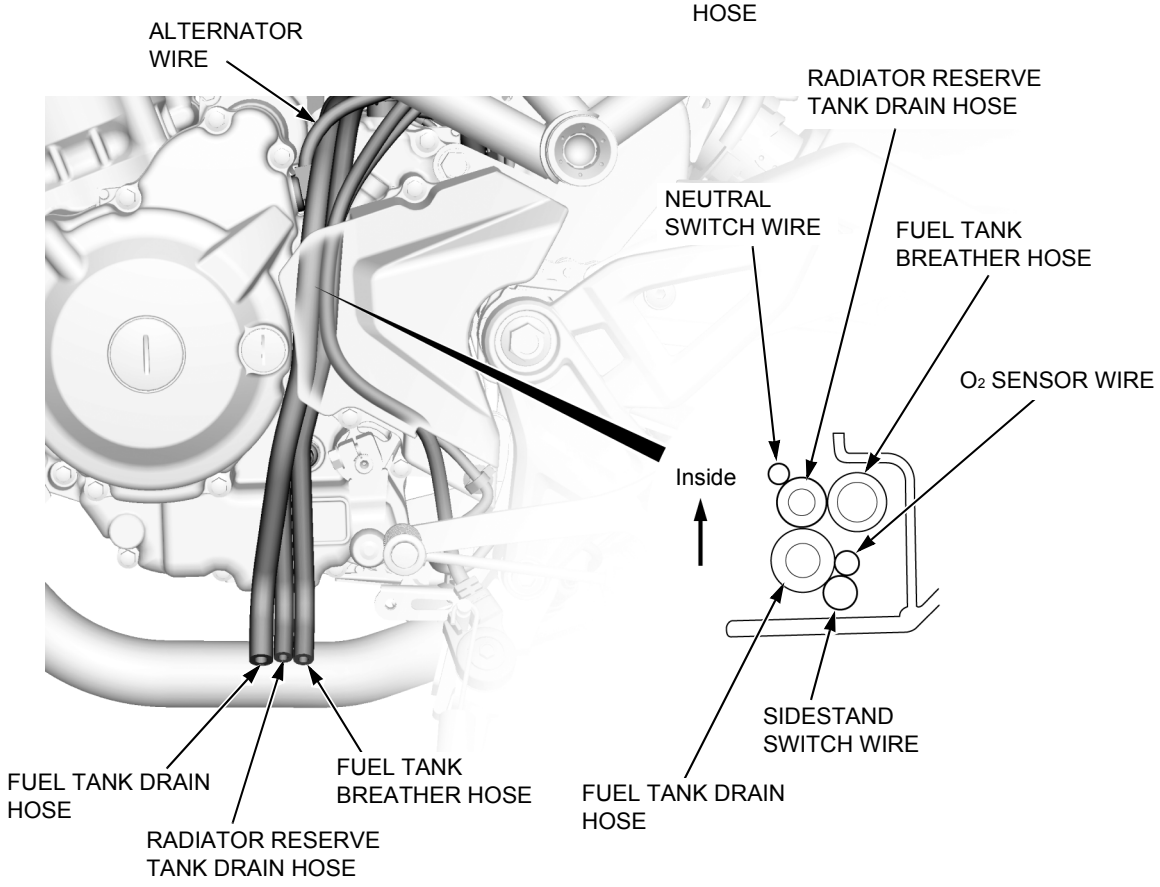

REAR WHEEL SPEED
SENSOR WIRE
REAR BRAKE LIGHT SWITCH
WIRE CONNECTORS
REAR BRAKE HOSE
(To caliper)
REAR BRAKE HOSE
(From master cylinder)

Except U model:



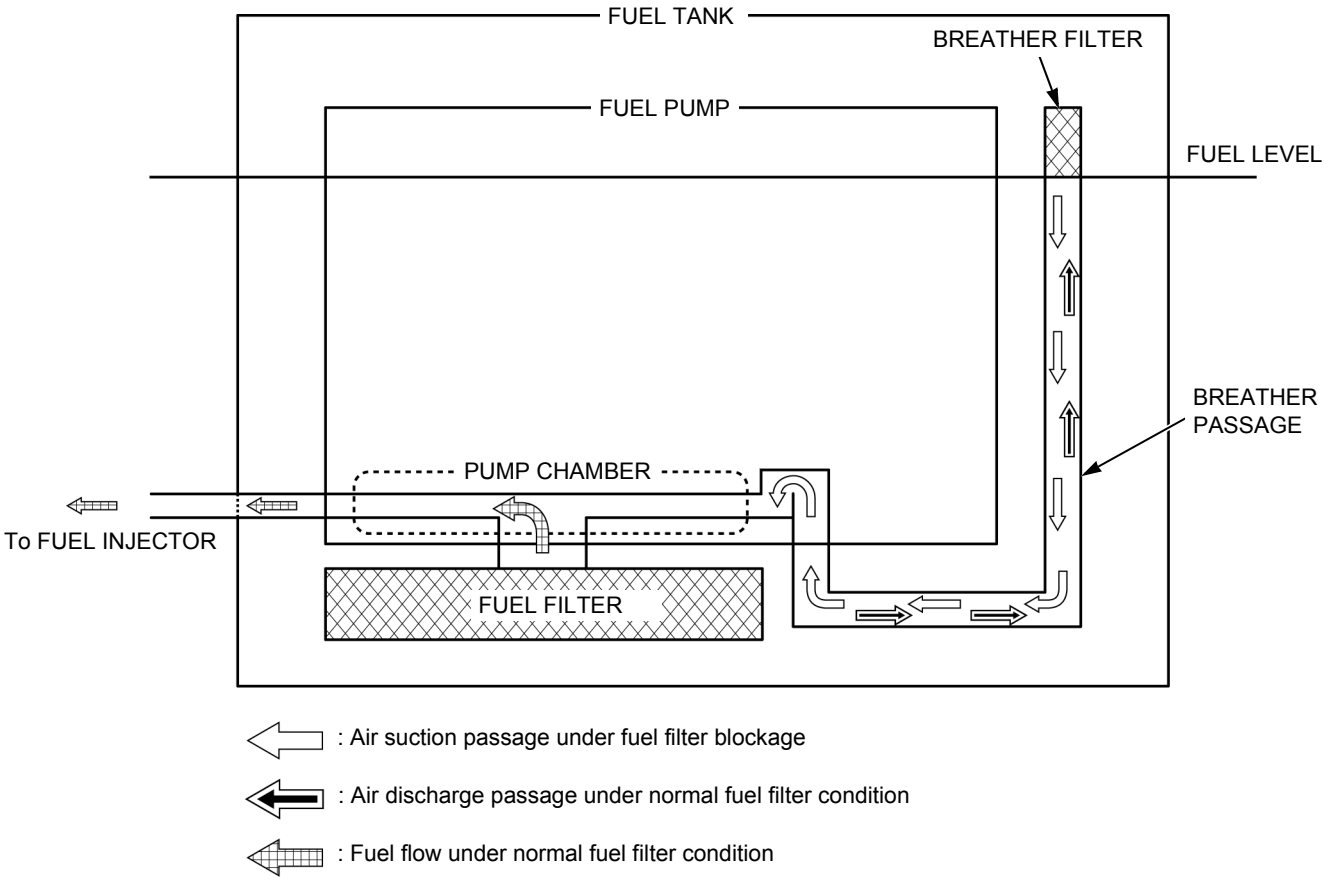
U model:


RADIATOR RESERVE TANK DRAIN HOSE
FUEL TANK BREATHER HOSE
FUEL TANK DRAIN HOSE


ALTERNATOR WIRE
RADIATOR RESERVE TANK DRAIN HOSE
NEUTRAL SWITCH WIRE
FUEL TANK BREATHER HOSE
O2 SENSOR WIRE
Inside
SIDESTAND SWITCH WIRE
FUEL TANK DRAIN HOSE
FUEL TANK BREATHER HOSE
FUEL TANK DRAIN HOSE
RADIATOR RESERVE TANK DRAIN HOSE

TECHNICAL FEATURES

FUEL PUMP SYSTEM WITH A FUEL FILTER BLOCKAGE REMINDER FUNCTION



The fuel pump system of this model consists of the following components:

– Fuel pump chamber
– Fuel filter
– Breather passage
– Breather filter

Under normal condition, the fuel pump chamber sucks fuel through the fuel filter and then supplies it to the injector.

When the fuel filter is clogged, the fuel is sucked into the pump chamber through the breather passage in order to keep the vehicle running. The breather filter is located in the upper inner side of fuel tank. When the fuel is consumed to the point where the breather filter is exposed above the fuel level, a certain amount of air will be drawn into the pump chamber via the breather filter and breather passage. This incoming air produces "a lack of fuel", which impairs engine performance in order to notify the rider of the fuel filter blockage. This symptom works as a reminder for the filter replacement.

This system eliminates the need of fuel filter replacement according to a fixed interval, as the rider will experience the symptom and notice the filter blockage during vehicle usage.

The driveability remains normal as long as the fuel level in tank is maintained above the breather filter because no air will be drawn into the pump chamber, even when the fuel filter is clogged.

If the fuel in tank is sufficient but such symptom as poor engine performance, lack of fuel, or engine start failure exist, perform the fuel supply test. ➔2-3

MIL SYSTEM

MIL INDICATION

In the existing PGM-FI system, if the existing PGM-FI system detects the malfunction at the present, the MIL blinks the number of trouble code with idle engine speed or sidestand switch ON. But in this PGM-FI system, when the system detects the malfunction, it turns the MIL ON without blinking unless otherwise the SCS circuit short (reading DTC with DLC connector).

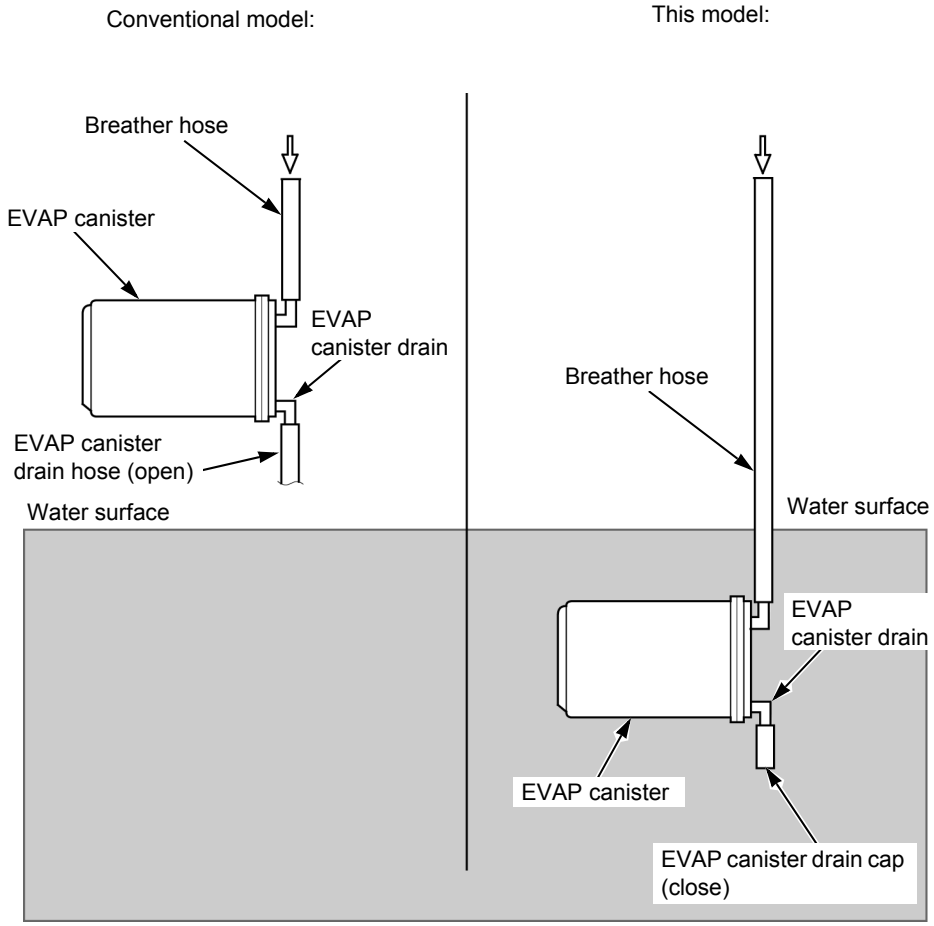
	Existing PGM-FI			This PGM-FI		
	At Idle	**Riding**	**SCS short**	**At Idle**	**Riding**	**SCS short**
Current trouble	Blinking	ON	Blinking	ON	ON	Blinking
Past trouble	OFF	OFF	Blinking	*ON	*ON	*Blinking

* This system turn off the MIL if the system does not detect the same trouble again in three driving cycle (three times repeat of ignition-ON, riding and ignition-OFF).

EVAP CANISTER DRAIN CLOSURE STRUCTURE (TH model only)

OVERVIEW

The model is equipped with a EVAP canister drain cap.
The EVAP canister drain is plugged with a drain cap in order to prevent water entry when the canister is placed under water due to high water level.
Also, the breather hose opening is located high enough to prevent water entry in case when the water level exceeds the height of the canister.

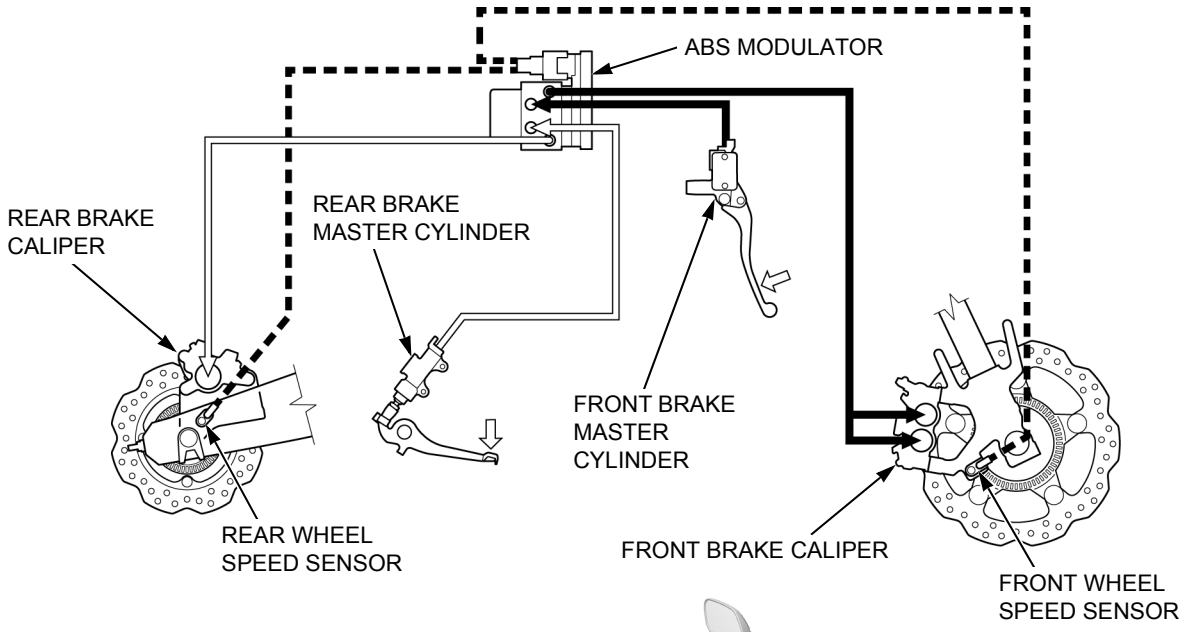


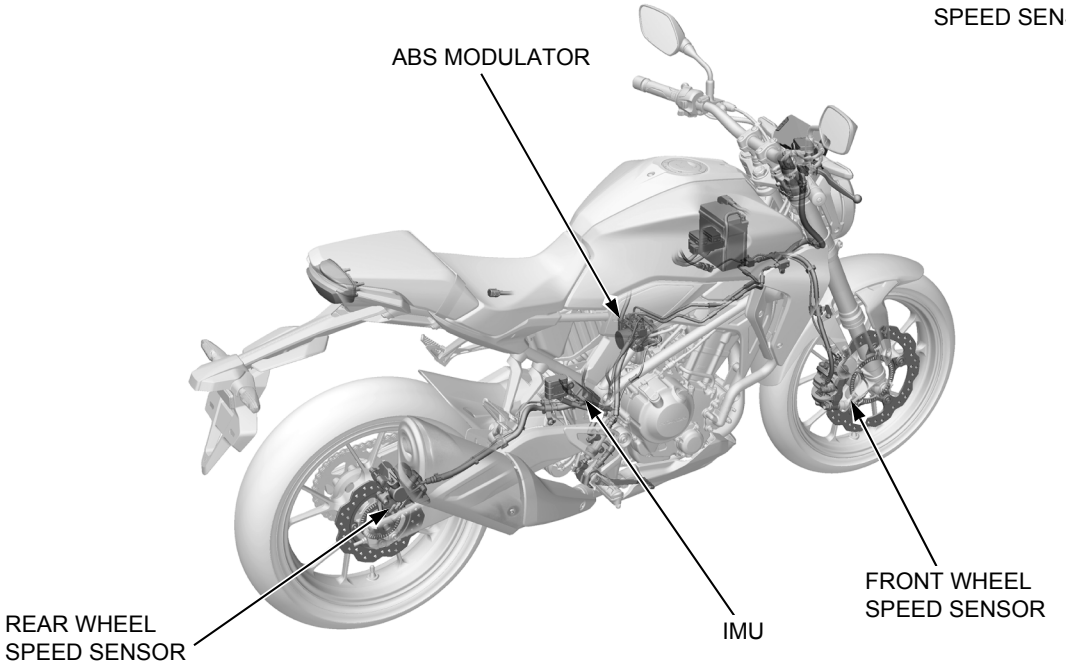
ABS (ANTI-LOCK BRAKE SYSTEM) WITH IMU (INERTIAL MEASUREMENT UNIT)

SUMMARY

This model is equipped with ABS (Anti-lock brake system).
The system calculates estimated speed from the front wheel speed sensor and rear wheel speed sensor.
When the system detects that the front wheel or rear wheel is about to lock when the estimated speed is high, the ABS modulator prevents front wheel or rear wheel locking up by controlling the front brake or rear wheel caliper fluid pressure.

This vehicle is also equipped with IMU (Inertial Measurement Unit) to prevent rear wheel lifting during hard braking.
The IMU detects the vertical and horizontal acceleration and computes the inertia affecting on the center of gravity of the vehicle.
When the vehicle experiences nose dive caused by abrupt brake application, resulting in measured direction and/or speed of the acceleration reaching a certain threshold, it prevents rear wheel lifting by slightly reducing the brake fluid pressure in ABS modulator.





MAINTENANCE SCHEDULE

TH model

- Perform the Pre-ride inspection in the Owner's Manual at each scheduled maintenance period.
- I: Inspect and Clean, Adjust, Lubricate or Replace if necessary. C: Clean. R: Replace. A: Adjust. L: Lubricate.
- The following items require some mechanical knowledge. Certain items (particularly those marked * and **) may require more technical information and tools. Consult a dealer.

- Refer to "Basic" Service Manual for each maintenance instruction except the instructions described in this manual.

	ITEMS	NOTE	FREQUENCY (NOTE 1)								ANNUAL CHECK	REGULAR REPLACE	REFER TO PAGE
			X1,000 km	1	6	12	18	24	30	36			
			X1,000 mi	0.6	4	8	12	16	20	24			
*	FUEL LINE					I		I		I	I		
*	THROTTLE OPERATION					I		I		I	I		
*	AIR CLEANER	NOTE2					R			R			➔2-7
	CRANKCASE BREATHER	NOTE3			C	C	C	C	C	C			
*	SPARK PLUG			EVERY 24,000 km (16,000 mi) I, EVERY 48,000 km (32,000 mi) R									
*	VALVE CLEARANCE							I					➔2-22
	ENGINE OIL			R		R		R		R	R		➔2-15
	ENGINE OIL FILTER			R				R					
*	ENGINE IDLE SPEED					I		I		I	I		
	RADIATOR COOLANT	NOTE4				I		I		I	I	3 years	
*	COOLING SYSTEM					I		I		I	I		
*	SECONDARY AIR SUPPLY SYSTEM							I					
*	EVAPORATIVE EMISSION CONTROL SYSTEM							I					
	DRIVE CHAIN			Every 1000 km (600 mi) I, L									
	DRIVE CHAIN SLIDER					I		I		I			
	BRAKE FLUID	NOTE4			I	I	I	I	I	I	I	2 years	
	BRAKE PADS WEAR				I	I	I	I	I	I	I		
	BRAKE SYSTEM					I		I		I	I		
	BRAKE LIGHT SWITCH					I		I		I	I		
	HEADLIGHT AIM					I		I		I	I		➔4-55
	CLUTCH SYSTEM				I	I	I	I	I	I	I		
	SIDESTAND					I		I		I	I		
*	SUSPENSION					I		I		I	I		
*	NUTS, BOLTS, FASTENERS					I		I		I	I		
**	WHEELS/TIRES					I		I		I	I		
**	STEERING HEAD BEARINGS					I		I		I	I		

- * Should be serviced by a dealer, unless the owner has proper tools and service data and is mechanically qualified.
- ** In the interest of safety, we recommend these items be serviced only by a dealer.
- Honda recommends that a dealer should road test the vehicle after each periodic maintenance is carried out.

NOTES:

1. At higher odometer readings, repeat at the frequency interval established here.
2. Service more frequently when riding in unusually wet or dusty areas.
3. Service more frequently when riding in rain or at full throttle.
4. Replacement requires mechanical skill.

KO, U model

- Perform the Pre-ride inspection in the Owner's Manual at each scheduled maintenance period.
- I: Inspect and Clean, Adjust, Lubricate or Replace if necessary. C: Clean. R: Replace. A: Adjust. L: Lubricate.
- The following items require some mechanical knowledge. Certain items (particularly those marked * and **) may require more technical information and tools. Consult a dealer.

Basic
- Refer to "Basic" Service Manual for each maintenance instruction except the instructions described in this manual.

	ITEMS	NOTE	FREQUENCY (NOTE 1)						ANNUAL CHECK	REGULAR REPLACE	REFER TO PAGE
			X1,000 km	1	12	24	36	48			
			X1,000 mi	0.6	8	16	24	32			
*	FUEL LINE				I	I	I	I	I		
*	THROTTLE OPERATION				I	I	I	I	I		
*	AIR CLEANER	NOTE2				R		R			➔2-7
	CRANKCASE BREATHER	NOTE3			C	C	C	C			
*	SPARK PLUG					I		R			
*	VALVE CLEARANCE					I		I			➔2-22
	ENGINE OIL			R	R	R	R	R	R		➔2-15
	ENGINE OIL FILTER			R		R		R			
*	ENGINE IDLE SPEED				I	I	I	I	I		
	RADIATOR COOLANT	NOTE4			I	I	I	I	I	3 years	
*	COOLING SYSTEM				I	I	I	I	I		
*	SECONDARY AIR SUPPLY SYSTEM					I		I			
*	EVAPORATIVE EMISSION CONTROL SYSTEM (KO model only)					I		I			
	DRIVE CHAIN			Every 1000 km (600 mi) I, L							
	DRIVE CHAIN SLIDER				I	I	I	I			
	BRAKE FLUID	NOTE4			I	I	I	I	I	2 years	
	BRAKE PADS WEAR				I	I	I	I	I		
	BRAKE SYSTEM				I	I	I	I	I		
	BRAKE LIGHT SWITCH				I	I	I	I	I		
	HEADLIGHT AIM				I	I	I	I	I		➔4-55
	CLUTCH SYSTEM				I	I	I	I	I		
	SIDESTAND				I	I	I	I	I		
*	SUSPENSION				I	I	I	I	I		
*	NUTS, BOLTS, FASTENERS				I	I	I	I	I		
**	WHEELS/TIRES				I	I	I	I	I		
**	STEERING HEAD BEARINGS				I	I	I	I	I		

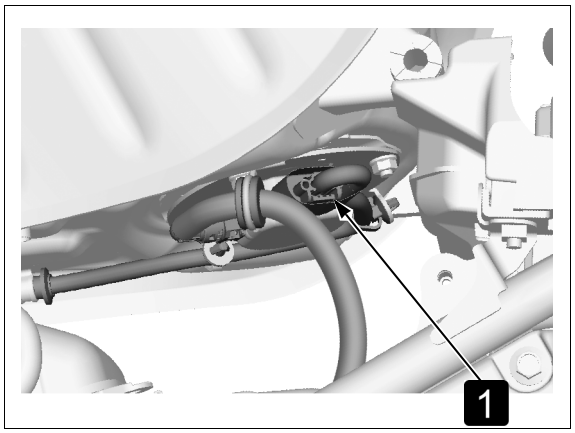
- * Should be serviced by a dealer, unless the owner has proper tools and service data and is mechanically qualified.
- ** In the interest of safety, we recommend these items be serviced only by a dealer.
- Honda recommends that a dealer should road test the vehicle after each periodic maintenance is carried out.

NOTES:

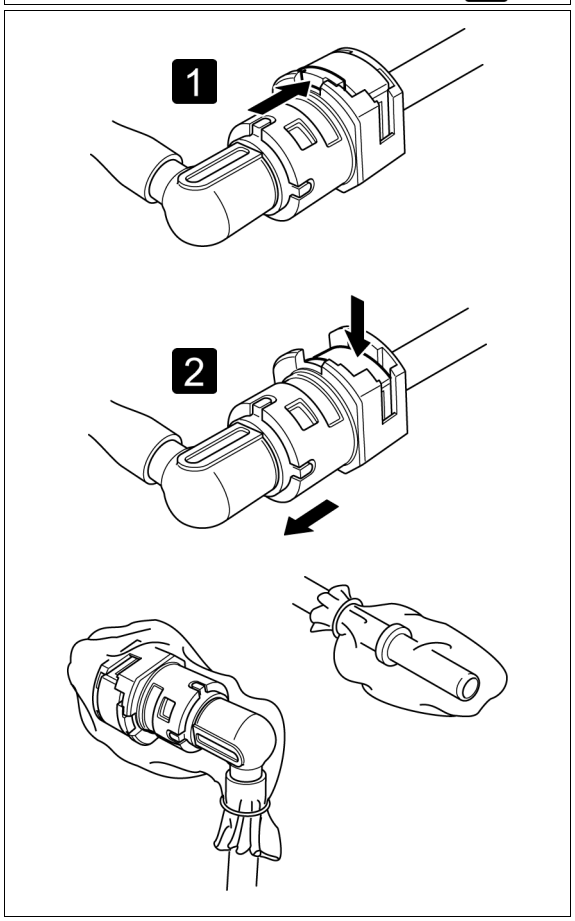
1. At higher odometer readings, repeat at the frequency interval established here.
2. Service more frequently when riding in unusually wet or dusty areas.
3. Service more frequently when riding in rain or at full throttle.
4. Replacement requires mechanical skill.

2. FUEL & ENGINE

FUEL LINE



- This vehicle uses resin for the parts of materials in the fuel hose. Do not bend or twist the fuel hose.
- Fuel tank lifting ➔4-52
- 1 Fuel pump 5P connector
- Let the engine idle until it stops.
- Battery negative (–) cable ➔4-52

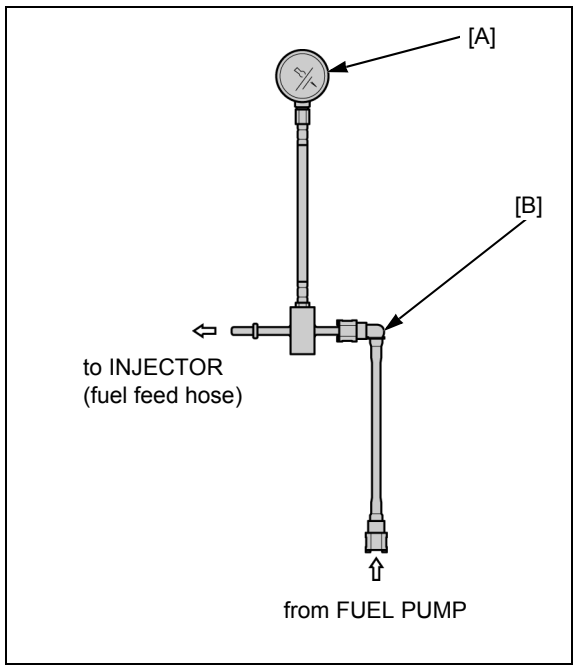


- Do not use tools in removal. If the connector does not move, alternately pull and push the connector until it comes off easily.
- Check the fuel quick connect fitting for dirt, and clean if necessary.
- Place a shop towel over the quick connect fitting.
- 1 Push the retainer tab forward.
- 2 Press down the retainer and disconnect the connector from the fuel joint.
- Check the retainer condition and replace the fuel hose if necessary.
- To prevent damage and keep foreign matter out, cover the disconnected connector and pipe end with the plastic bags.
- Press the connector onto the fuel joint until the retainer locks with a “CLICK”. If it is hard to connect, put a small amount of engine oil on the pipe end.
- Make sure the connection is secure; check visually and by pulling the connector.
- After installing the removed parts, turn the ignition switch ON. (Do not start the engine.)
  The fuel pump will run for about 2 seconds, and fuel pressure will rise. Repeat 2 or 3 times, and check that there is no leakage in the fuel supply system.

FUEL SUPPLY TEST

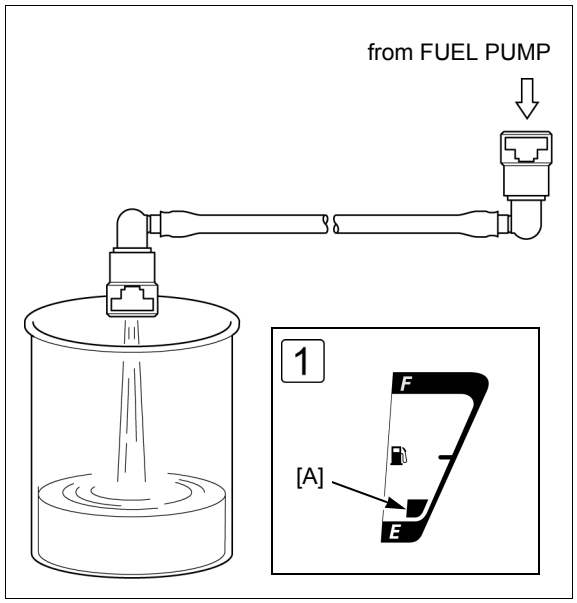
- If the fuel in tank is sufficient but such symptom as poor engine performance, lack of fuel, or engine start failure exist, perform the following.
- Perform the fuel pressure test. ➔2-3
- If the fuel pressure is within specification, perform the fuel flow inspection. ➔2-3
- Perform the fuel flow inspection in the specified fuel quantity. ➔2-3

FUEL PRESSURE TEST



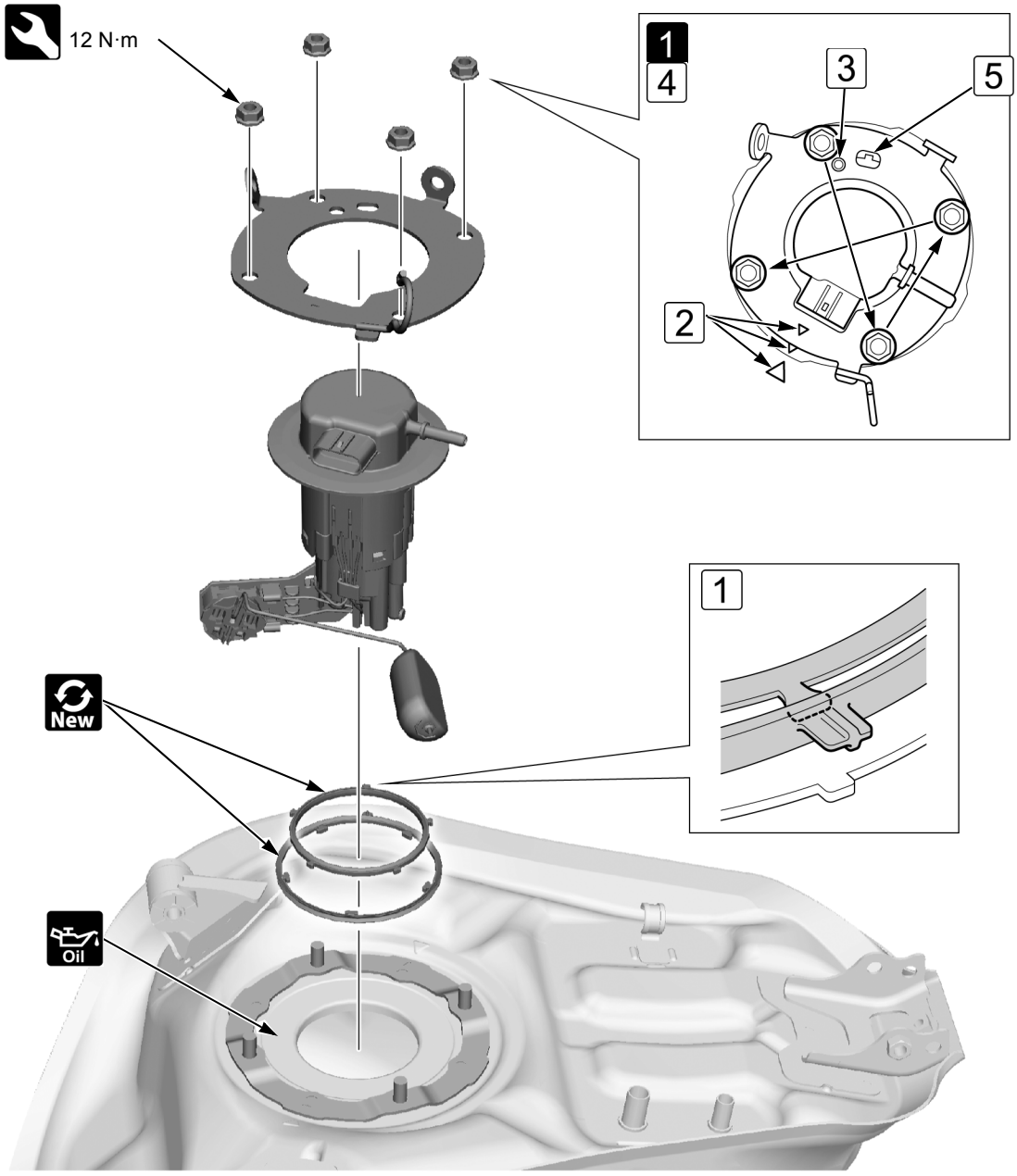
- Quick connect fitting (fuel pump side)
- Attach the fuel pressure gauge and attachment.
  [A] Fuel pressure gauge: 07406-0040004
  [B] Fuel pressure gauge attachment: 070MJ-K260100
- Temporarily connect the negative cable to the battery and fuel pump 5P connector.
  Start the engine and let it idle, and read the fuel pressure.
  Standard: 267 – 326 kPa
- If the fuel pressure is higher than specified, replace the fuel pump assembly. ➔2-4
- If the fuel pressure is lower than specified, inspect the following.
  – Fuel line leaking
  – Any erratic swing or vibration of the gauge needle in the pressure gauge reading.
    - If the needle is swing or vibration, replace the fuel filter. ➔2-5
    - If the needle is stable, replace the fuel pump unit. ➔2-4

FUEL FLOW INSPECTION



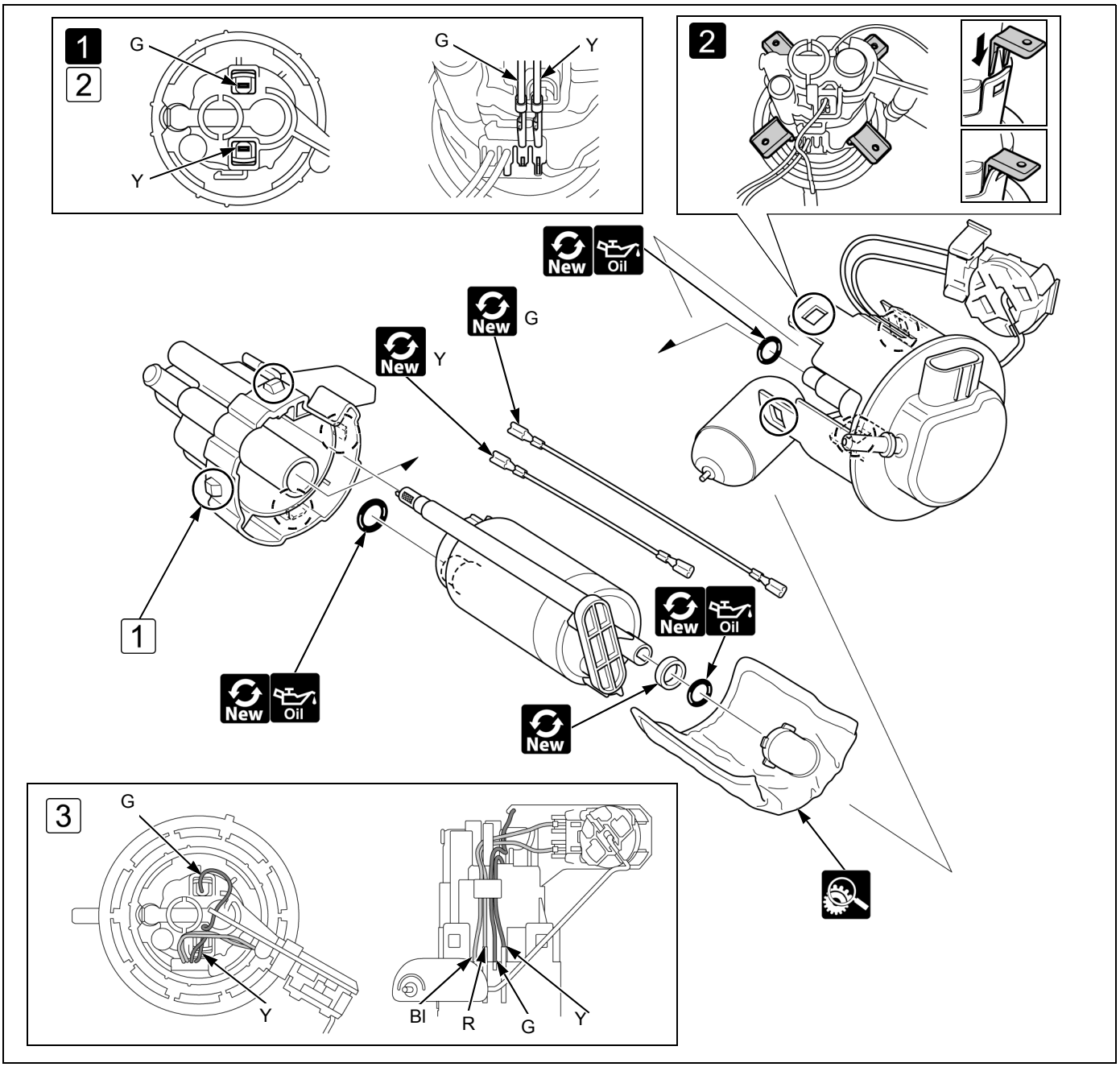
- Quick connect fitting (injector side) ➔2-2
- Place the end of the hose into an approved gasoline container. Wipe off spilled out gasoline.
- The fuel pump operates for 2 seconds. Repeat 5 times to meet the total measuring time.
  Standard: 103 cm^3 minimum/10 seconds
- If fuel flow is less than specified, inspect the following:
  – Clogged fuel hose
  – Fuel pump unit
- 1 Place the vehicle on the level ground with its sidestand. Adjust the fuel in the tank so that the fuel gauge segment is positioned the specified range [A], and inspect the fuel flow.
  – If the fuel flow is above specification, check for other malfunctioning parts.
  – If the fuel flow is under specification, replace the fuel filter. ➔2-5

FUEL PUMP UNIT



- Quick connect fitting (fuel pump side) ➔2-2
- Fuel tank ➔2-6
- 1 Loosen the nuts in a crisscross pattern in several steps.
- Carefully remove the fuel pump unit from the fuel tank to prevent damaging the fuel level sensor.
- 1 Install a new outer packing onto the fuel pump unit groove by aligning its tab with the boss.
- 2 Install fuel pump into the fuel tank by aligning the triangle marks of the setting plate and fuel tank.
- 3 Set the setting plate onto the fuel pump by aligning its hole with the boss.
- 4 Tighten the fuel pump setting plate nuts in the specified sequence as shown.
- 5 Make sure that the outer packing tab can see in the setting plate hole.
- Fuel pump malfunction and inspection

FUEL FILTER



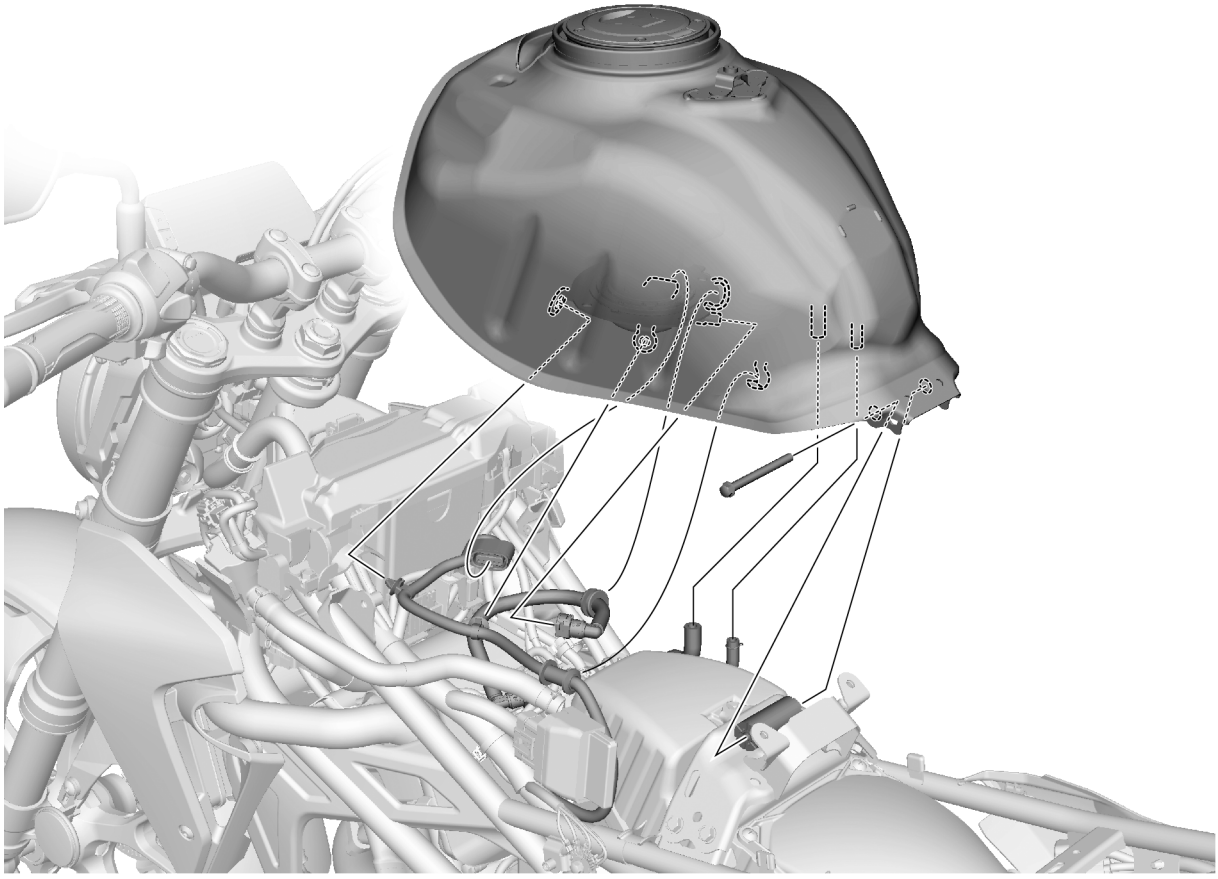
- Fuel clog or excessively damaged
- If the fuel filter is clogged, replace it with a new one.

- To prevent dirt and debris from entering the fuel pump unit, always clean it before disassembly.
- Clean the fuel pump unit and fuel pump filter with clean gasoline. Never use commercially available carburetor cleaners.
- 1 Fuel pump motor wires (Y and G wire)
- 2 Release the hooks from the stoppers by slightly spreading the hooks.

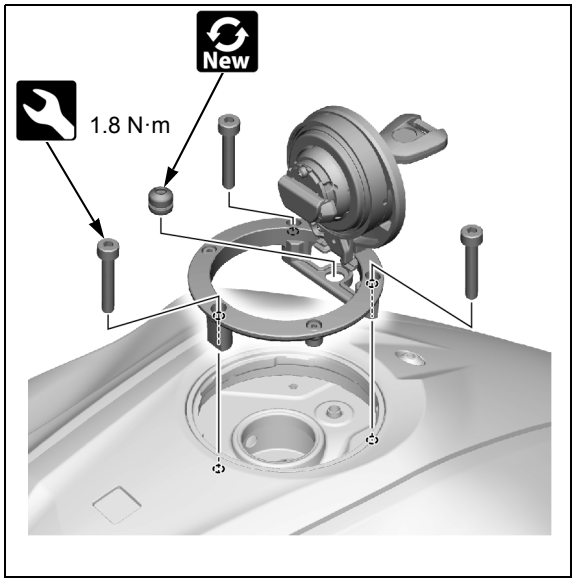
Fuel pump case remover: 070MF-KVS0300

- Before installing the fuel pump filter, check the fuel pump unit for dirt. If necessary, clean the fuel pump unit with compressed air. Do not blow into the fuel pump unit.
- If the R or Bl wire connector is disconnected, replace the fuel level sensor with a new one.
- [1] Make sure the "CLICK" and install the four tabs securely when the fuel pump unit is assembled.
- [2] Connect the fuel pump motor wires to the specified angle.
- [3] Route the fuel pump motor wires and fuel level sensor wires to the guide and terminals properly.

FUEL TANK

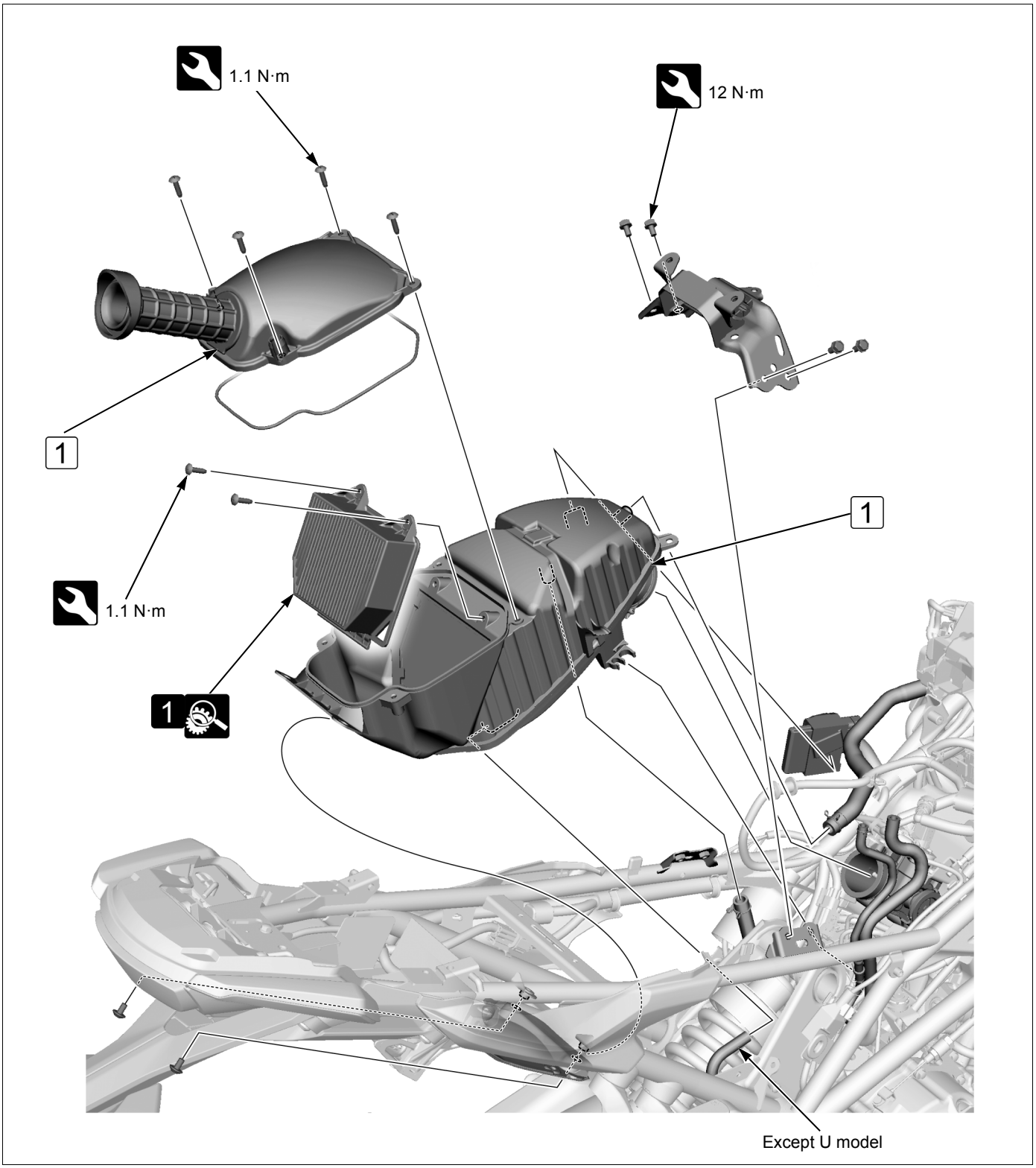


- Fuel tank cover ➔3-9
- Quick connect fitting (fuel pump side) ➔2-2



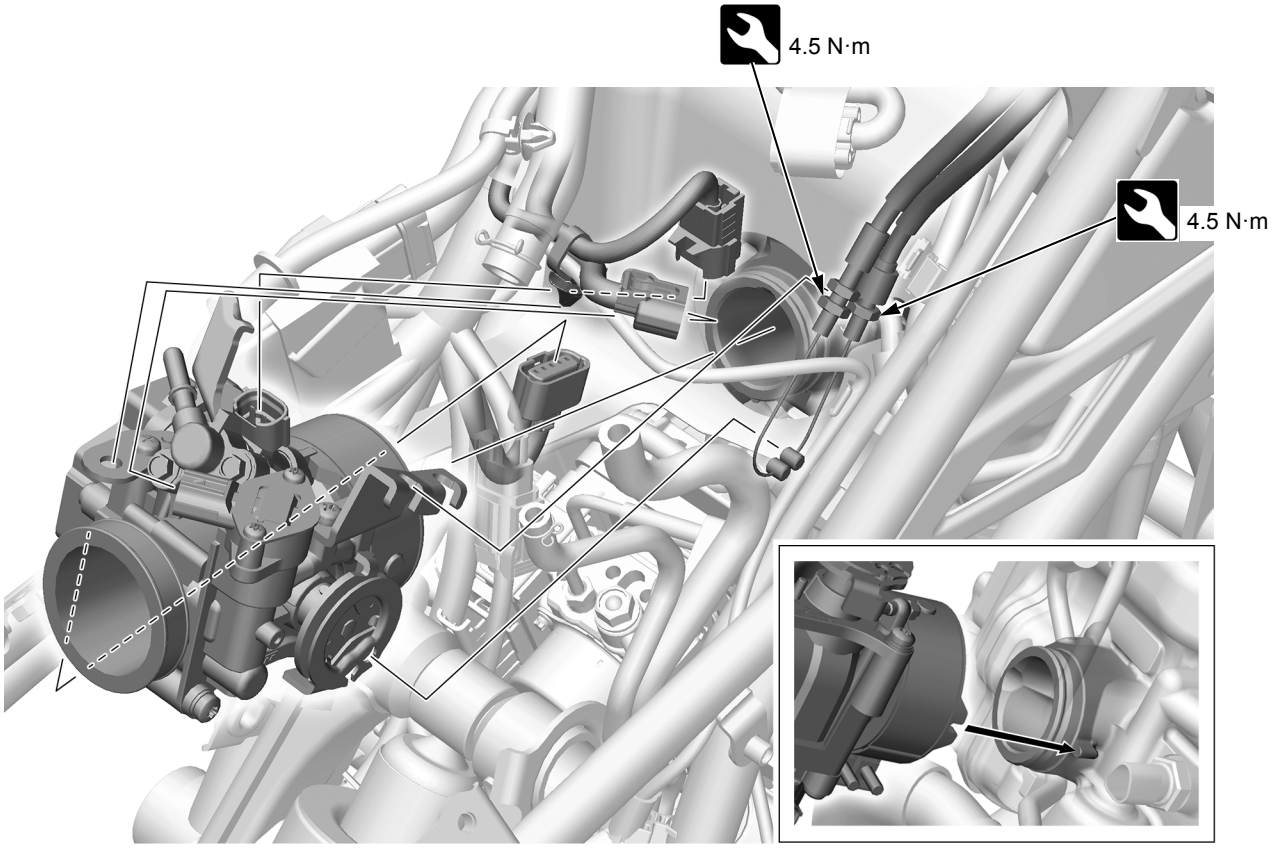
- A pressure release can be heard when opening the fuel filler cap, but this is not blockage of the passage. If checking for clog in the passage of the fuel tank side is necessary, apply air pressure to the breather hose end with the fuel filler cap opened.
- If remove the fuel filler cap, replace the breather seal with a new one.

AIR CLEANER

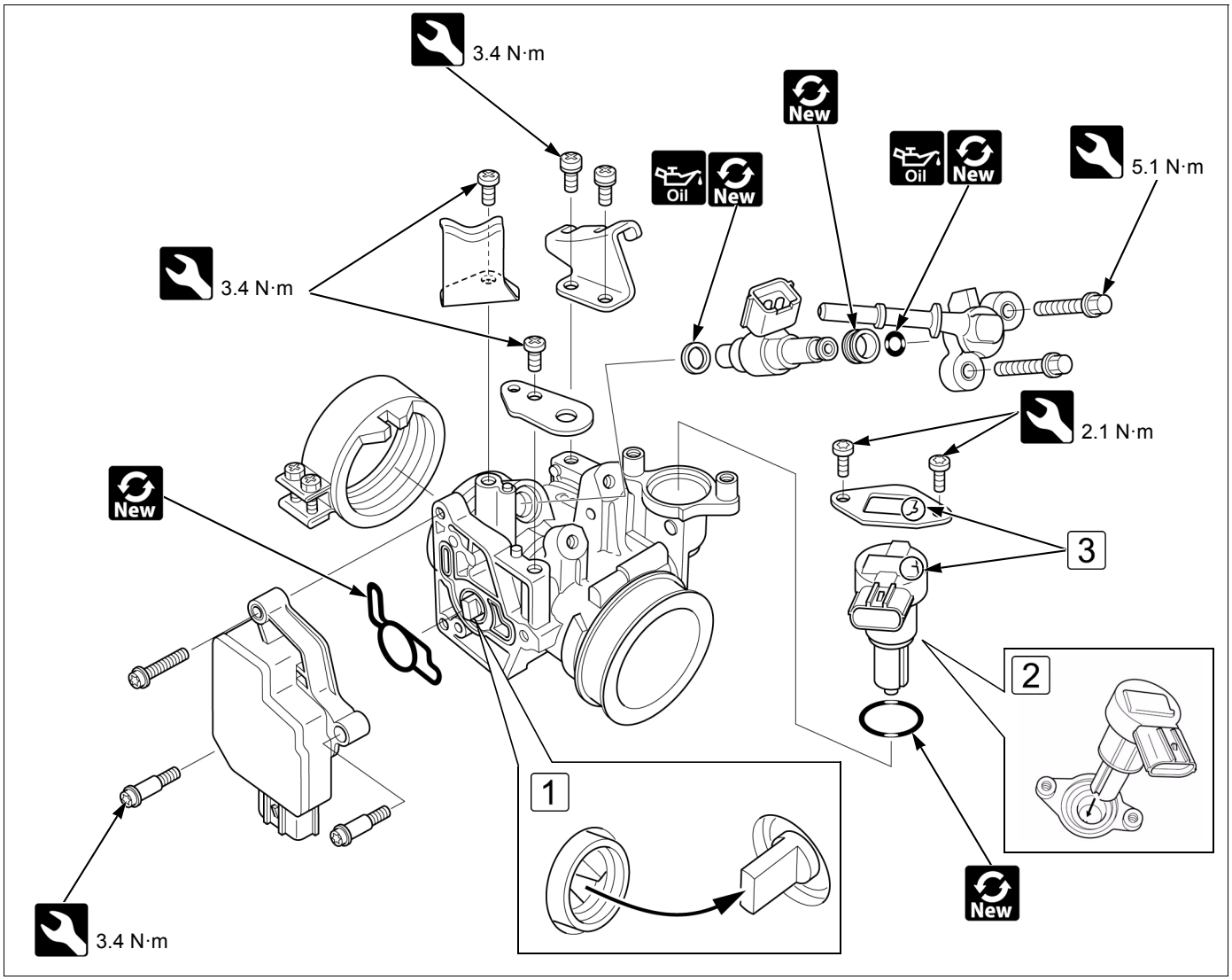


- 1 Discard the air cleaner element in accordance with the maintenance schedule. ➔1-31
- Replace the element any time if it is excessively dirty or damaged.
- Fuel tank ➔2-6
- 1 Apply Honda Bond A or equivalent to the inlet duct and air cleaner connecting hose mating surface.

THROTTLE BODY



- Air cleaner ➔2-7
- Quick connect fitting (injector side) ➔2-2
- TP sensor reset procedure ➔2-10
- Throttle body cleaning and inspection



- The throttle body is factory pre-set. Do not disassemble in a way other than shown in this manual.
- Do not loosen or tighten the white painted fasteners. Loosening or tightening it can cause throttle body malfunction.
- Do not hold the throttle drum when installing the sensor unit.

Sensor unit

- Throttle body ➔2-8

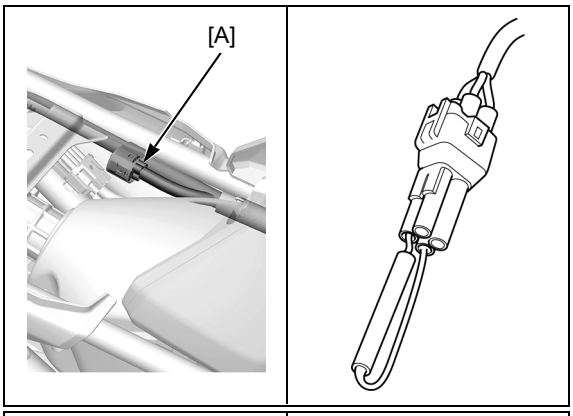
- [1] Install the sensor unit to the throttle body by aligning the clip of the sensor unit and boss of the throttle valve.
- Perform the TP sensor reset procedure. ➔2-10

IACV

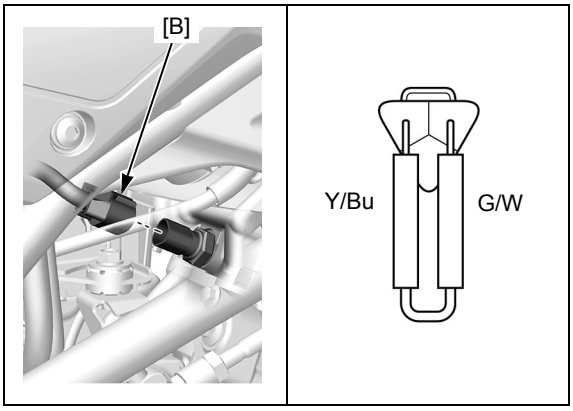
- Fuel tank lifting ➔4-52

- [2] Install the IACV by aligning its slide valve slot with the pin in the throttle body.
- [3] Install the set plate by aligning its slot with the IACV tab.

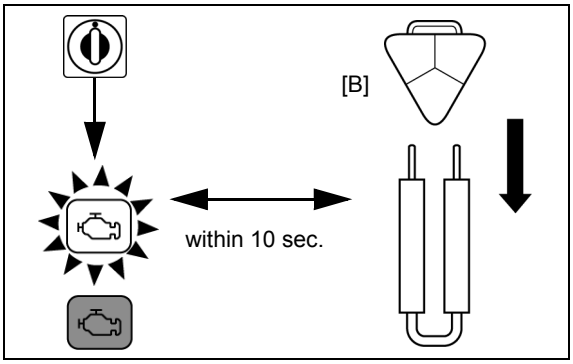
TP SENSOR RESET PROCEDURE



- Make sure that DTC is not stored in ECM. If the DTC is stored in ECM, TP sensor reset mode won't start by following the procedure below.
- Pillion seat ➔3-4
- Connector cover from the DLC [A].
- Connect the special tool to the DLC.
  SCS connector: 070PZ-ZY30100

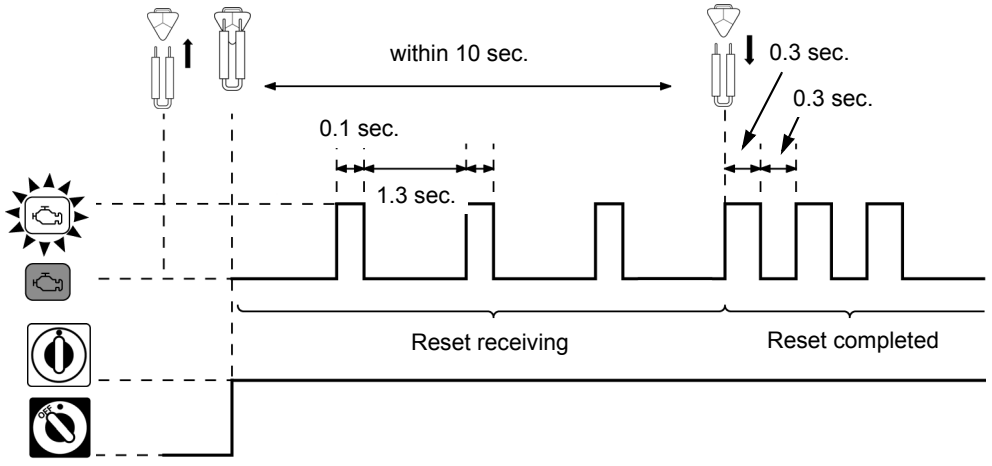


- ECT sensor 3P connector [B].
- Short the ECT sensor terminals with jumper wire.
  Connection: G/W – Y/Bu

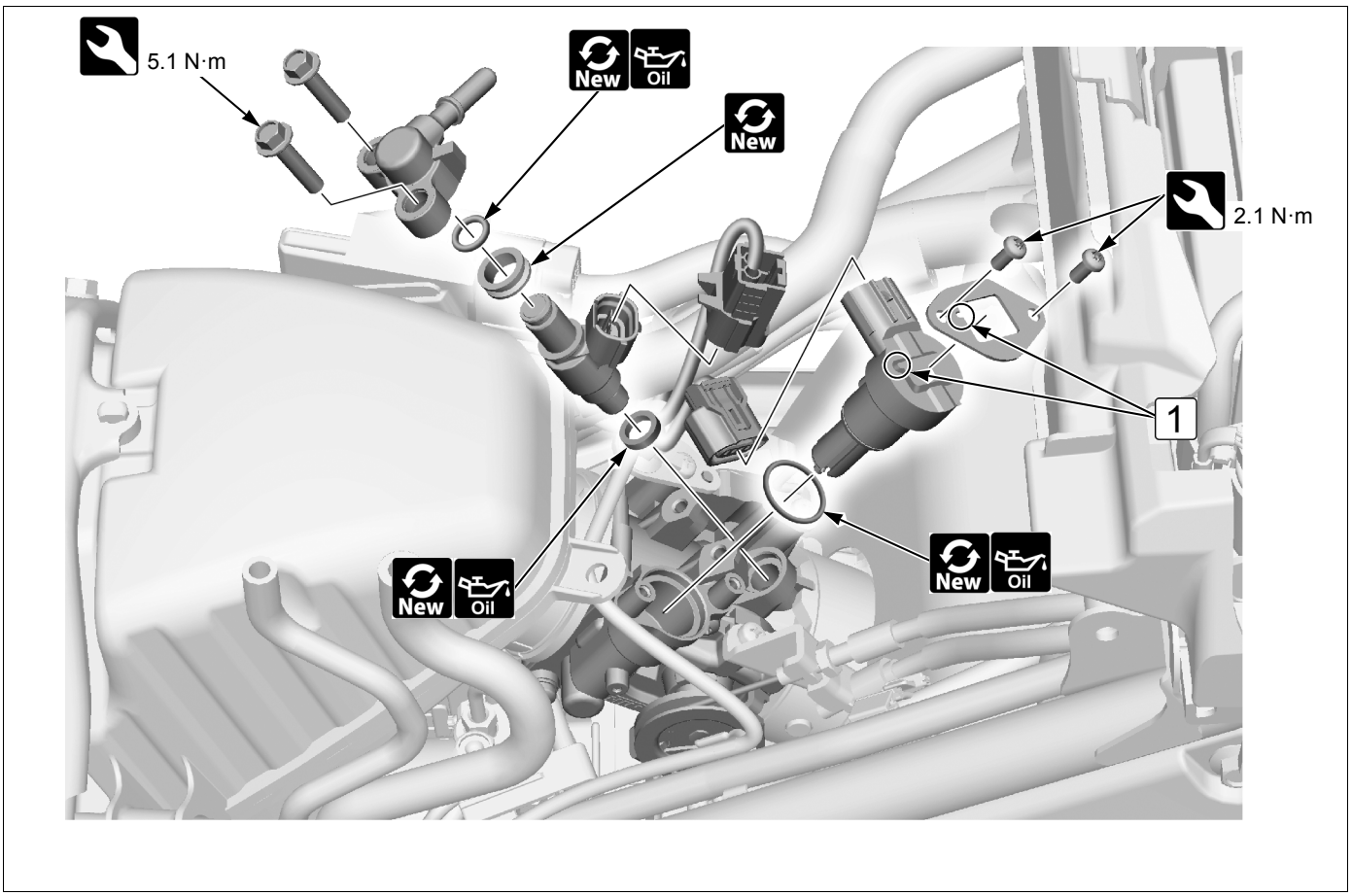


- Turn the ignition switch ON then disconnect the jumper wire from the ECT sensor 3P connector within 10 seconds while the MIL is blinking (reset receiving pattern).
- Check if the MIL blinks.
  After disconnection of the jumper wire, the MIL should start blinking. (reset completed pattern)
  If the jumper wire is connected for more than 10 seconds, the MIL will stay ON (unsuccessful pattern). Try again from the first.
- Check the engine idle speed.

Reset procedure and MIL blinking pattern

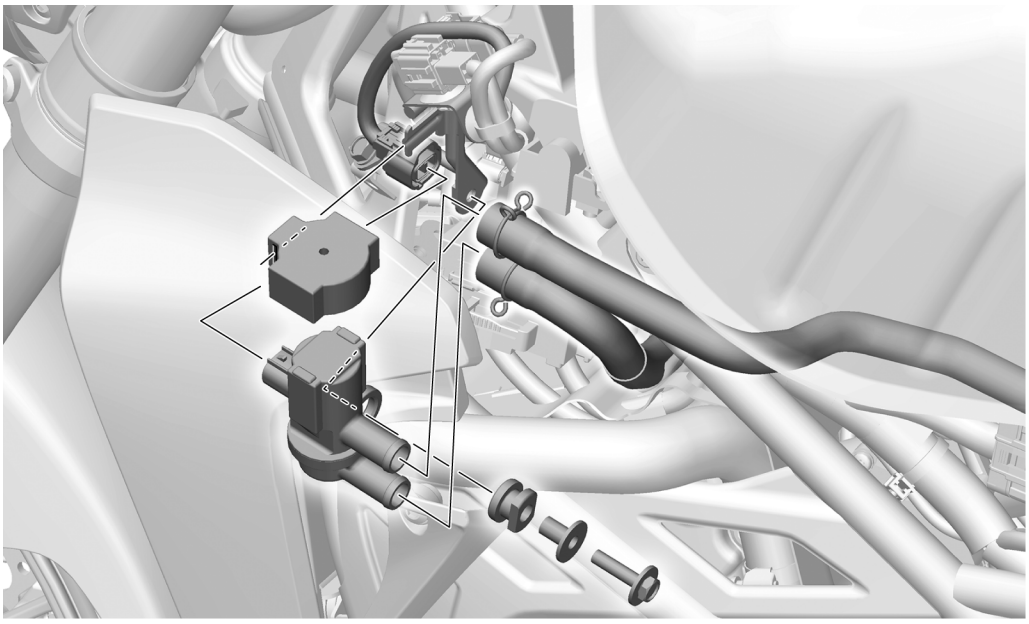


INJECTOR

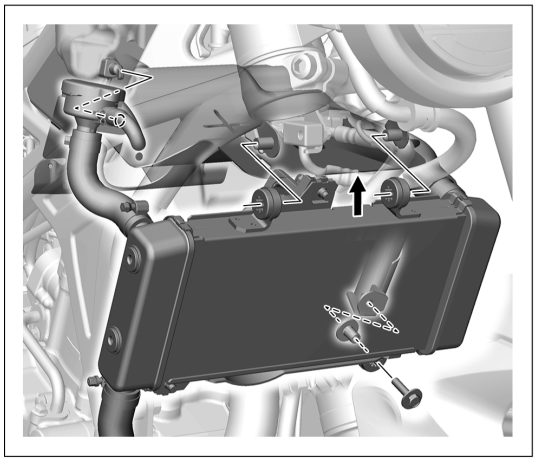


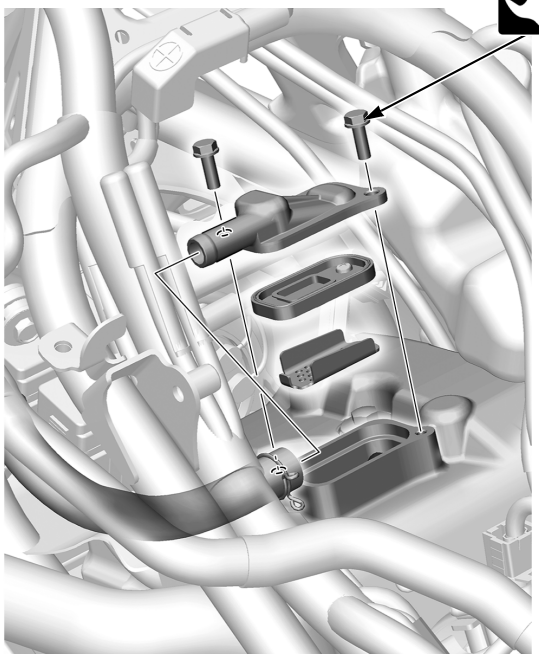
- Quick connect fitting (injector side) ➔2-2
- 1 Install the set plate by aligning its slot with the IACV tab.

SECONDARY AIR SUPPLY SYSTEM



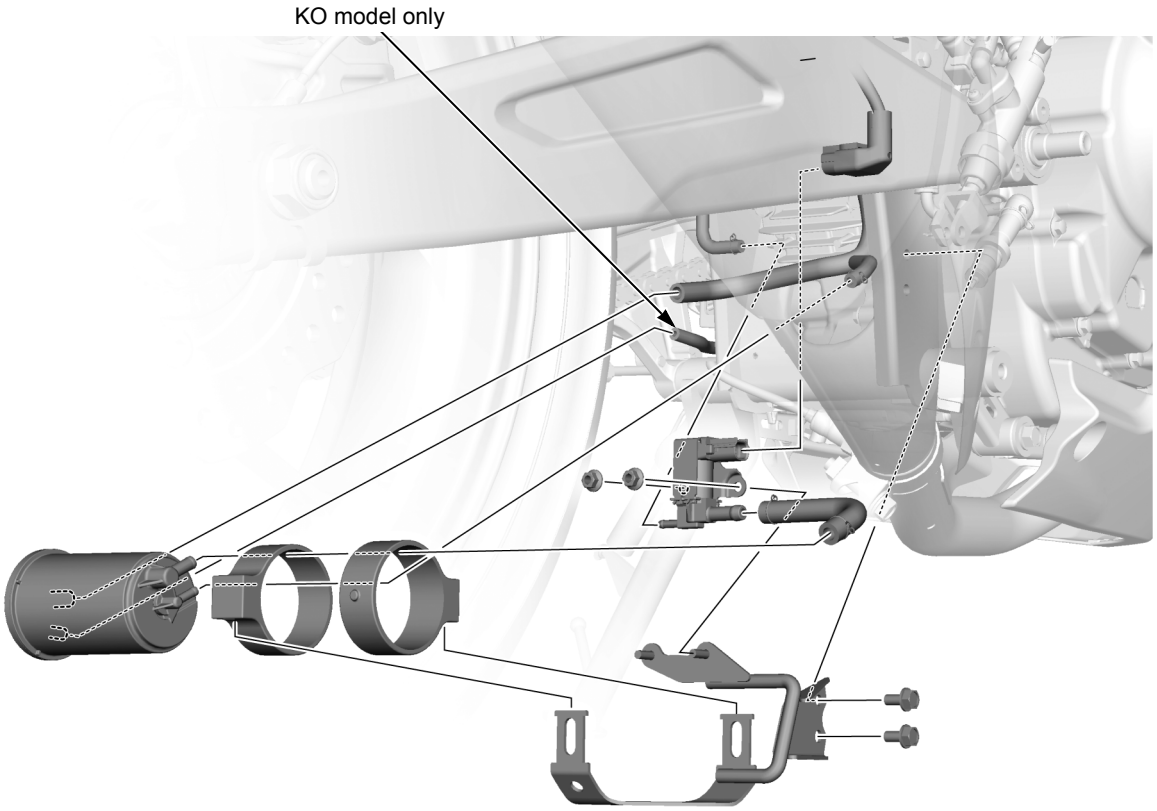
- Fuel tank cover ➔3-9
- PAIR control solenoid valve inspection





- Battery box ➔4-53
- Right radiator cover ➔3-8
- PAIR check valve inspection

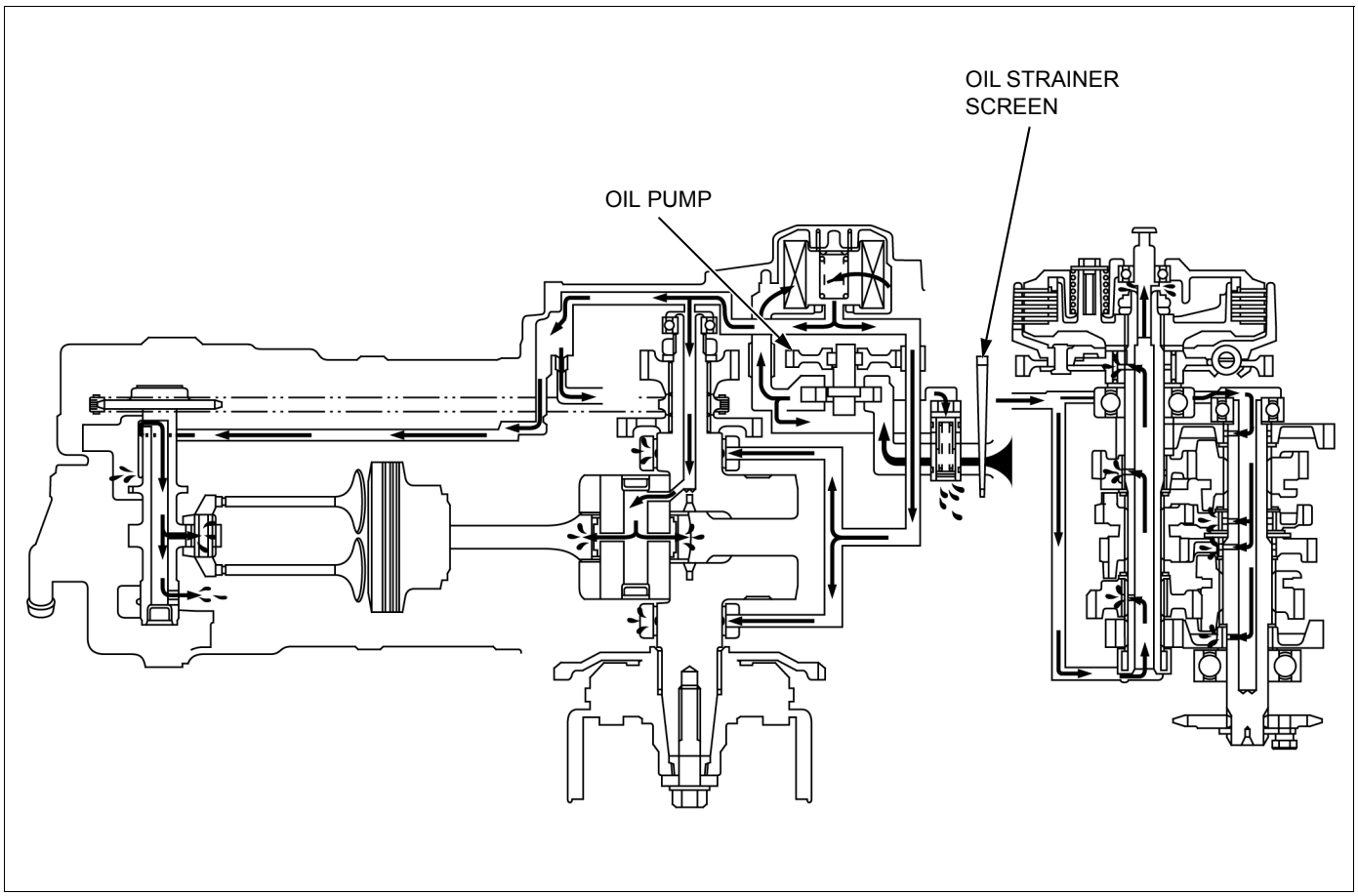
EVAP SYSTEM



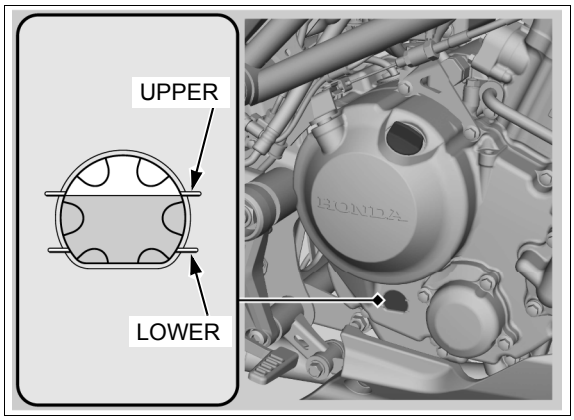
- Brake pedal ➔3-6

LUBRICATION SYSTEM

SYSTEM DIAGRAM

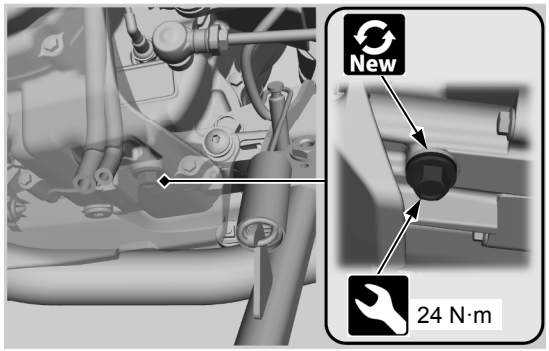


ENGINE OIL LEVEL CHECK



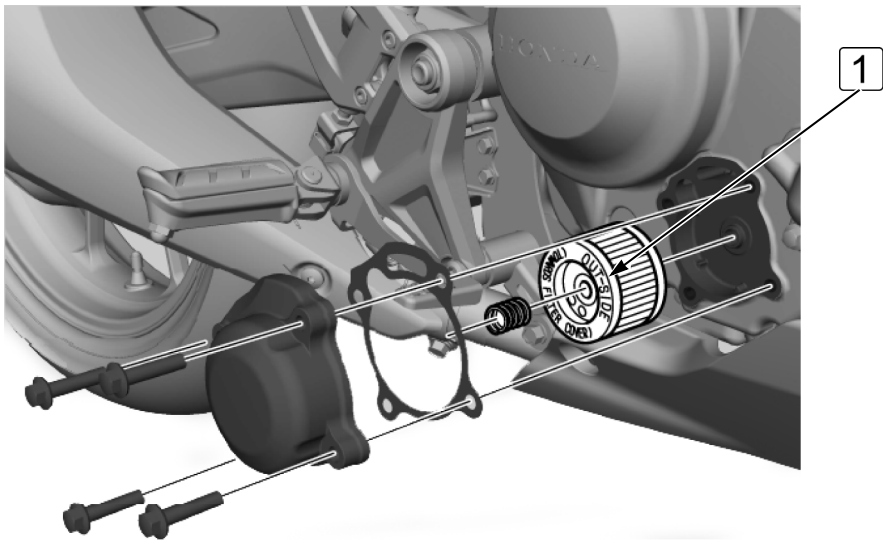
- Place the vehicle on the level ground with its sidestand.
- Let it idle for 3 – 5 minutes.
- Wait for 2 – 3 minutes.
- Support the motorcycle in an upright position on a level surface.
- If the level is below the lower level line, remove the oil filler cap and fill the crankcase with the recommended engine oil up to the upper level line.
- Check that the O-ring on the filler cap is in good condition, replace it if necessary.
- **RECOMMENDED ENGINE OIL:**
  Honda "4-stroke motorcycle oil" or an equivalent motor oil.
  API service classification: SG or higher
  JASO T903 standard: MA
  Viscosity: SAE 10W-30

ENGINE OIL CHANGE



- Drain oil completely.
- Fill the crankcase with the recommended engine oil.
- **ENGINE OIL CAPACITY:**
  1.4 liters after draining
  1.5 liters after oil filter change
  1.8 liters after disassembly

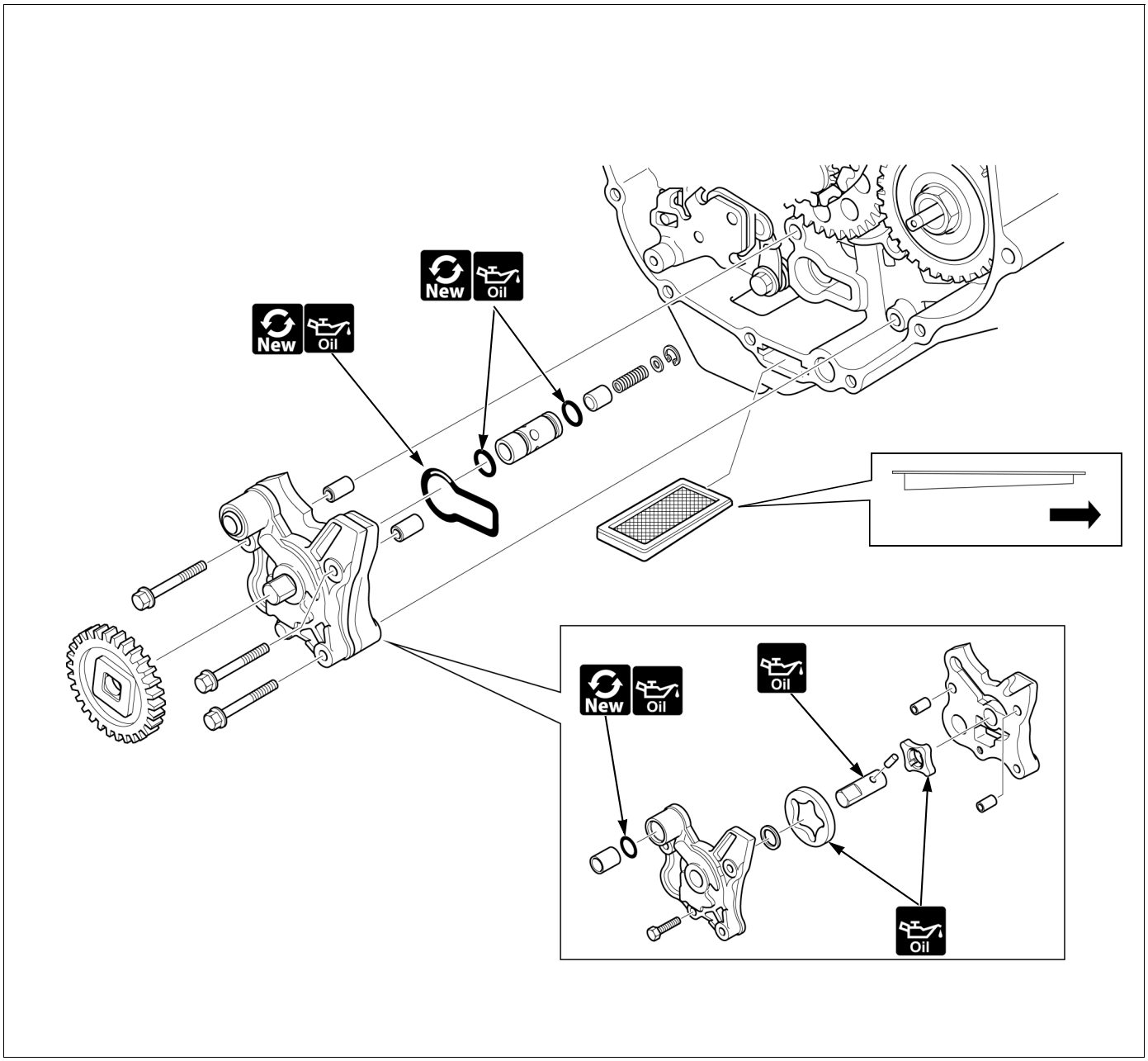
ENGINE OIL FILTER CHANGE



- [1] Install the oil filter with the "OUT-SIDE" mark facing out.
- Installing the oil filter backwards will result in severe engine damage.

- Engine oil filter inspection

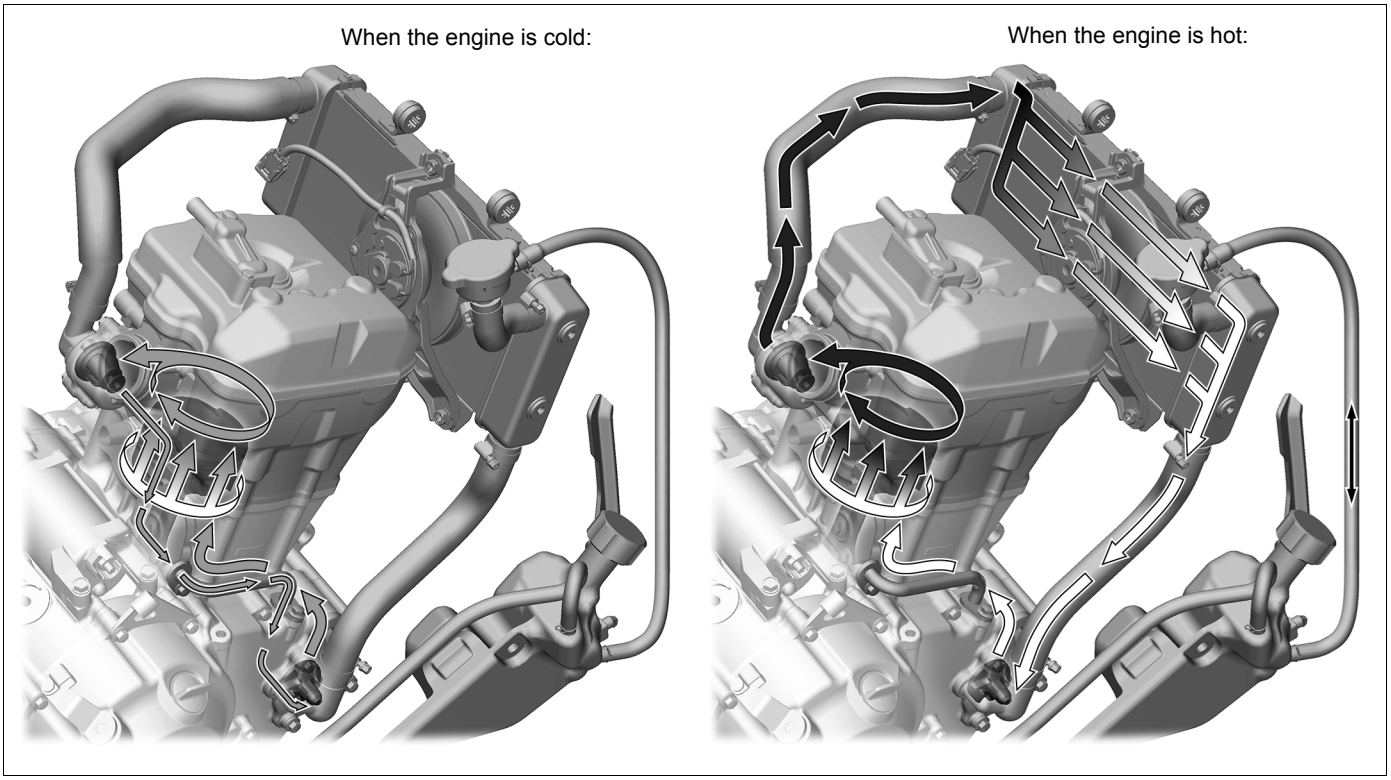
ENGINE OIL STRAINER SCREEN/OIL PUMP



- Right crankcase cover ➔2-30
- Oil pump inspection

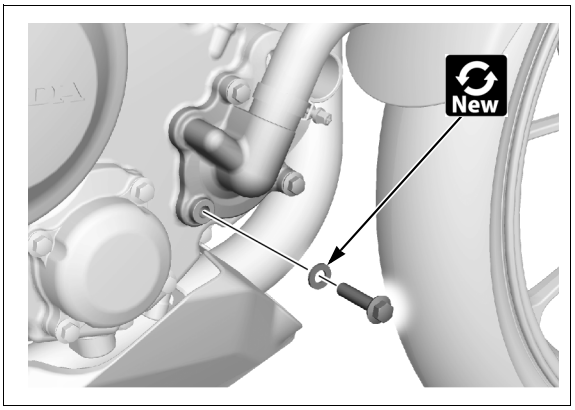
COOLING SYSTEM

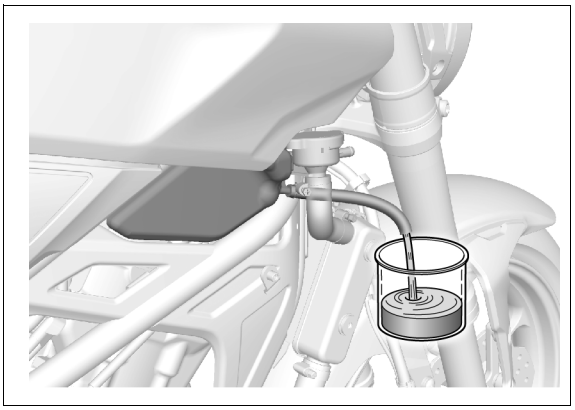
SYSTEM DIAGRAM



COOLANT REPLACEMENT

Coolant drain



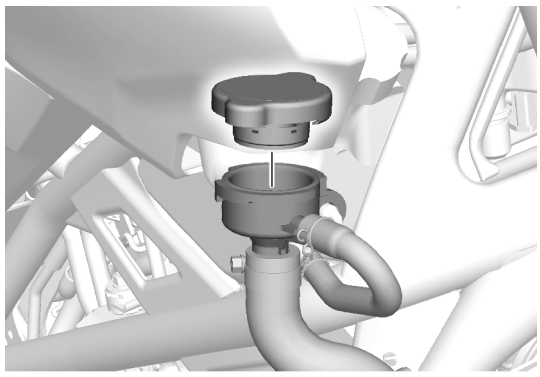


Basic
- Cooling system testing and inspection

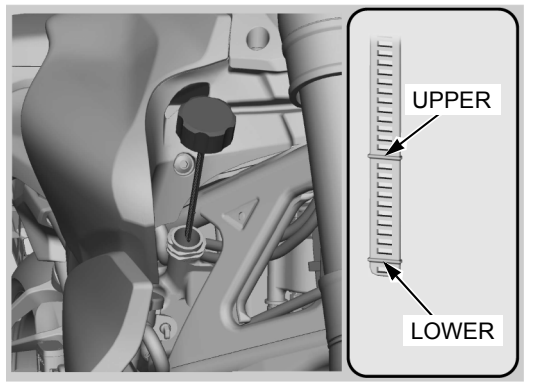
- Radiator cover ➔3-8
- Radiator cap
- Coolant from the system

- Siphon hose from the filler neck
- Coolant from the reserve tank

Air bleeding/Adding

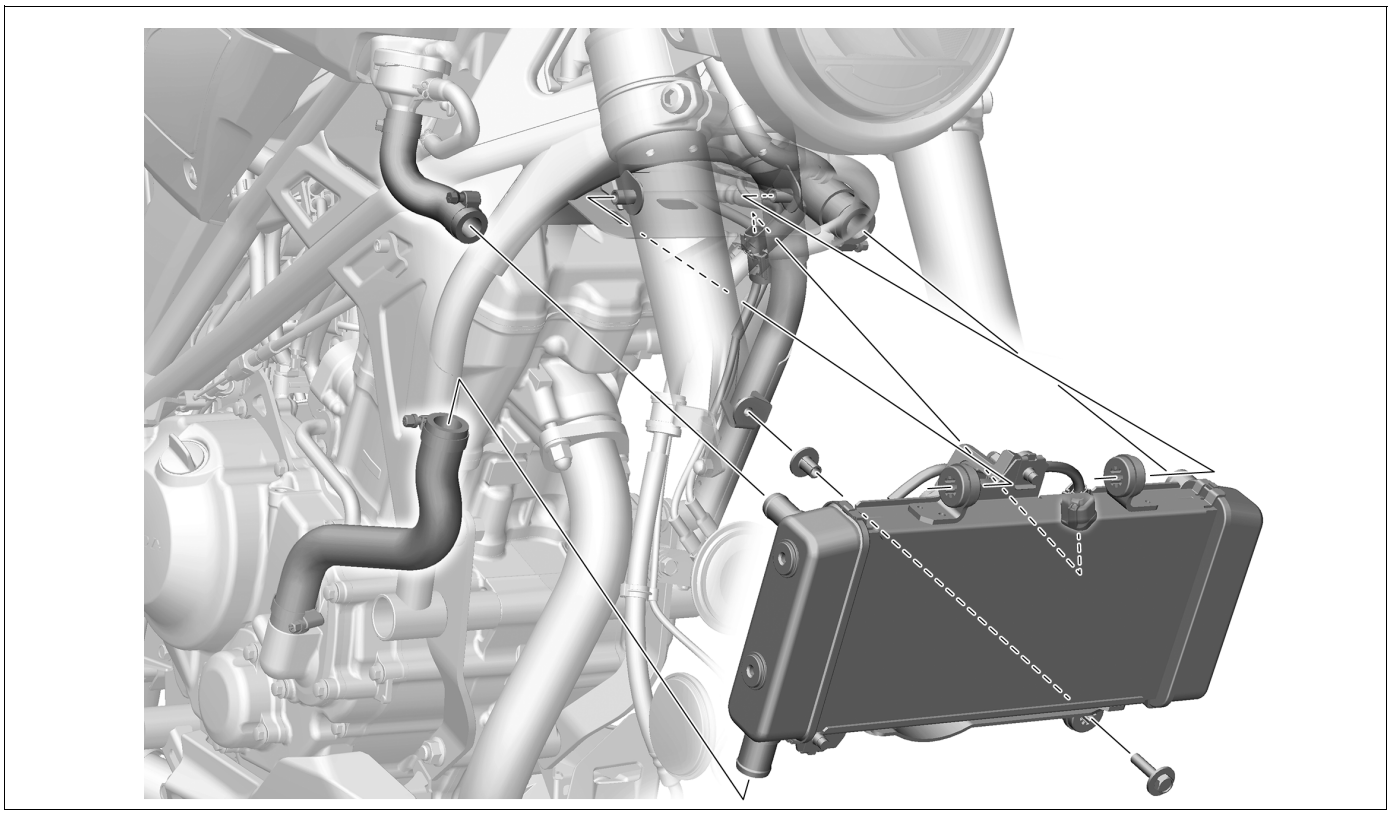


- Radiator cover ➔3-8
- Fill the system with the coolant through the filler opening to the filler neck.
  RECOMMENDED ANTIFREEZE:
  TH model: Honda PRE-MIX Coolant
  KO, U model: High quality ethylene glycol antifreeze containing silicatefree corrosion inhibitors
- Start the engine and let it idle for 2 – 3 minutes.
- Snap the throttle three or four times to bleed air from the system.
- Stop the engine and add coolant up to the filler neck.
- Reinstall the radiator cap.

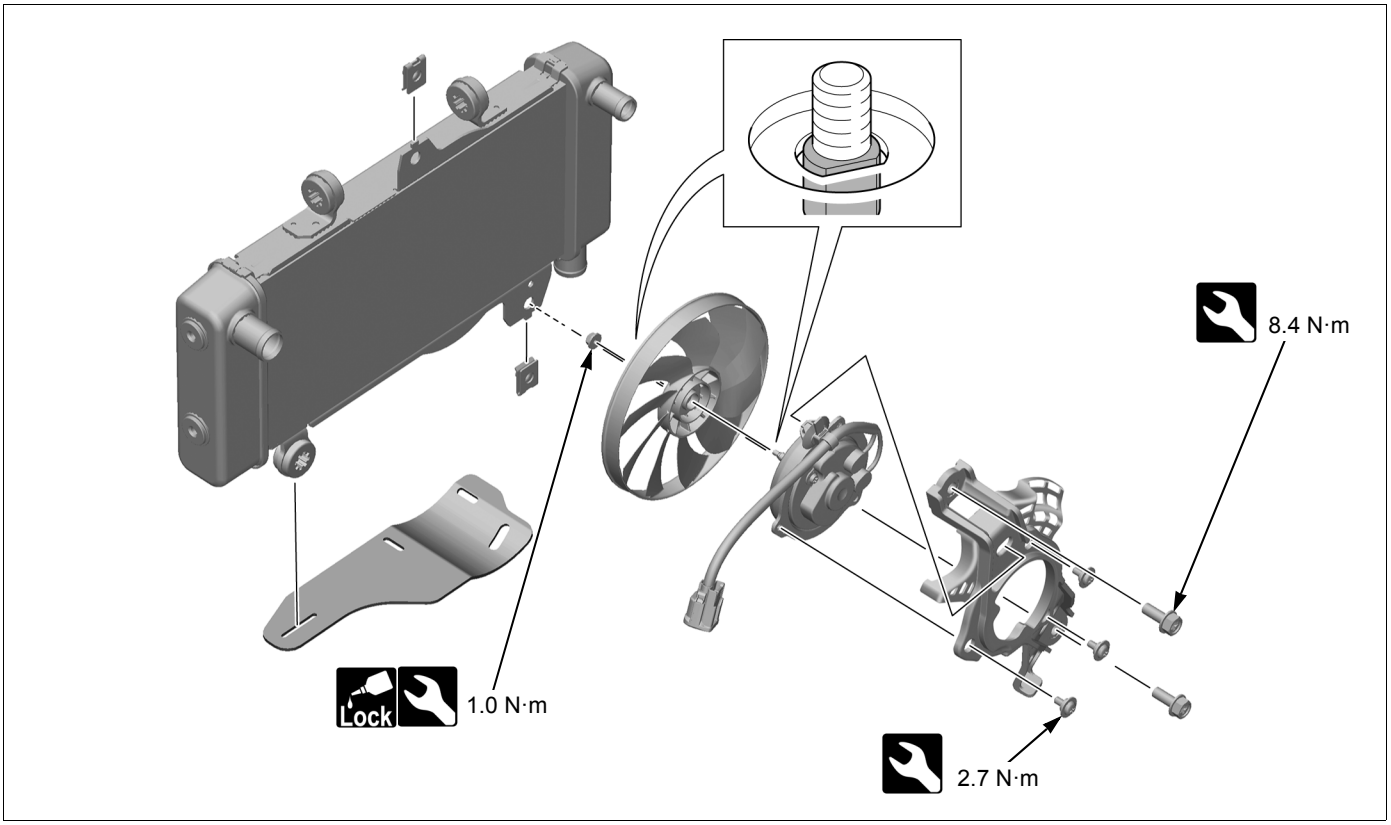


- Radiator reserve tank cap.
- If the coolant level is below or near the lower level, add the recommended coolant to the upper level line.

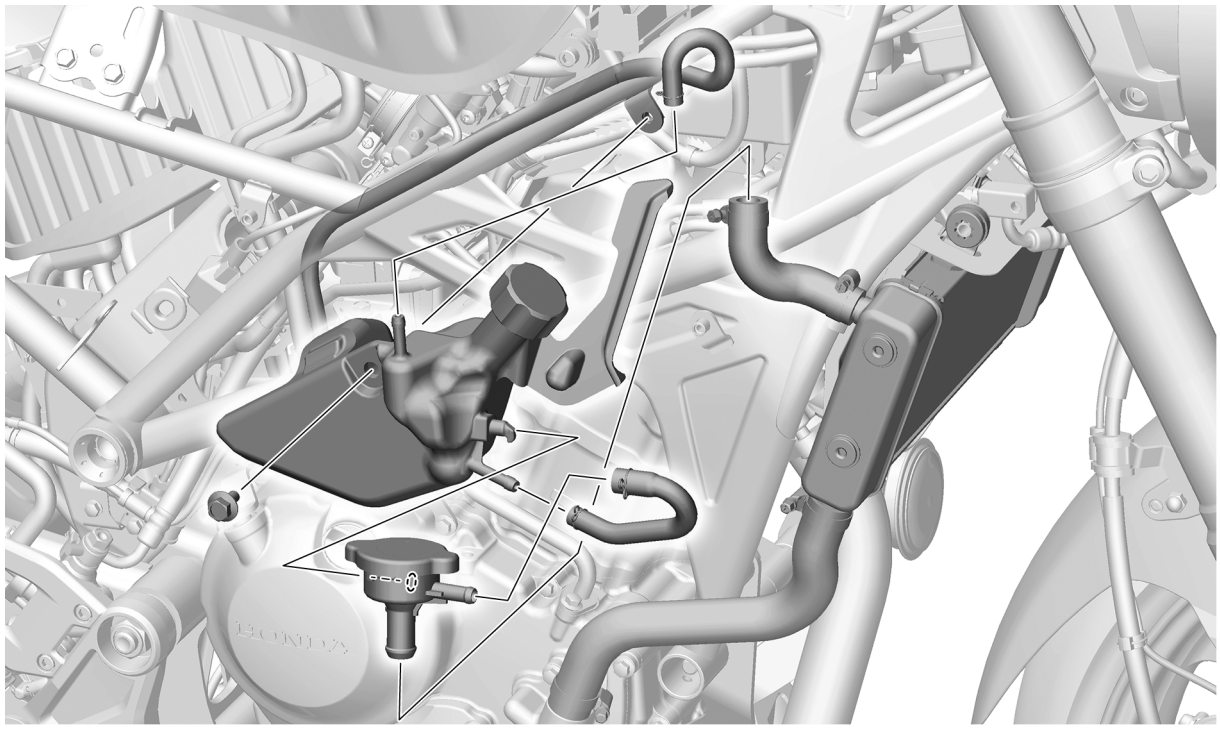
RADIATOR/COOLING FAN



- Radiator cover ➔3-8

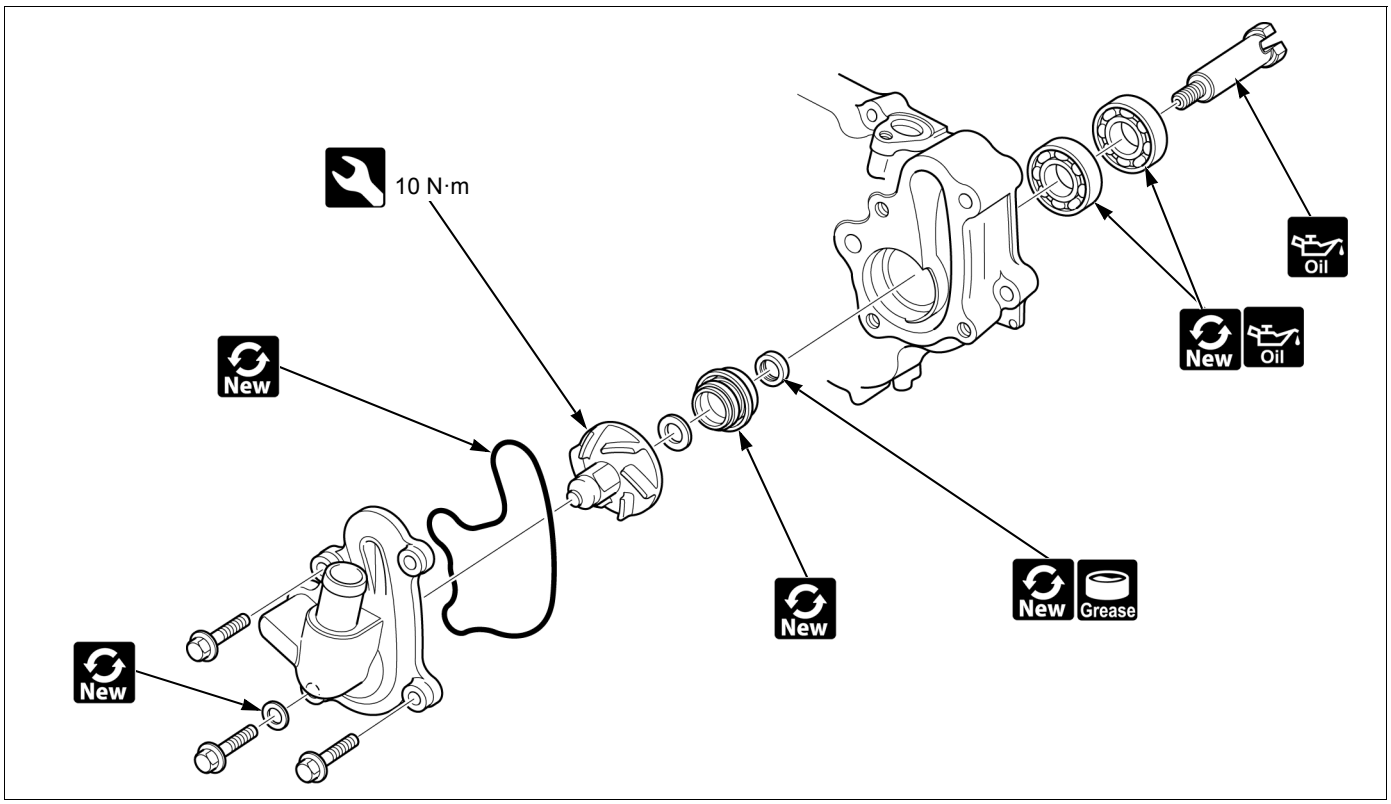


RADIATOR RESERVE TANK

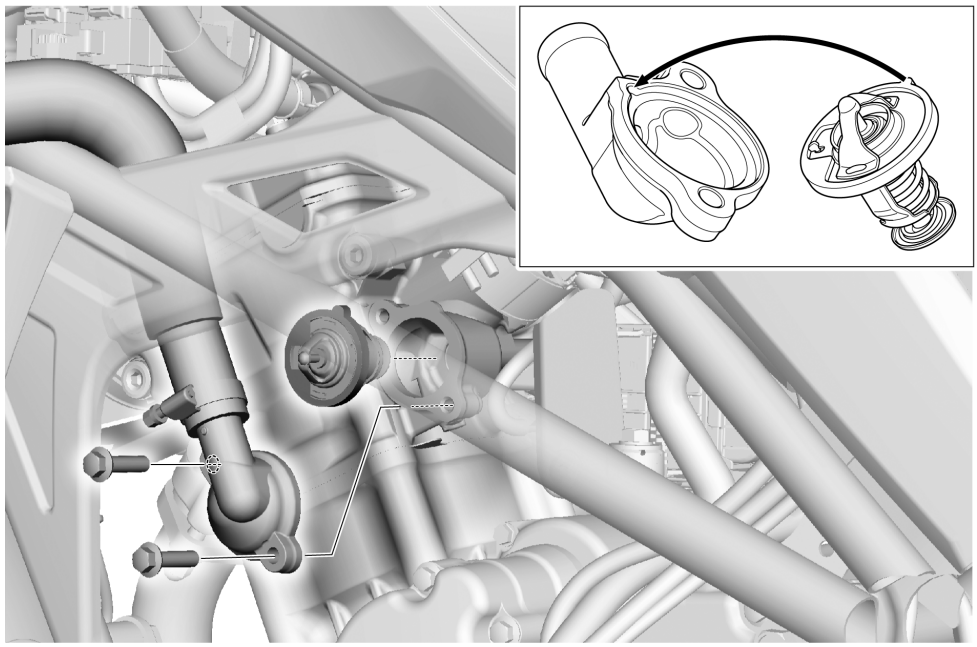


- Radiator cover ➔3-8

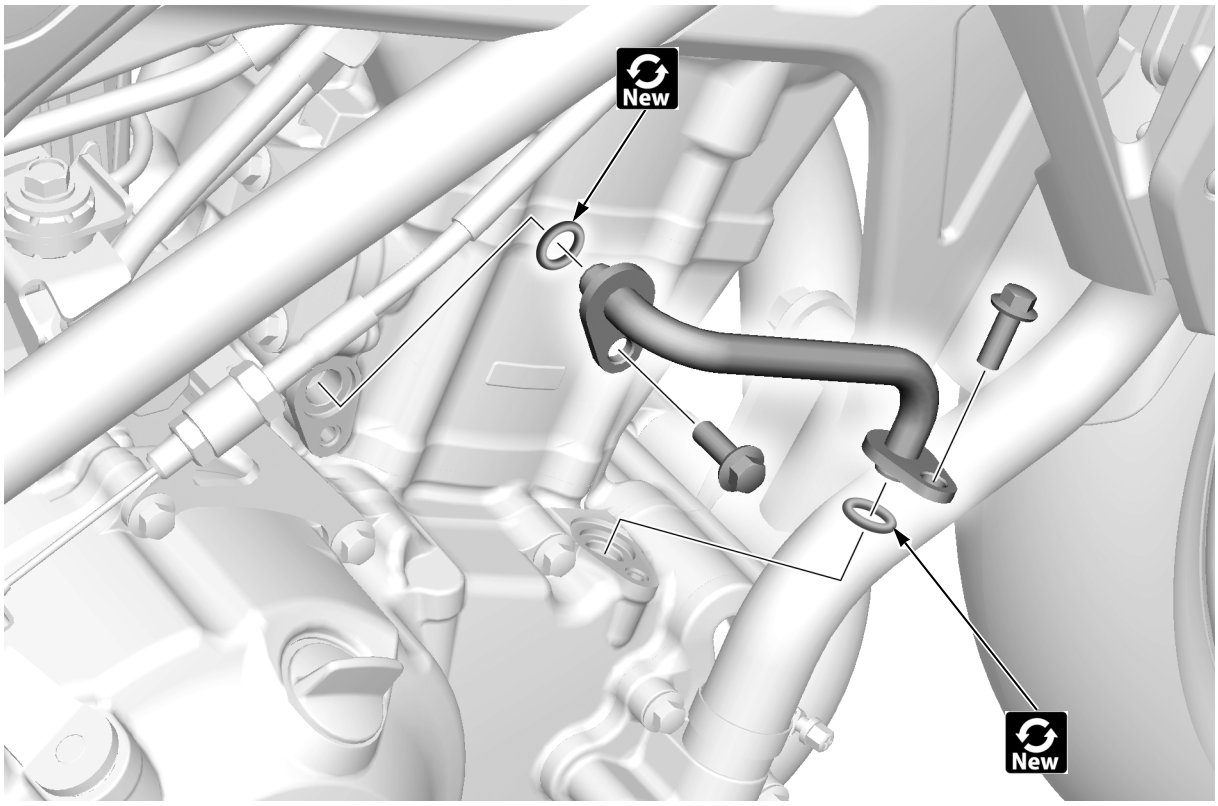
WATER PUMP/THERMOSTAT/WATER PIPE



- Right crankcase cover ➔2-30



- Coolant ➔2-17
- Thermostat inspection

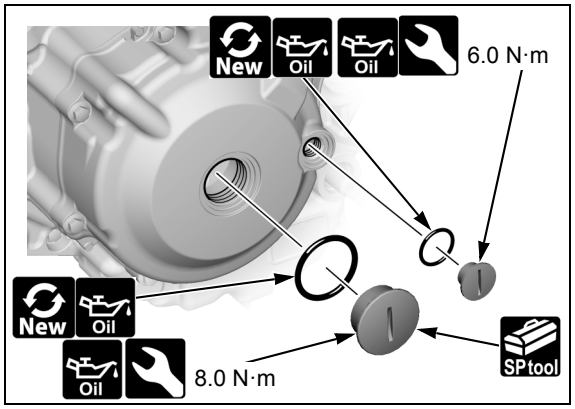


- Coolant ➔2-17

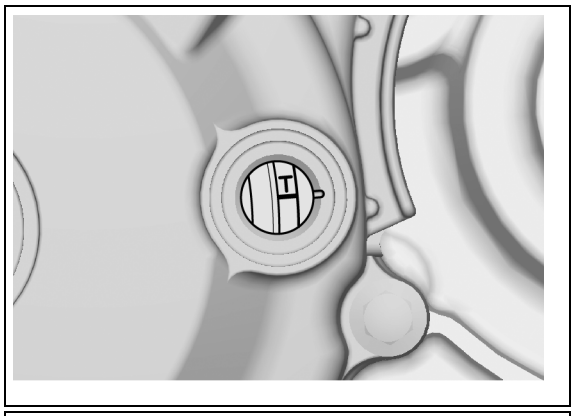
CYLINDER HEAD

VALVE CLEARANCE

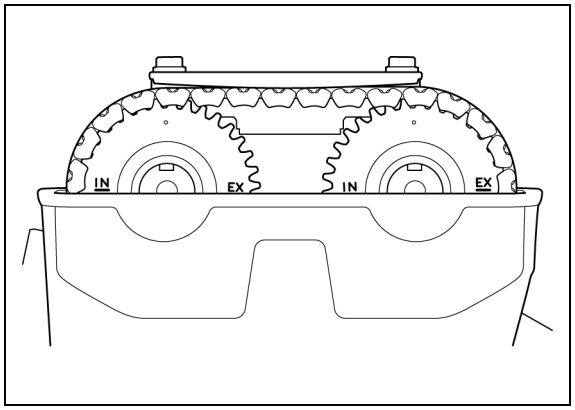
INSPECTION



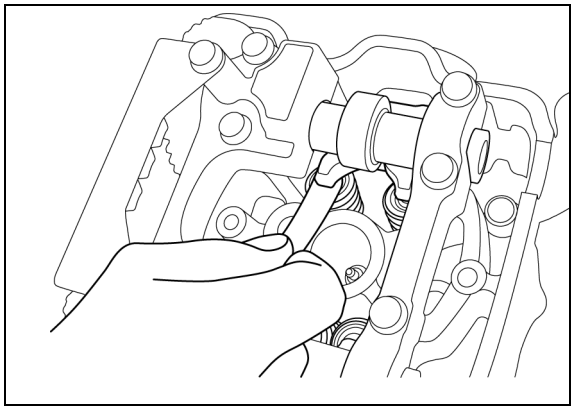
- Inspect while the engine is cold (below 35°C).
- After the valve clearance inspection, check the engine idle speed.
- Cylinder head cover ➔2-24
- Timing hole cap/O-ring, crankshaft hole cap/O-ring
  Timing cap wrench: 07709-0010001



- Rotate the crankshaft counterclockwise and align the "T" mark on the flywheel with the index notch on the left crankcase cover.

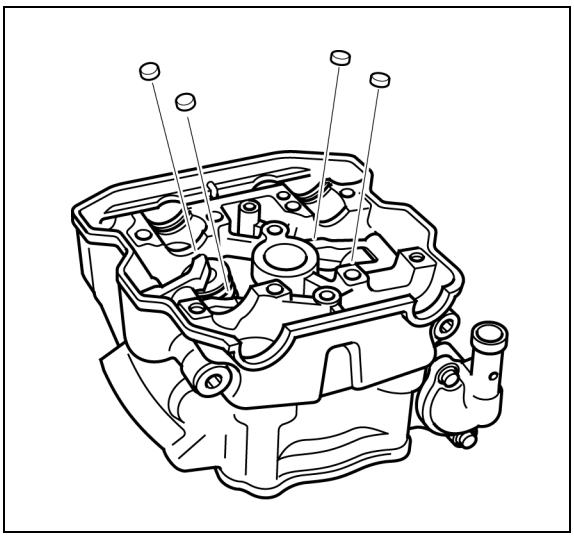


- The index lines on the cam sprockets must be flush with the cylinder head surface.
- Make sure the piston is at TDC (Top Dead Center) on the compression stroke.

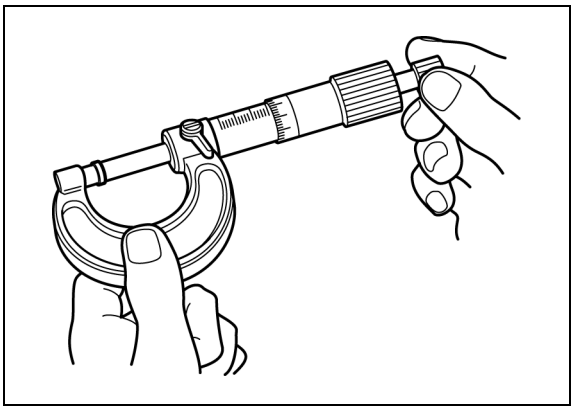


- Valve clearance (Insert a feeler gauge between the rocker arm and shim).
  IN: 0.16 ± 0.03 mm, EX: 0.27 ± 0.03 mm

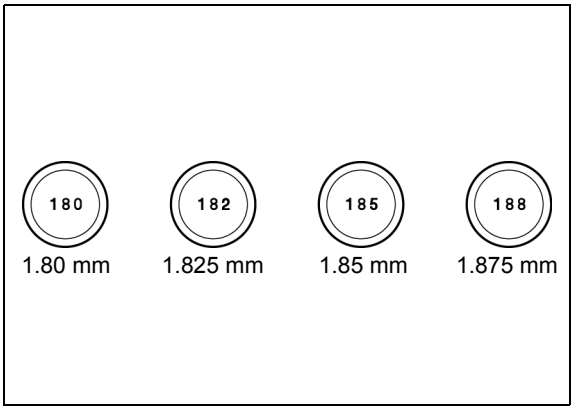
ADJUSTMENT



- Adjust while the engine is cold (below 35°C).
- Do not allow the shims to fall into the crankcase.
- Mark all shims to ensure correct reassembly in their original locations.
- The shims can be easily removed with a tweezers or magnet.
- camshaft ➔2-24
- Shims
- Clean the valve shim contact area with compressed air.

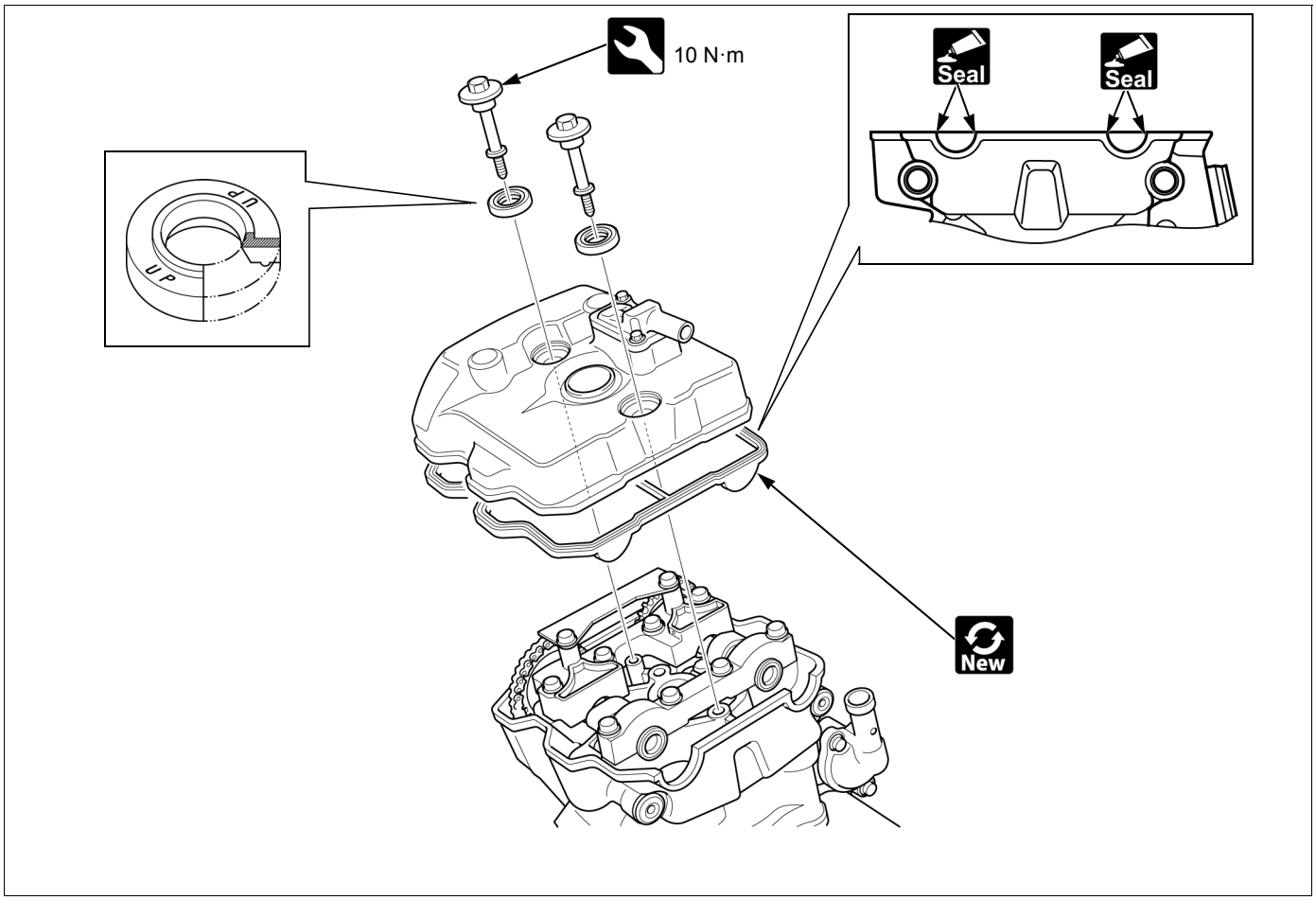


- Shim thickness and record it.



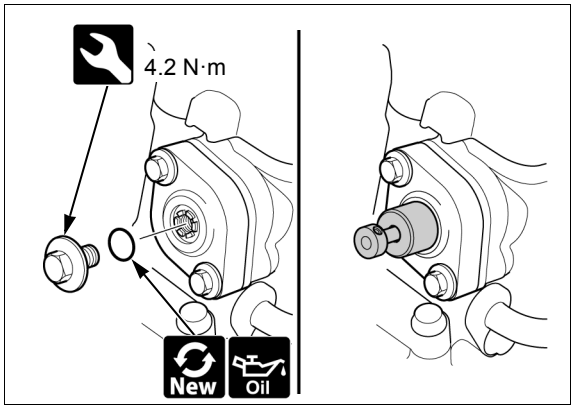
- Calculate the new shim thickness using the equation below.
  A = (B – C) + D
  A: New shim thickness
  B: Recorded valve clearance
  C: Specified valve clearance
  D: Old shim thickness
- Fifty-seven different thickness shims are available from the thinnest 1.500 mm shim to the thickest 2.900 mm shim in intervals of 0.025 mm.
- Make sure of the correct shim thickness by measuring the shim by micrometer.
- Reface the valve seat if carbon deposit result in a calculated dimension of over 2.900 mm.
- Newly selected shim on the valve spring retainer.
- Removed parts
- Rotate the camshafts by rotating the crankshaft counterclockwise several times.
- Recheck the valve clearance ➔2-22

CYLINDER HEAD COVER

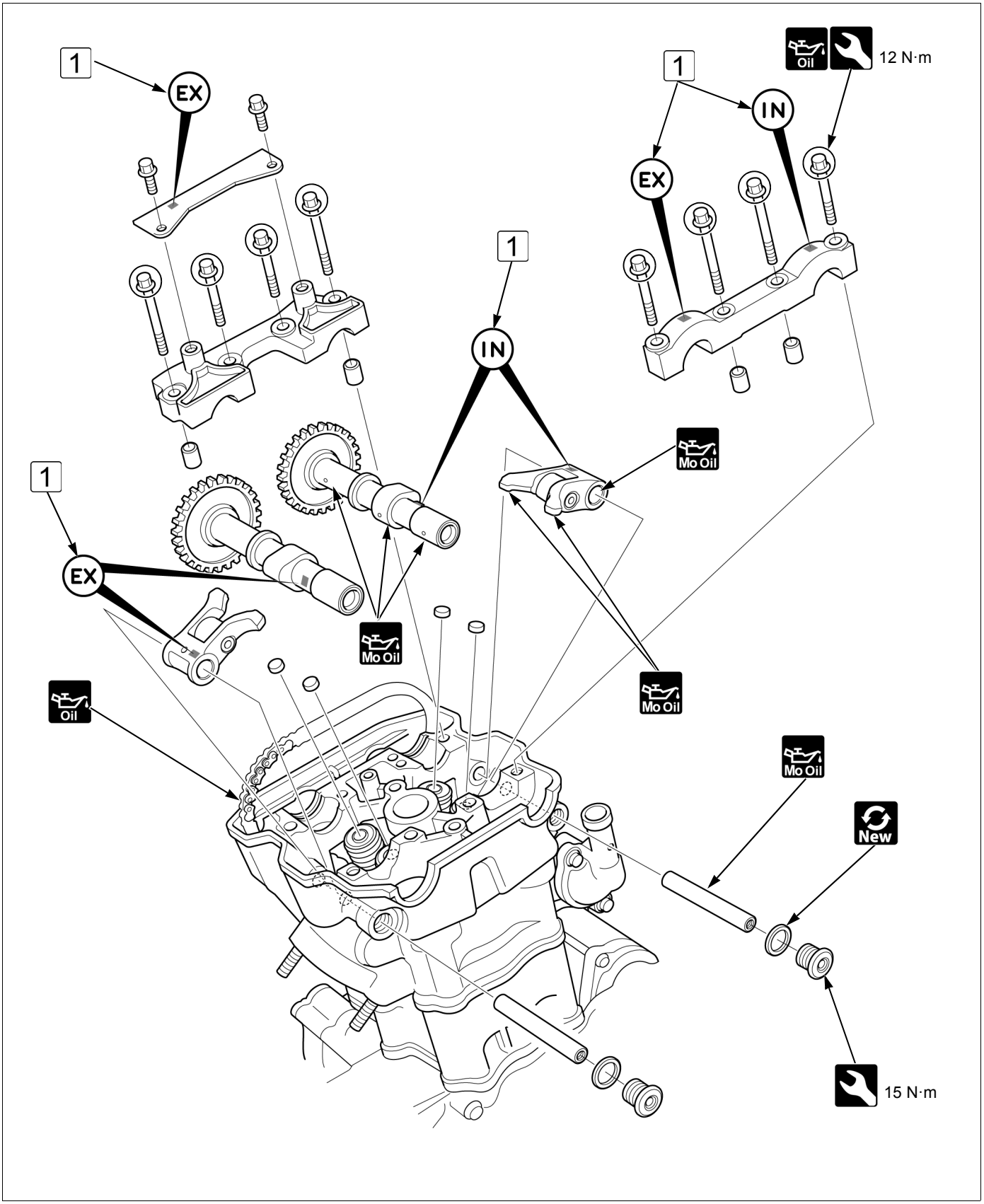


- Remove the radiator mounting bolt, shift the radiator forward. ➔2-12
- Battery box ➔4-53
- Radiator reserve tank ➔2-19
- [1] Apply sealant (Three bond 5211C or 1207B or 1215 or Shin-Etsu Silicone KE45 or equivalent) to the cylinder head cover gasket semicircular corner.

CAMSHAFT/ROCKER ARM

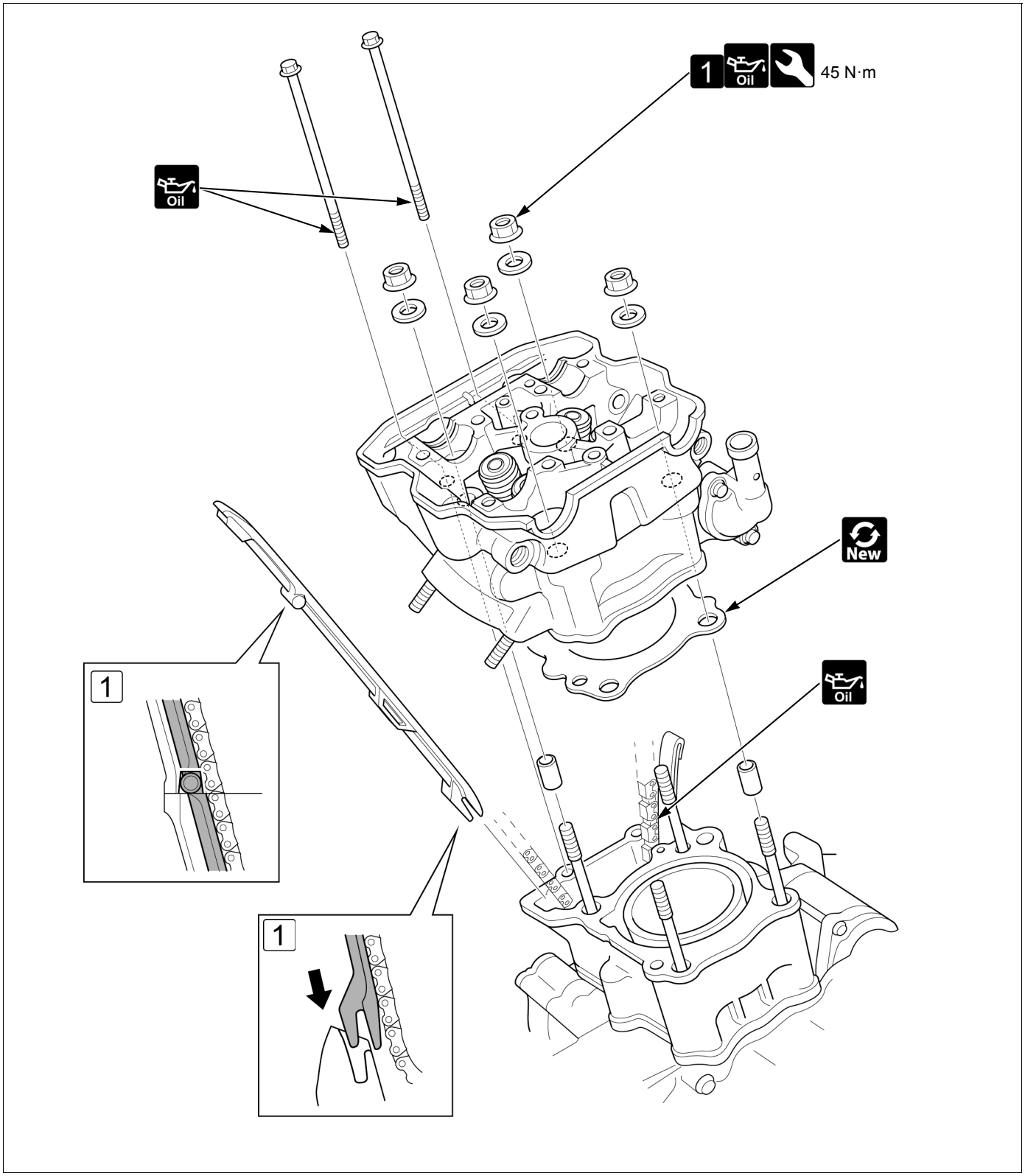


- Cylinder head cover ➔2-24
- Set the piston to the TDC (Top Dead Center) on the compression stroke ➔2-22
- Install the special tool into the tensioner body and turn the tool clockwise until it stops. Hold the tensioner lifter by pushing the tool while aligning the tabs of the tool with the grooves of the tensioner lifter.
  Cam chain tensioner lifter stopper: 070MG-0010100

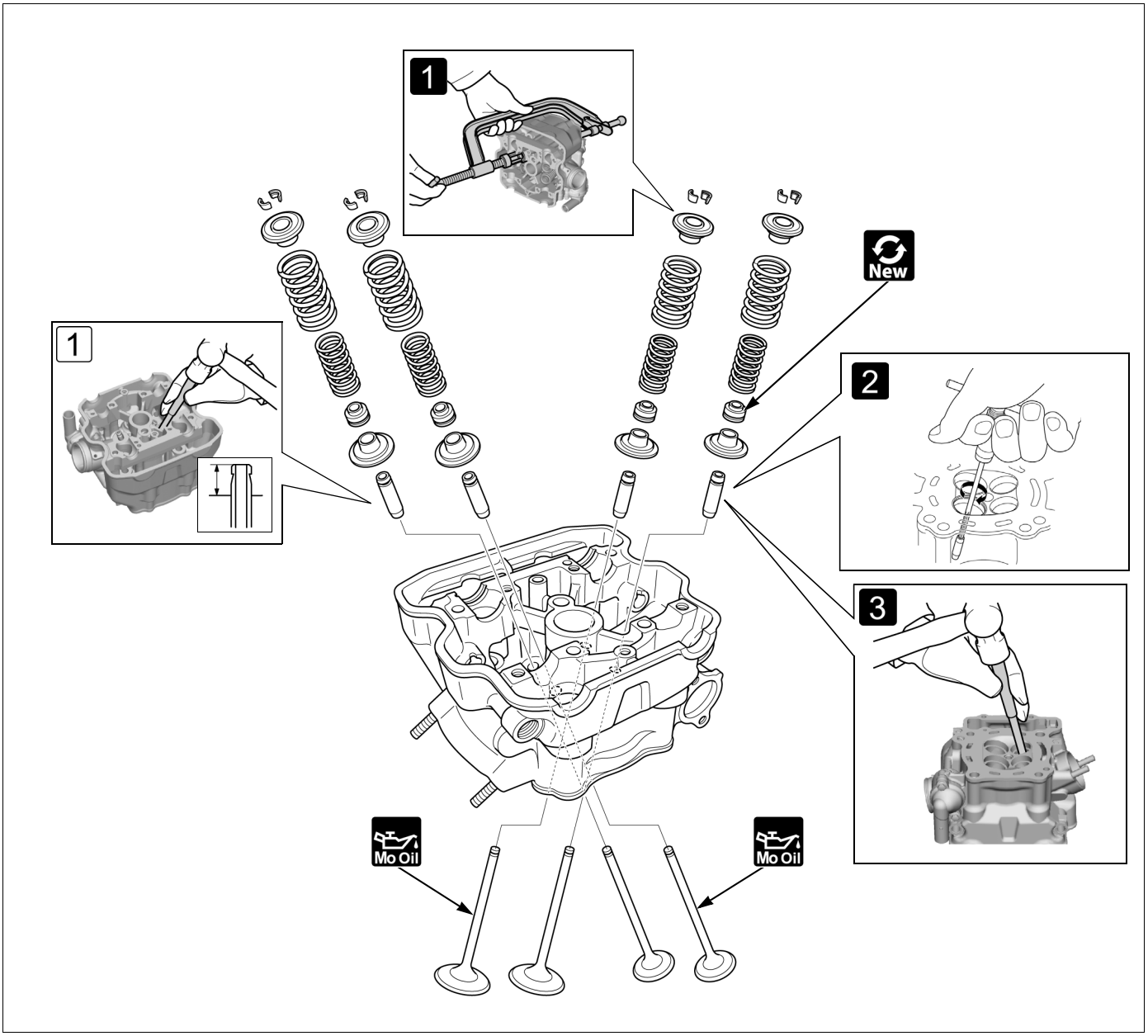


- 1 Install each camshaft, rocker arm, camshaft holder and cam chain guide B to the correct position with the identification mark.

- Camshaft inspection
- Camshaft oil clearance inspection



- Engine ➔2-40
- Camshaft ➔2-24
- 1 Loosen the cylinder head nuts in a crisscross pattern in two or three steps.
- 1 Install the cam chain guide while aligning its pins with the grooves on the cylinder head and its end with the groove on the left crankcase.

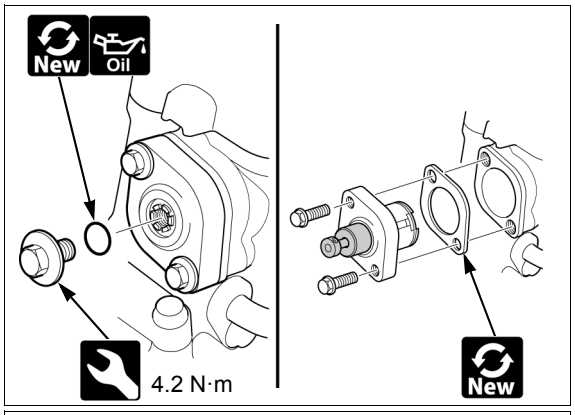


- 1 Remove the valve cotters.
  Valve spring compressor: 07757-0010000
  Valve spring compressor attachment: 07959-KM30101
- 2 Ream the valve guide to remove any carbon build up before measuring the guide. Insert the reamer from the combustion chamber side of the cylinder head and always rotate the reamer clockwise.
  Valve guide reamer, 4.5 mm: 07HMH-ML00101
- 3 Support the cylinder head and drive the valve guides out of the cylinder head from the combustion chamber side.
  Valve guide driver, 4.3 mm: 07HMD-ML00101

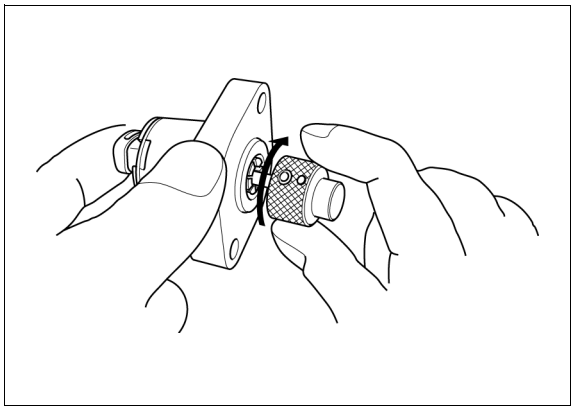
- 1 Drive new valve guides into the cylinder head to the specified height from the cylinder head.
  INTAKE/EXHAUST VALVE GUIDE PROJECTION: 13.8 – 14.0 mm
  Valve guide driver: 07743-0020000

Basic
- Valve and valve spring inspection
- Valve guide inspection
- Valve seat inspection

CAM CHAIN TENSIONER

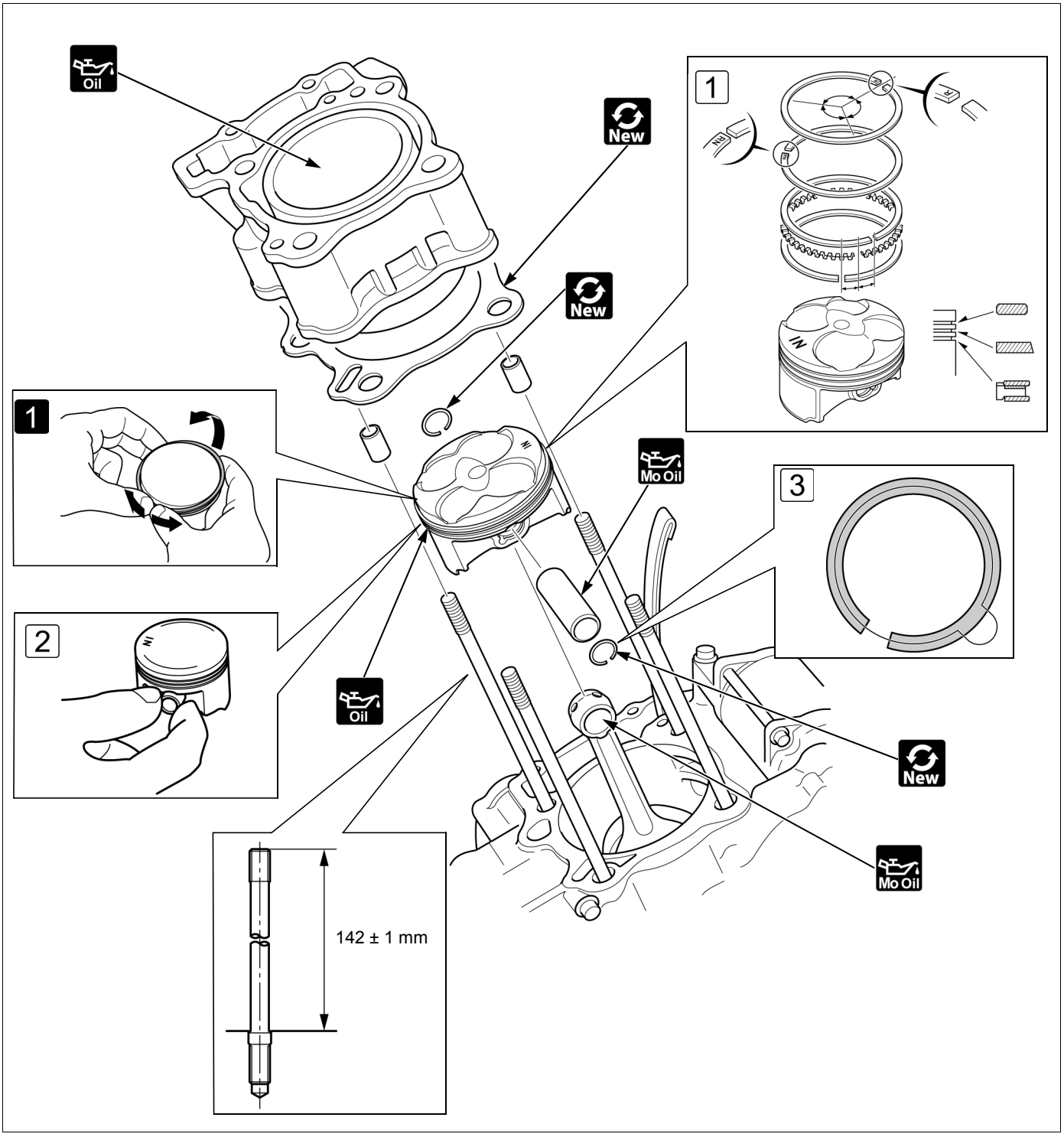


- Install the special tool into the tensioner body and turn the tool clockwise until it stops. Hold the tensioner lifter by pushing the tool while aligning the tabs of the tool with the grooves of the tensioner lifter.
  Cam chain tensioner lifter stopper: 070MG-0010100



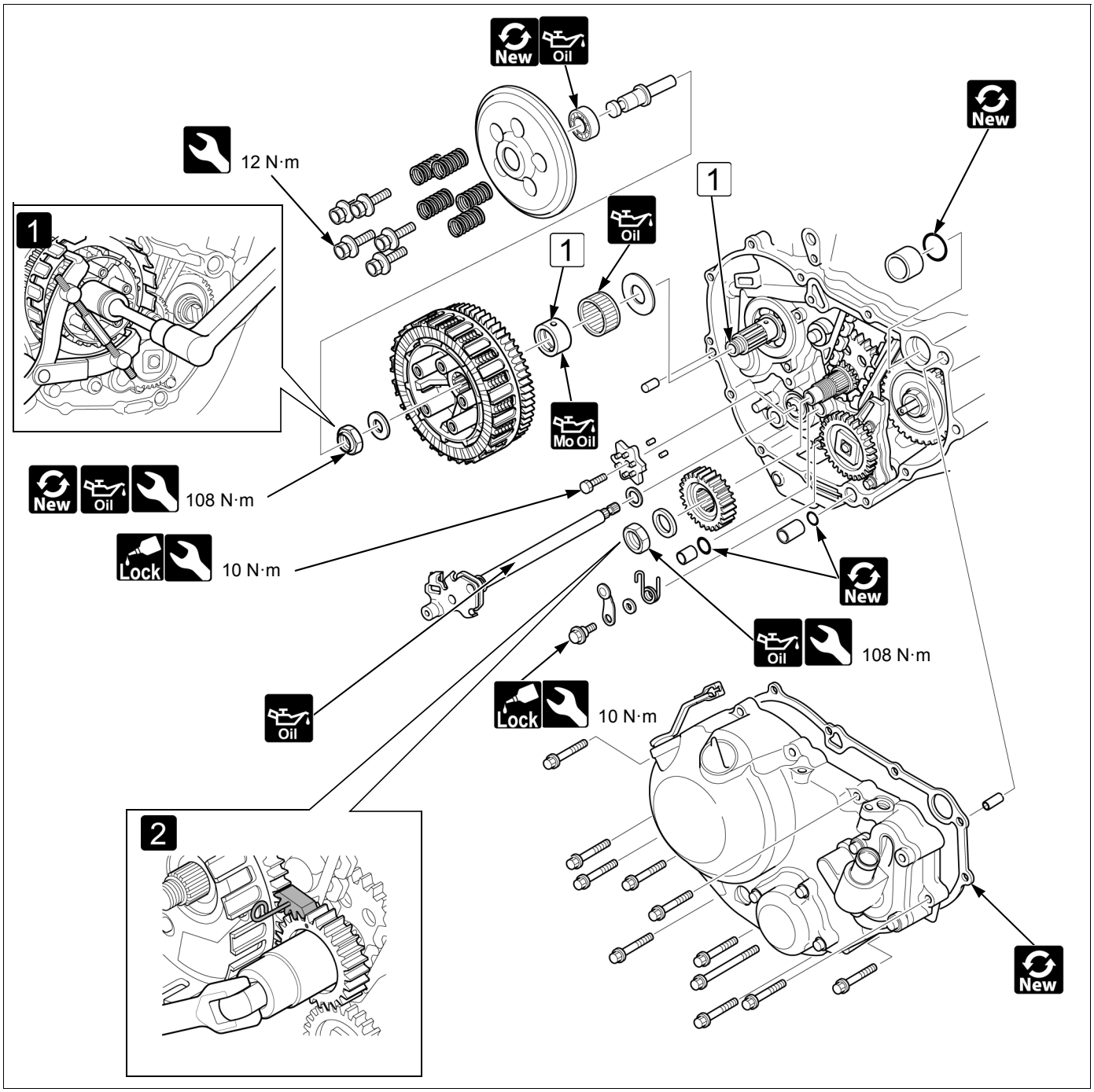
- Check the cam chain tensioner lifter operation:
  – The tensioner shaft should not go into the body when it is pushed.
  – When it is turned clockwise with the tensioner stopper, the tensioner shaft should be pulled into the body. The shaft should protrude from the body as soon as the tensioner stopper is released.

CYLINDER/PISTON



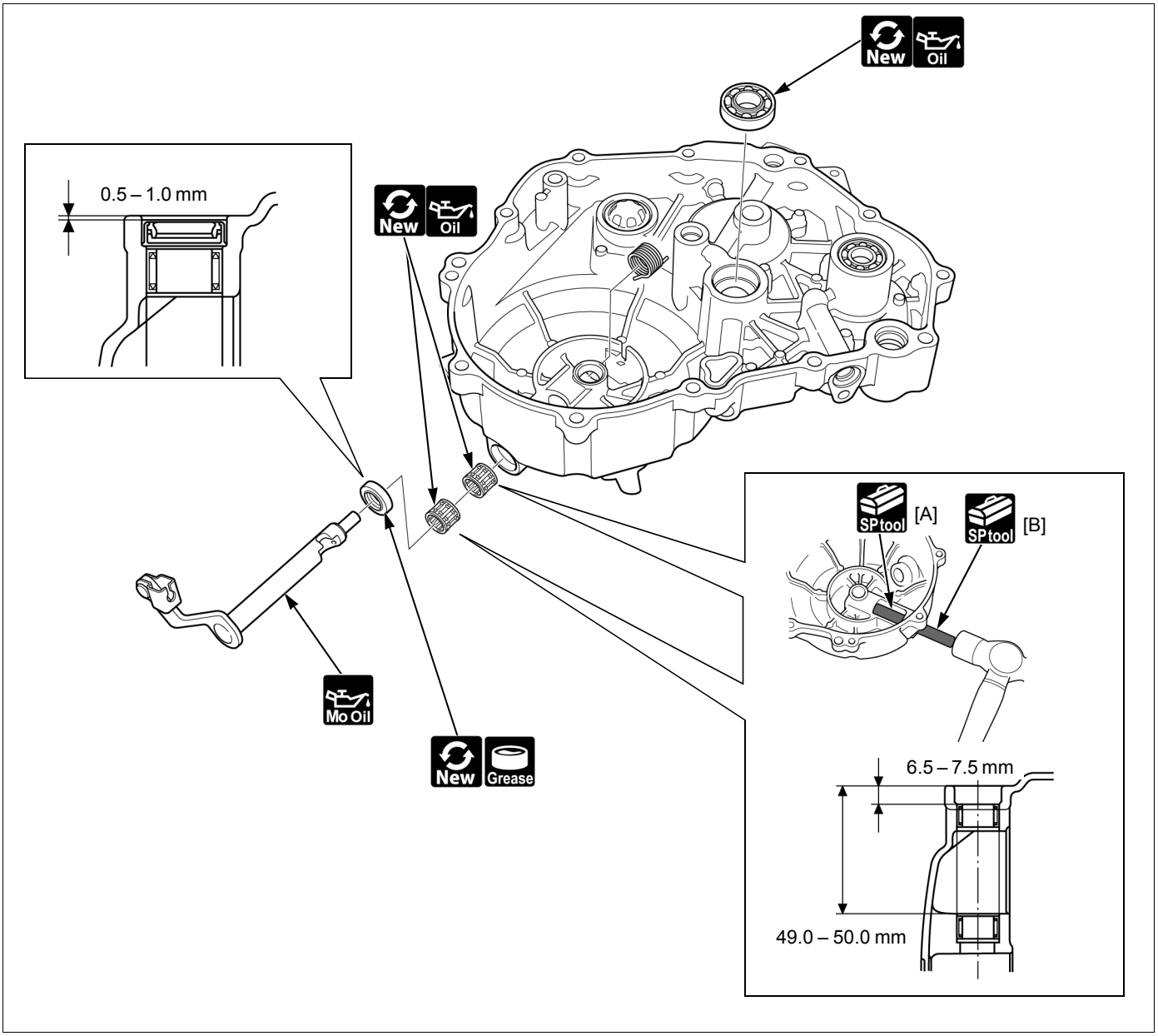
- Cylinder head ➔2-22
- Cam chain tensioner ➔2-28
- 1 Spread each piston ring and remove it by lifting up at a point opposite the gap.
- 1 Carefully install the piston rings into the piston ring grooves with the markings facing up.
- 2 Install the piston with the “IN” mark facing the intake side.
- 3 Do not align the piston pin clip end gap with the piston cut-out.
- Piston and piston rings inspection
- Cylinder inspection

CLUTCH/GEARSHIFT LINKAGE

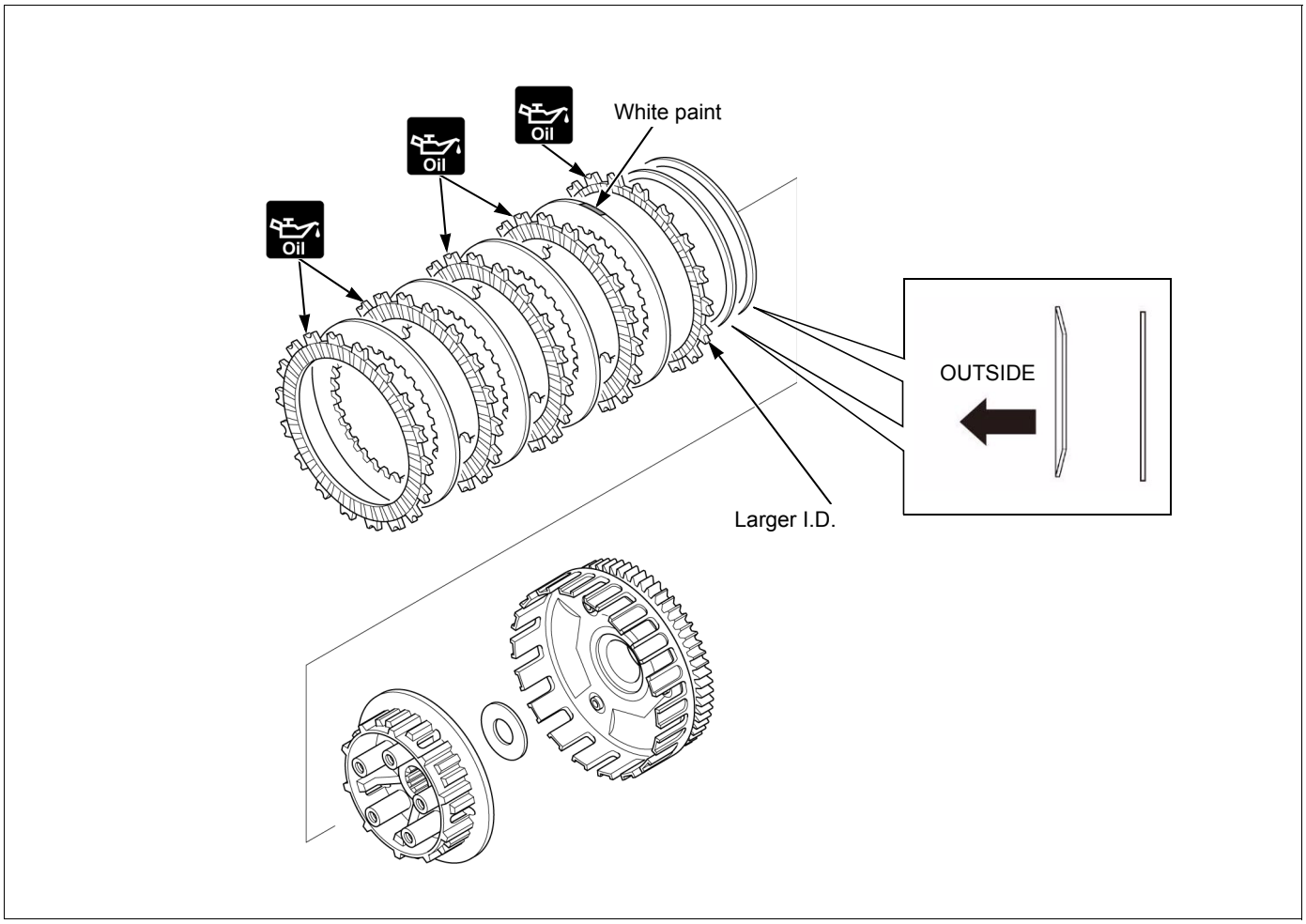


- Gearshift pedal ➔3-10
- Water pipe ➔2-20
- Under cowl ➔3-7
- 1 Loosen the clutch center lock nut.
  Clutch center holder: 07724-0050002
- 2 Hold the flywheel and loosen the primary drive gear lock nut.
  Gear holder, M1.5: 07724-0010200

- 1 The mainshaft and clutch outer guide has ID color paint mark.
  When the clutch outer assembly is replaced, be sure to selecting same color codes of the mainshaft and clutch outer guide.



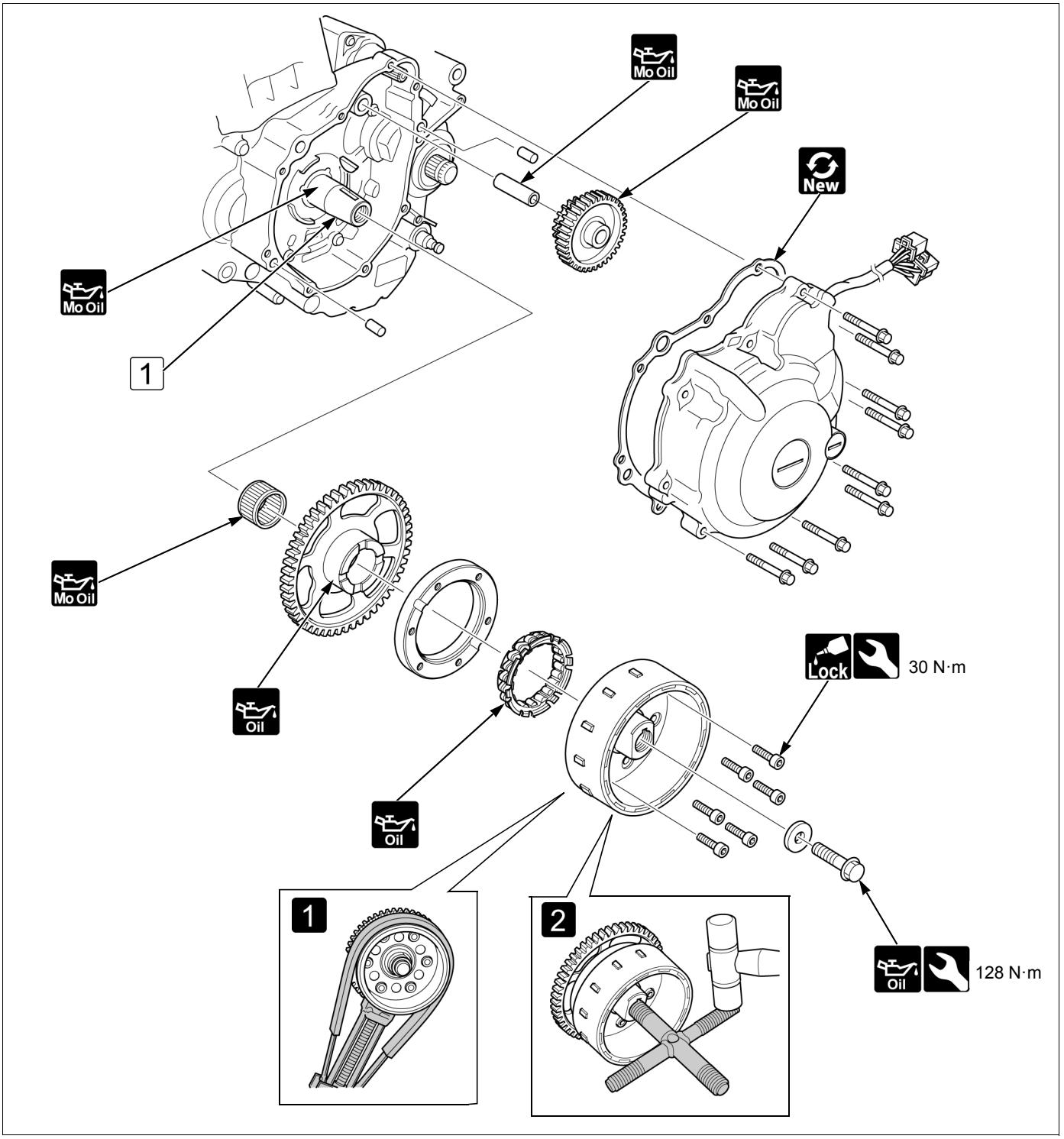
- CLUTCH LIFTER ARM NEEDLE BEARING:
  [A] Pilot collar, 16 mm: 07PAF-0010620
  [B] Bearing remover head, 10 mm: 07746-0050200



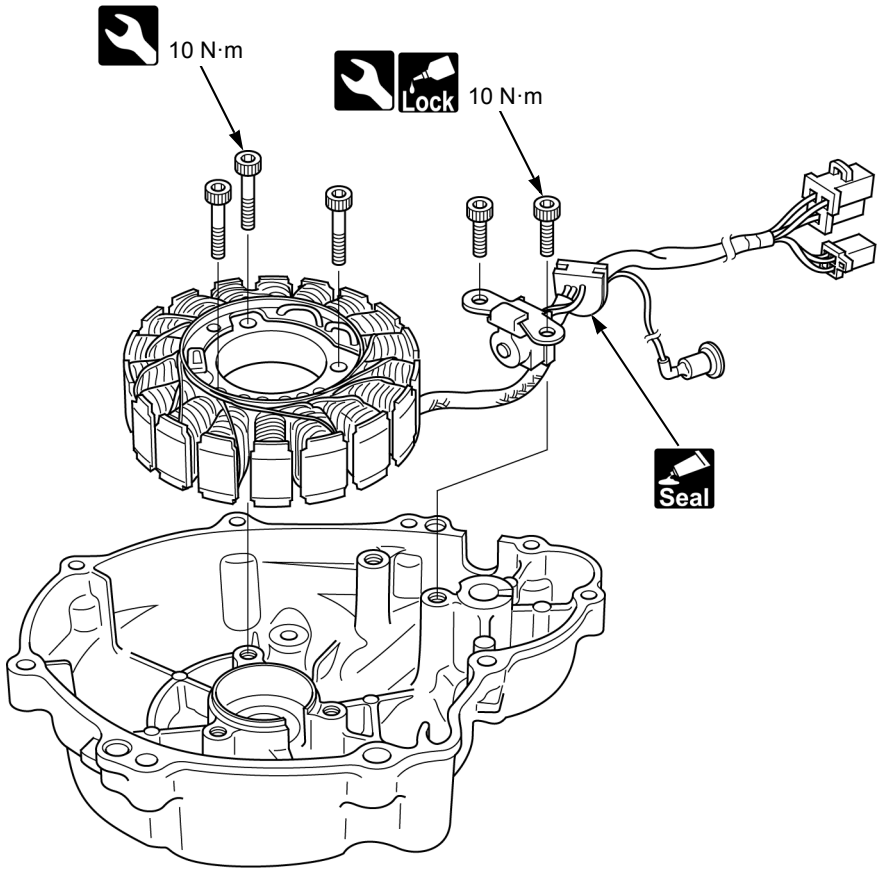
Basic
- Clutch inspection

ALTERNATOR/STARTER CLUTCH

- This service can be serviced with the engine installed in the frame.



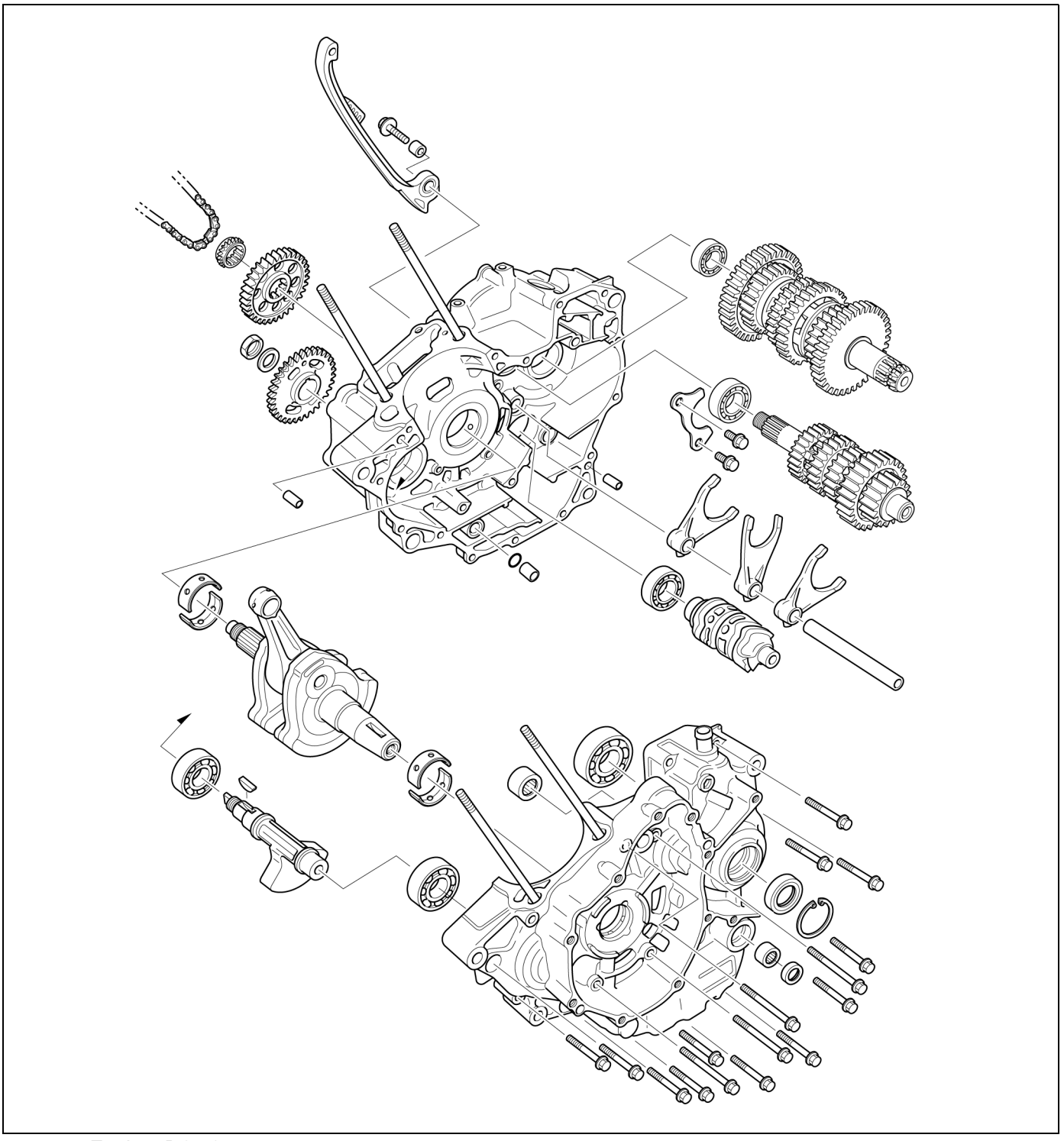
- Under cowl ➔3-7
- Drive sprocket cover ➔3-10
- 1 Hold the flywheel with the special tool for the nut removal.
  Flywheel holder: 07725-0040001
- 2 Flywheel
  Flywheel puller: 07733-0020001
- 1 Clean any oil and grease from crankshaft and flywheel contact area.



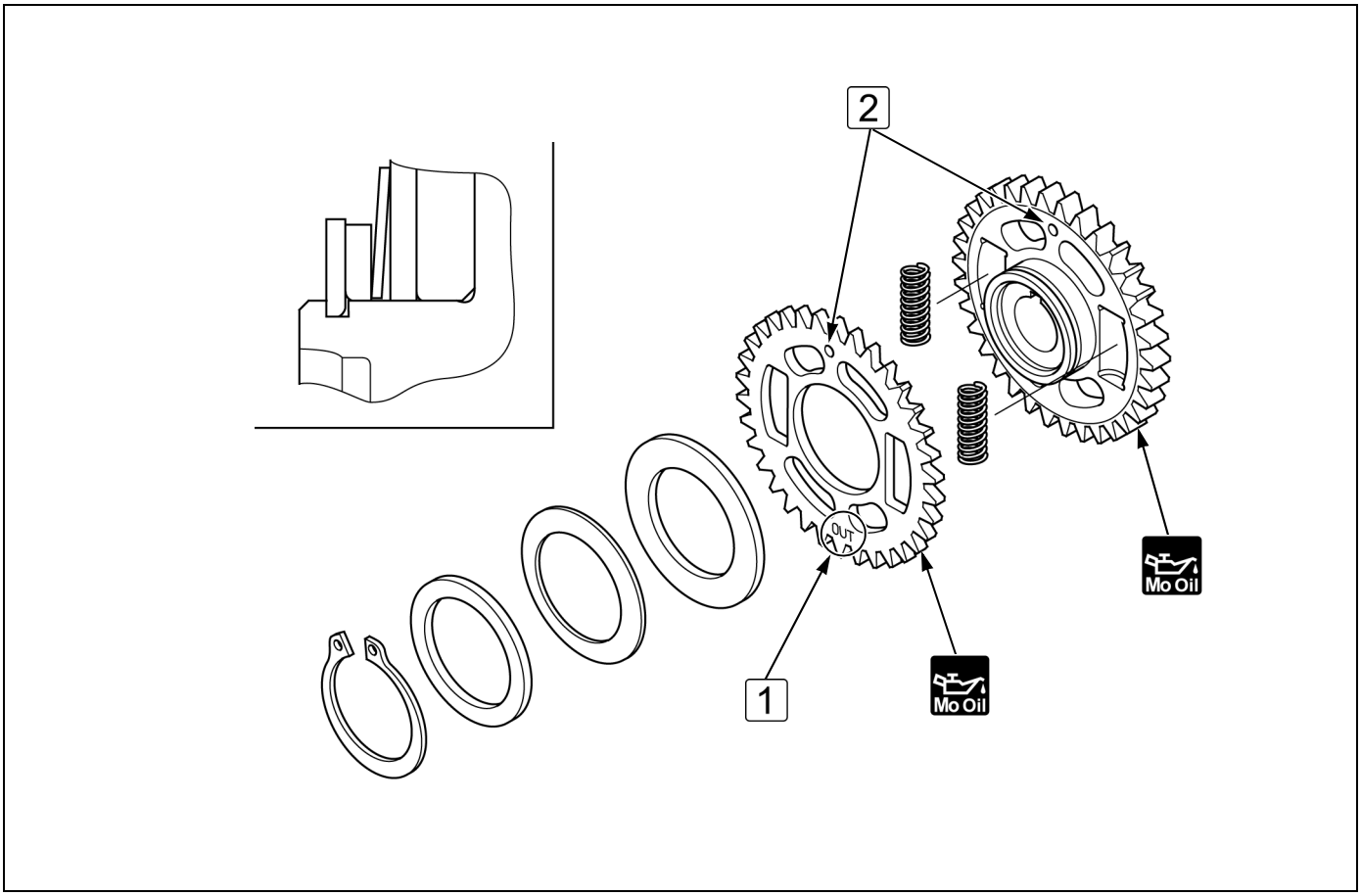
Lock Coating width:
6.5 ± 1 mm from the tip

- Apply liquid sealant (Three bond 1207B, 1215 or equivalent) to the semicircular area.

CRANKCASE/CRANKSHAFT/BALANCER



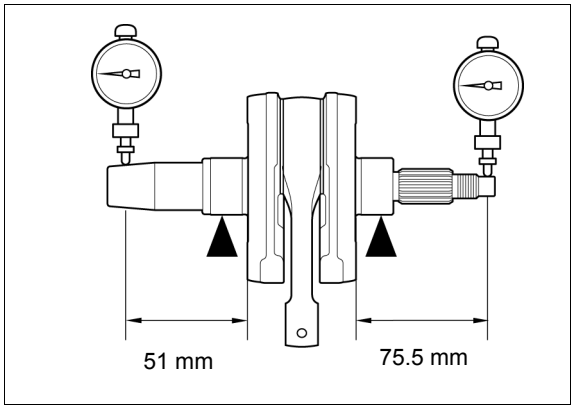
- Engine ➔2-40
- Cylinder/piston ➔2-29
- Clutch/gearshift linkage ➔2-30
- Alternator/starter clutch ➔2-33
- Oil pump ➔2-16
- VS sensor ➔4-59
- Neutral switch ➔4-33
- Starter motor ➔4-32
- Remove the crankcase bolts in a crisscross pattern in 2 – 3 steps.
- Place the crankcase with the right crankcase facing down and separate.



- 1 Install the balancer driven sub gear with its "OUT" mark facing out.
- 2 Align the holes of the balancer driven and sub gear.

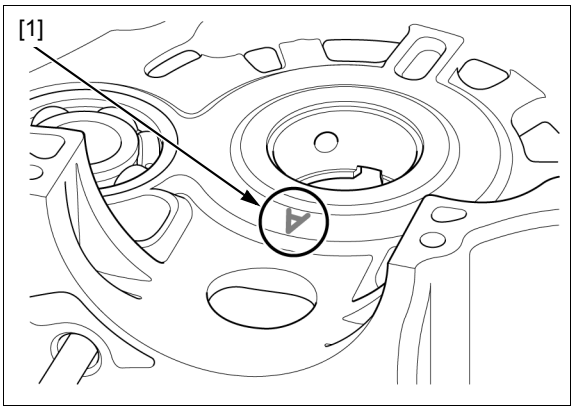
- Balancer inspection

CRANKSHAFT RUNOUT INSPECTION



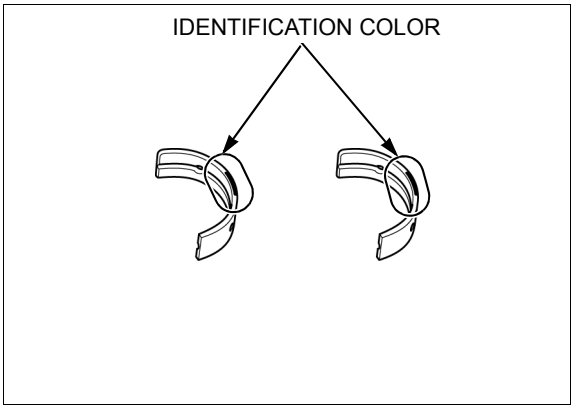
- Set the crankshaft on V-blocks and measure the runout using a dial indicator.
  Limit: (L) 0.02 mm/(R) 0.03 mm

MAIN JOURNAL BEARING SELECTION



- Record the bearing support I.D. code letter [1].
- Letters A, B or C on each crankcase is the code for the crankcase main journal bearing support I.D.

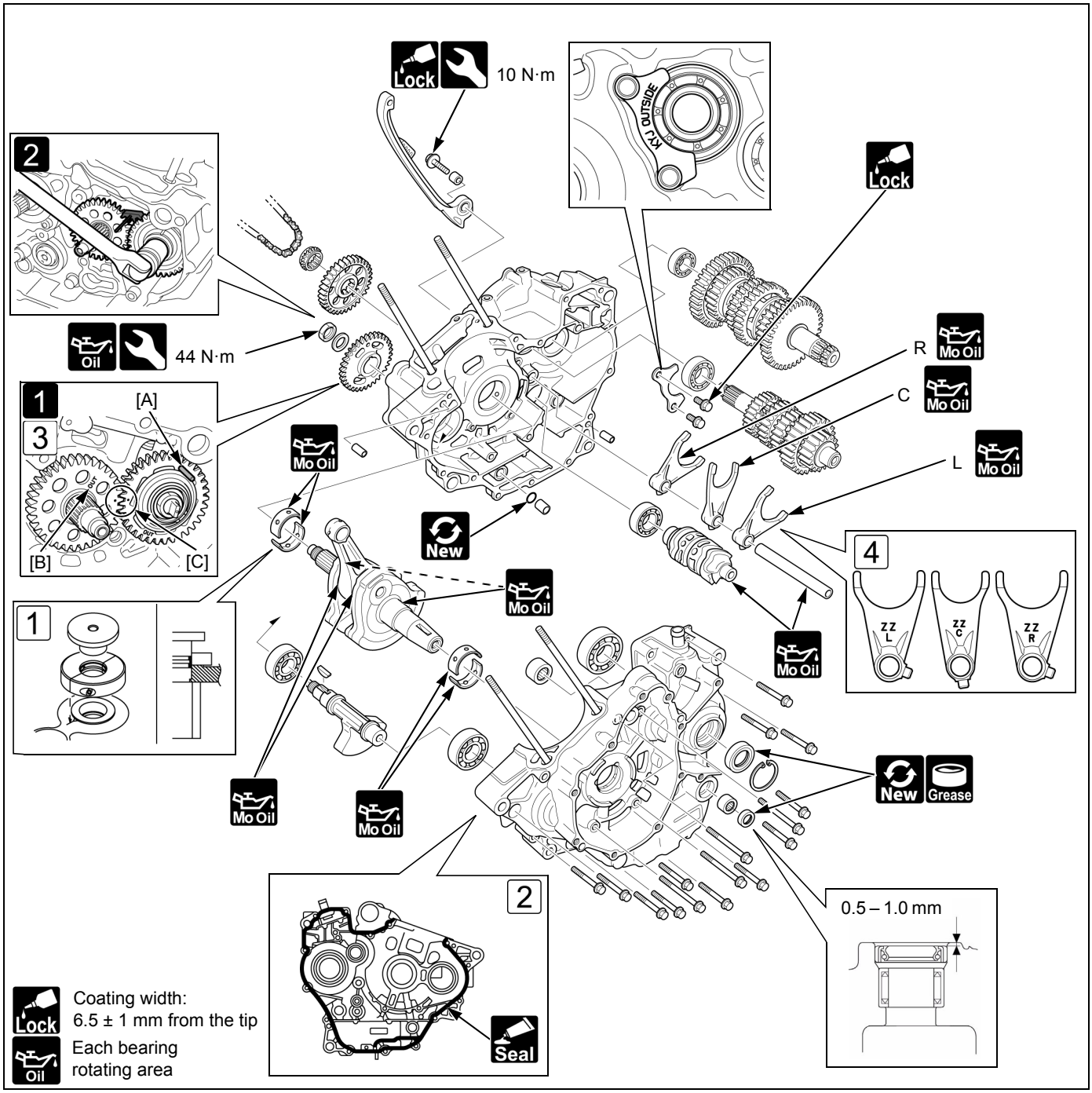
BEARING SUPPORT I.D. CODE (Crankcase replaced)	BEARING SUPPORT I.D.	MAIN JOURNAL O.D.	
		33.985 – 34.000 mm (Crankshaft replaced)	33.975 – 33.985 mm
A	38.000 – 38.006 mm	C (Brown) 1.996 – 1.999 mm	B (Black) 1.999 – 2.002 mm
B	38.006 – 38.012 mm	B (Black) 1.999 – 2.002 mm	A (Blue) 2.002 – 2.005 mm
C	38.012 – 38.018 mm	A (Blue) 2.002 – 2.005 mm	O.S. G (Pink) 2.005 – 2.008 mm
–	38.018 – 38.024 mm	O.S. G (Pink) 2.005 – 2.008 mm	O.S. F (Yellow) 2.008 – 2.011 mm
–	38.024 – 38.030 mm	O.S. F (Yellow) 2.008 – 2.011 mm	O.S. E (Green) 2.011 – 2.014 mm
–	38.030 – 38.036 mm	O.S. E (Green) 2.011 – 2.014 mm	O.S. D (Red) 2.014 – 2.017 mm



BEARING THICKNESS:

O.S. D (Red): **Thick**
O.S. E (Green):
O.S. F (Yellow): ↑
O.S. G (Pink): **Middle**
A (Blue):
B (Black): ↓
C (Brown): **Thin**

- After selecting new bearings, recheck the clearance. Incorrect clearance can cause severe engine damage.



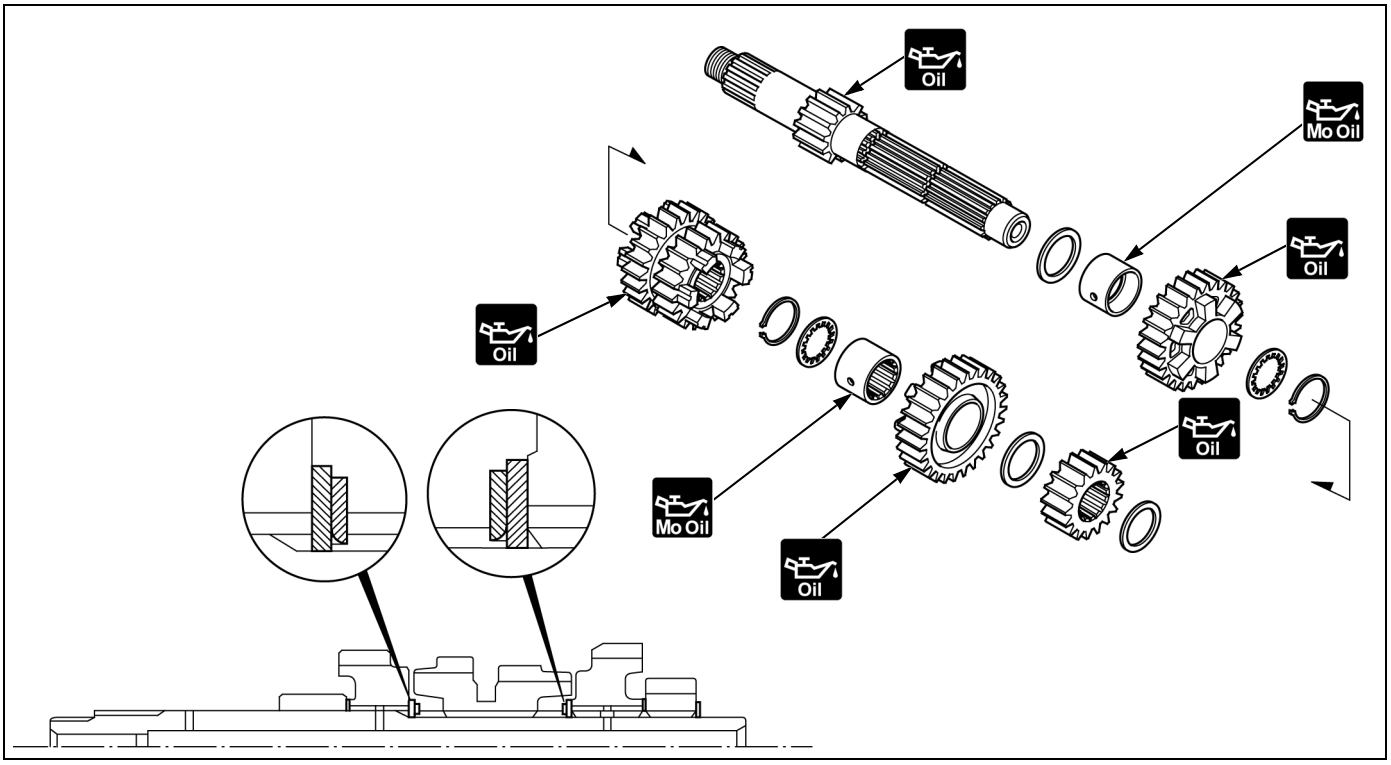
- 1 Install an O.D. 3 mm pin [A] into the hole of the balancer driven gear assembly.
- 2 Insert the gear holder between the balancer drive gear and balancer driven gear assembly.
  Gear holder, M2.5: 07724-0010100

- 1 Set the bearings and special tools assembly on inside of the crankcase, fitting the bearing edge in the crankcase main journal. Align the mating line of the bearings with the index mark on the crankcase as shown.
  Metal installer set: 070MF-KYJ0100
- 2 Apply sealant (Three bond 1207B, 1215 or equivalent) to the left crankcase mating surface except the oil passage area.
- 3 Install an O.D. 3 mm pin [A] into the hole of the balancer driven gear assembly.
  Install the balancer drive gear with its "OUT" mark [B] facing out. Align the punch marks [C] of the balancer drive gear and balancer driven gear.
- 4 Each shift fork has an identification mark.

Basic
- Crankshaft inspection
- Connecting rod inspection
- Shift fork/shift drum/drum journal inspection

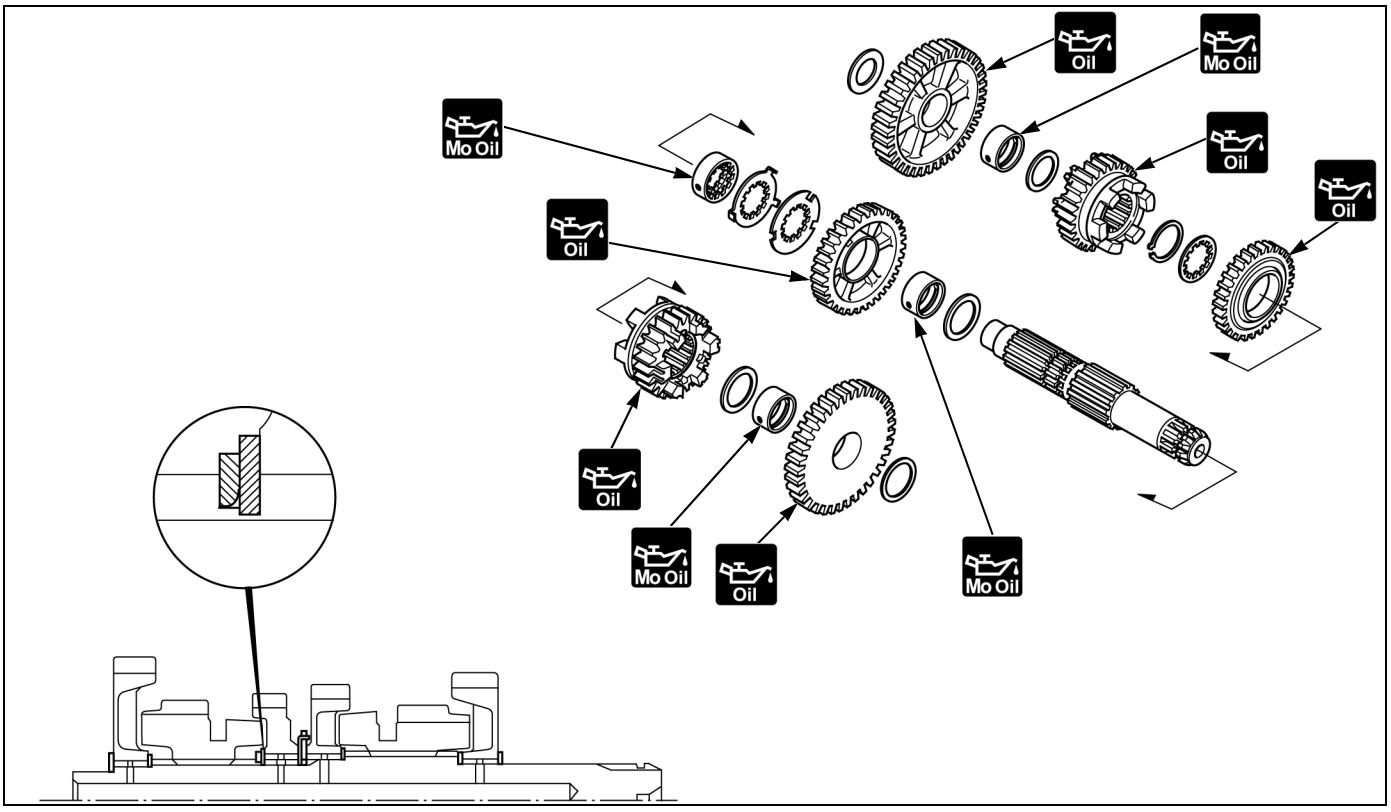
TRANSMISSION

MAINSHAFT



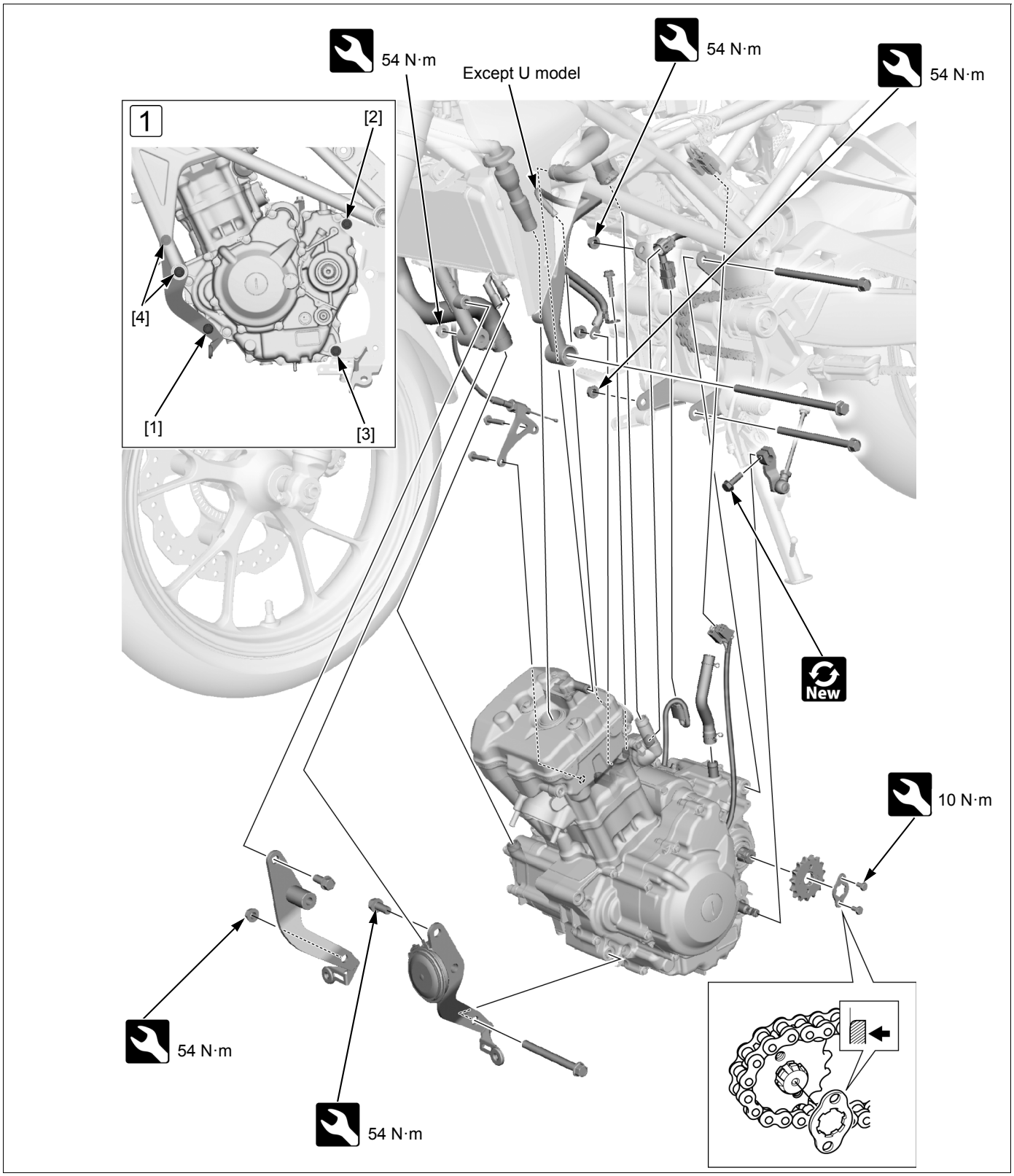
Basic • Transmission inspection

COUNTERSHAFT



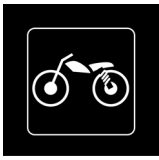
Basic • Transmission inspection

ENGINE UNIT

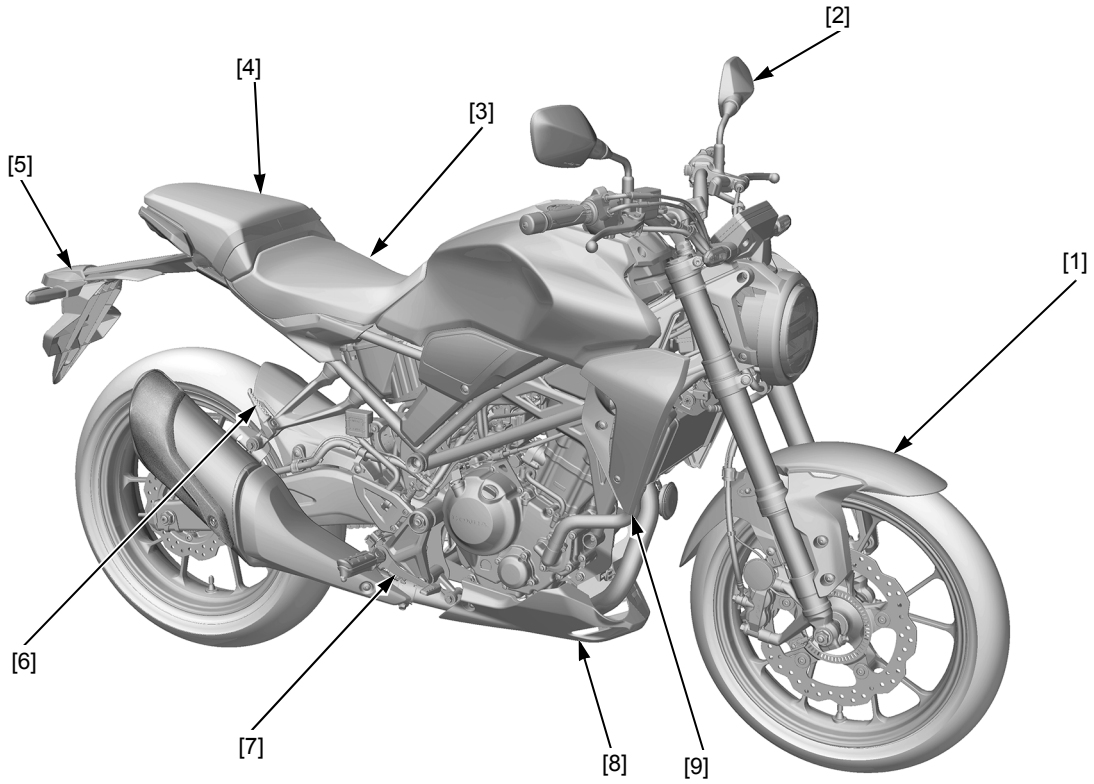


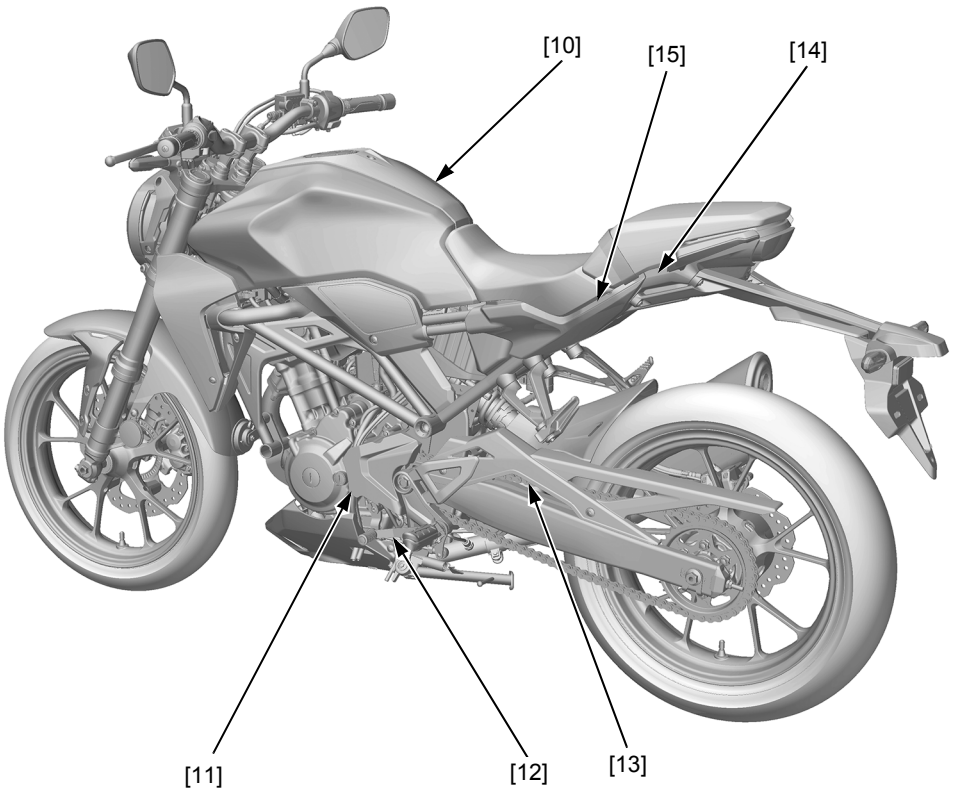
- Coolant ➔2-17
- Throttle body ➔2-8
- Exhaust pipe/muffler ➔3-15
- Drive sprocket cover ➔3-10
- 1 Loosely install all the engine fastener of [1] to [4], then tighten them with the specified torque in order of [1] to [4].

3. FRAME & CHASSIS



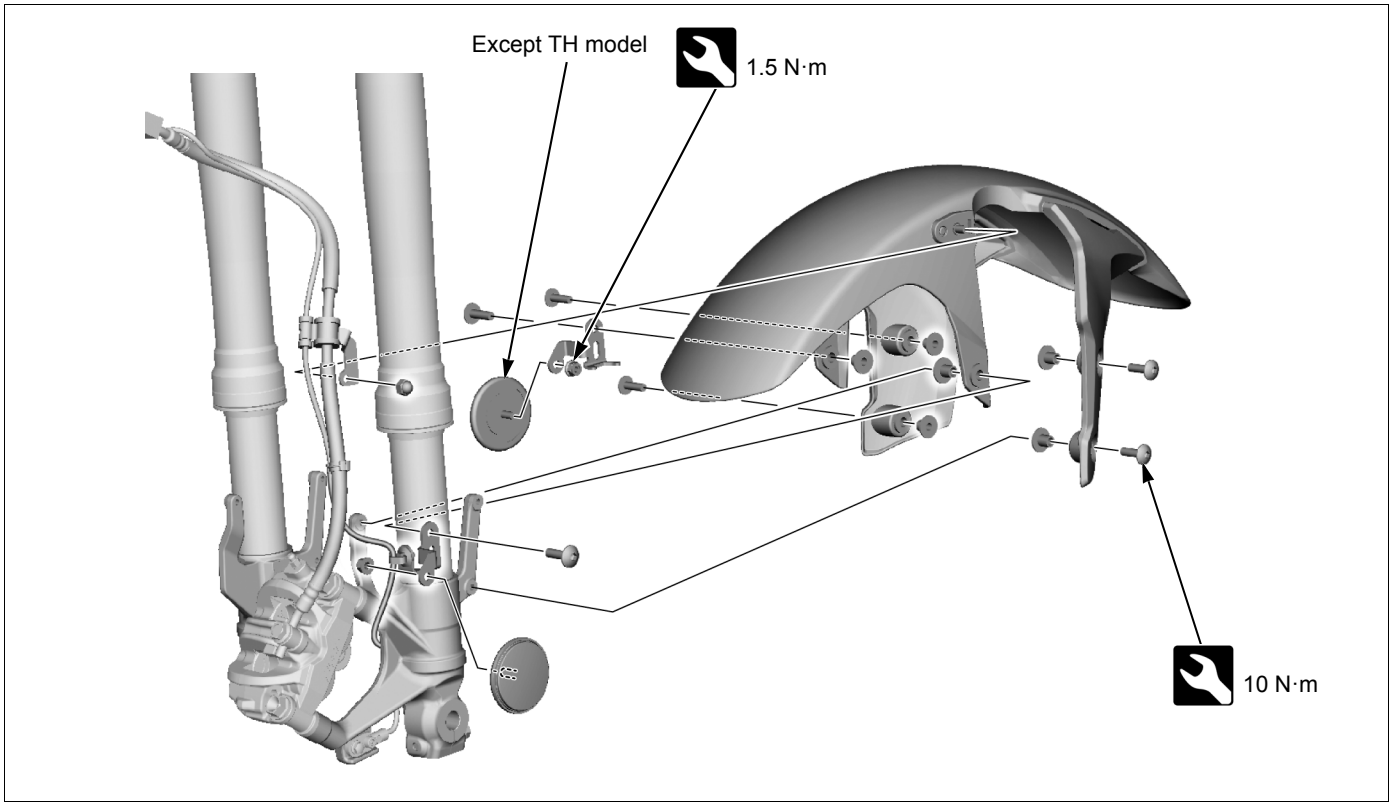
BODY PANELS





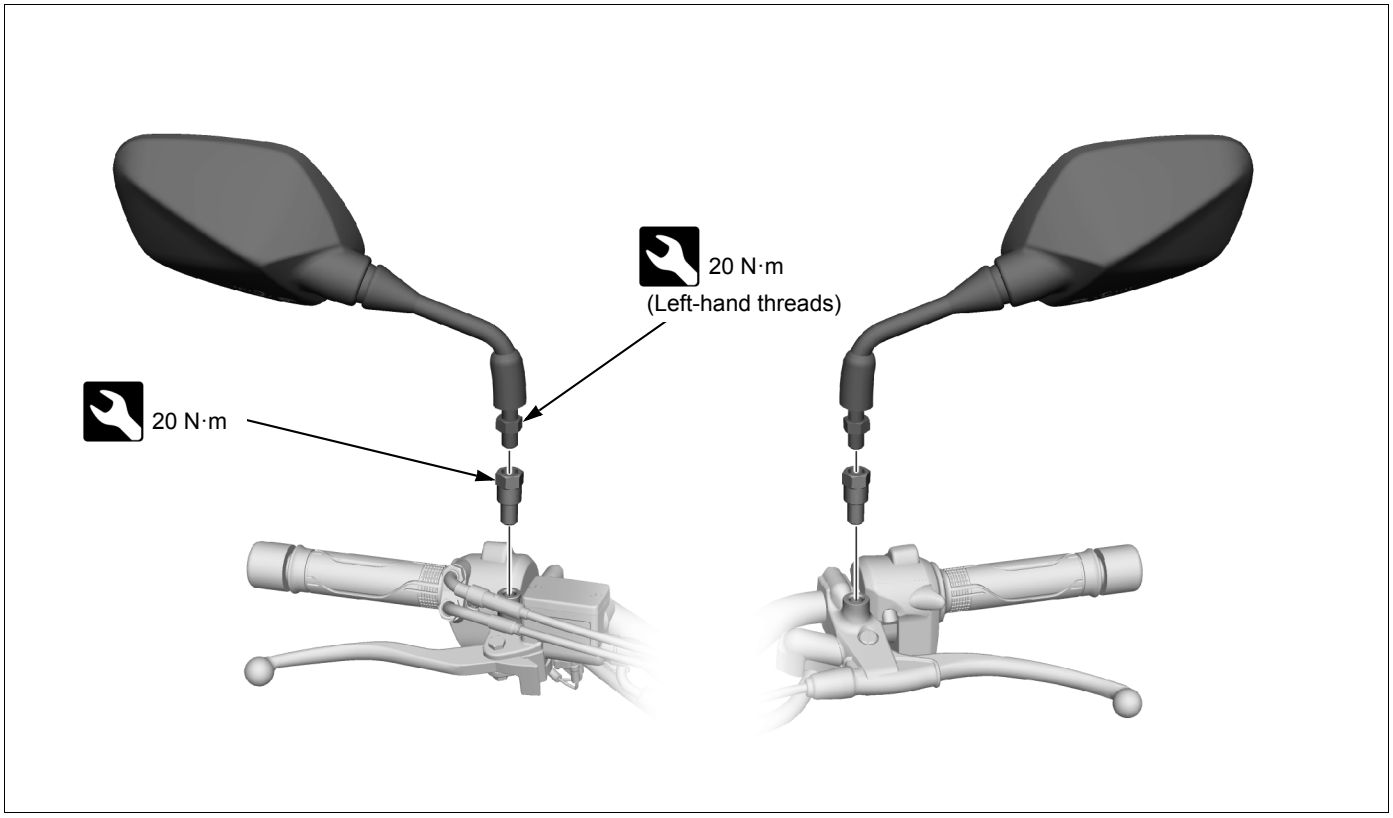
[1] Front fender ➔3-3
[2] Rearview mirror ➔3-3
[3] Single seat ➔3-4
[4] Pillion seat ➔3-4
[5] Rear fender A ➔3-5
[6] Pillion step ➔3-6
[7] Brake pedal ➔3-6
[8] Under cowl ➔3-7
[9] Radiator cover ➔3-8
[10] Fuel tank cover ➔3-9
[11] Drive sprocket cover ➔3-10
[12] Gearshift pedal ➔3-10
[13] Drive chain case ➔3-11
[14] Rear fender B ➔3-12
[15] Rear cowl ➔3-13

FRONT FENDER



- Front wheel ➔3-16

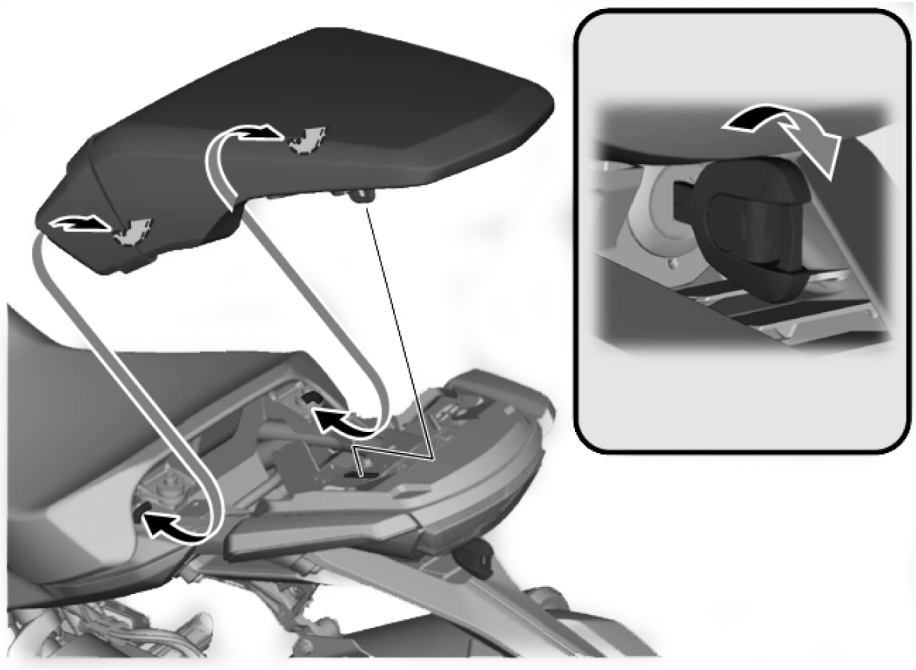
REARVIEW MIRROR



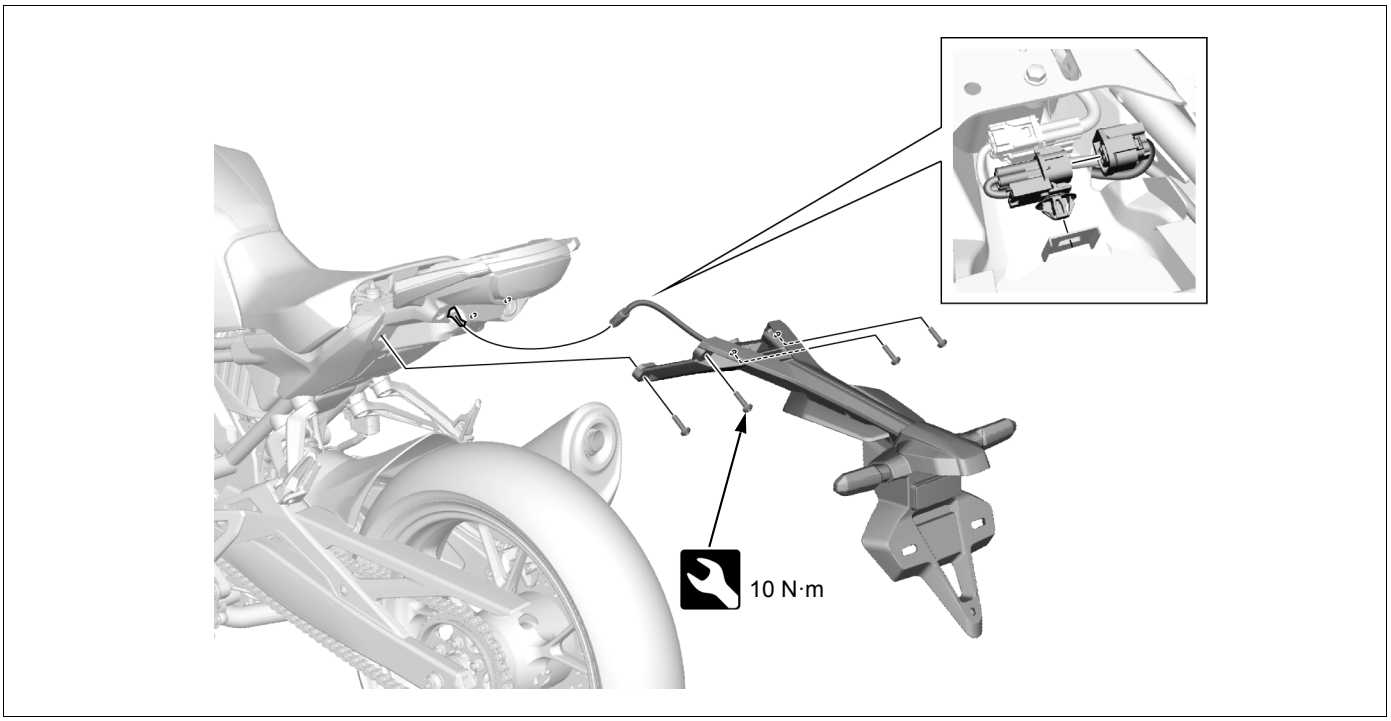
SINGLE SEAT

- Pillion seat ➔3-4

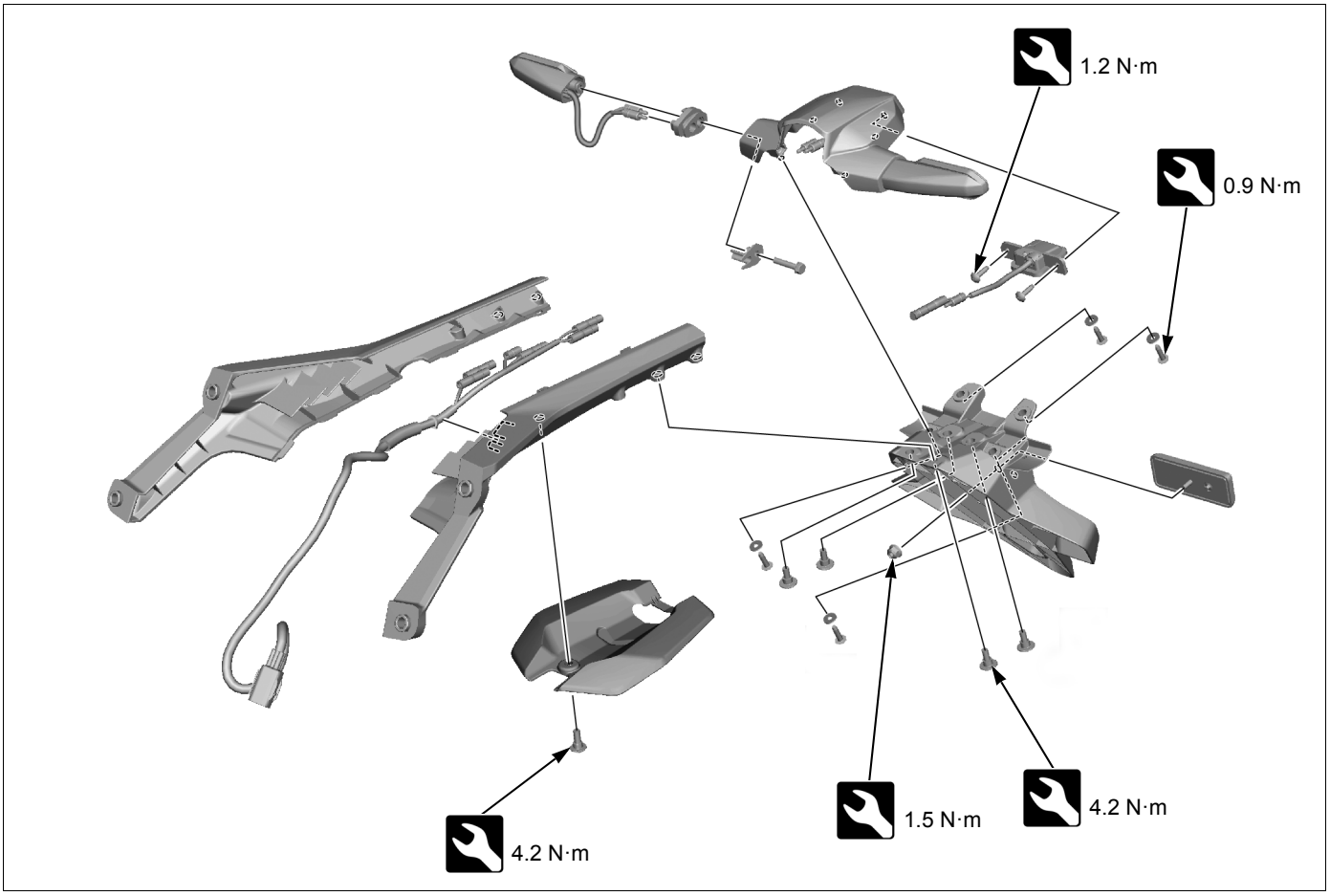
PILLION SEAT



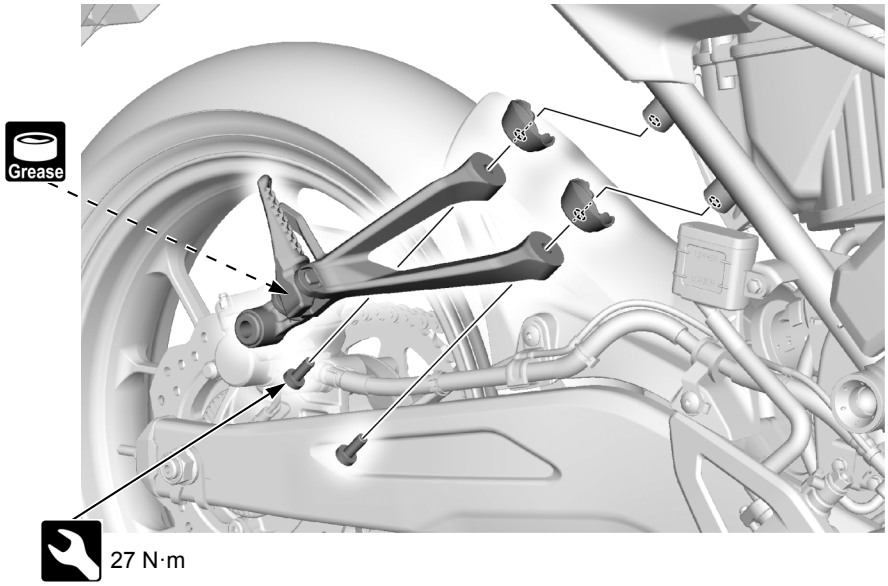
REAR FENDER A



- Pillion seat ➔3-4

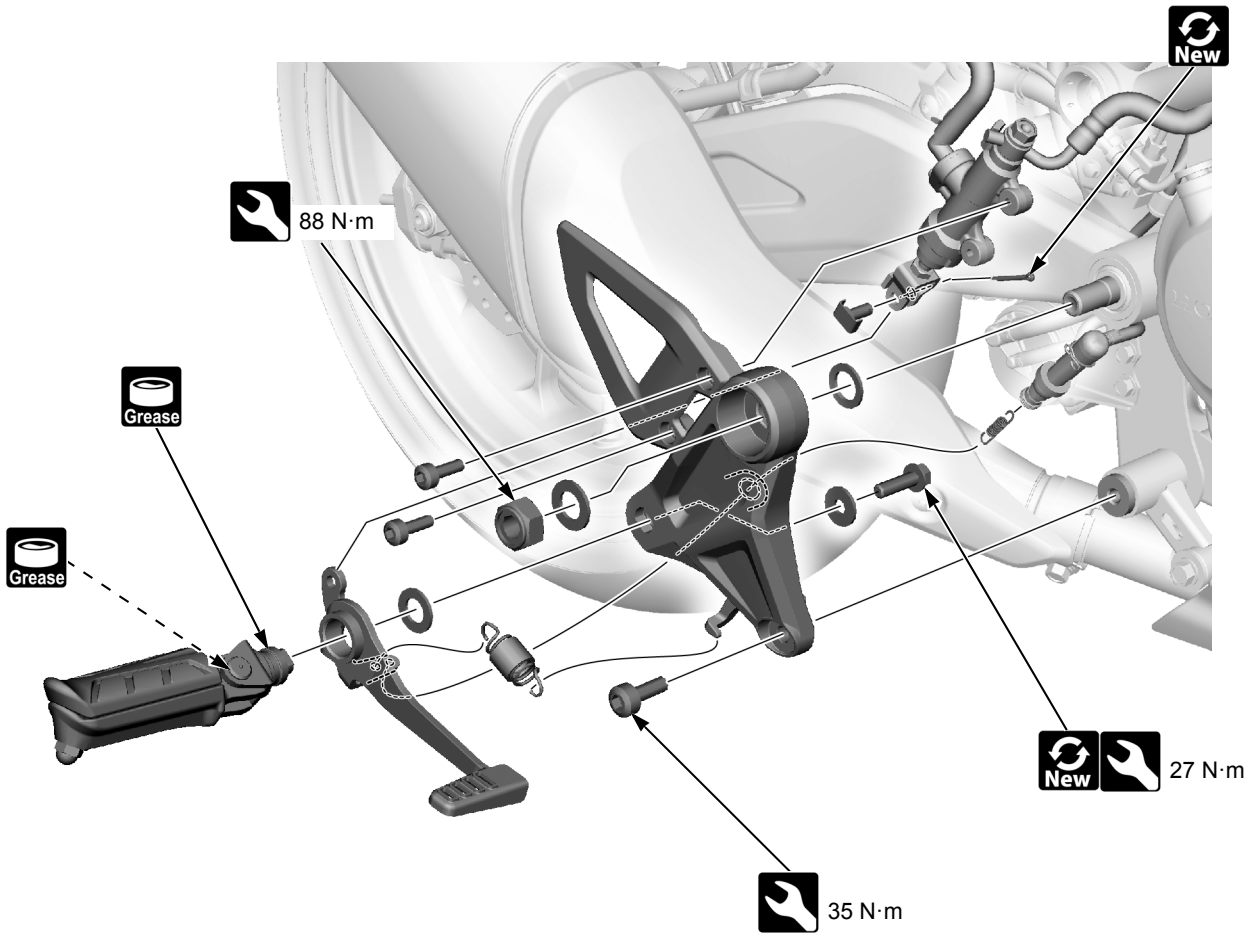


PILLION STEP

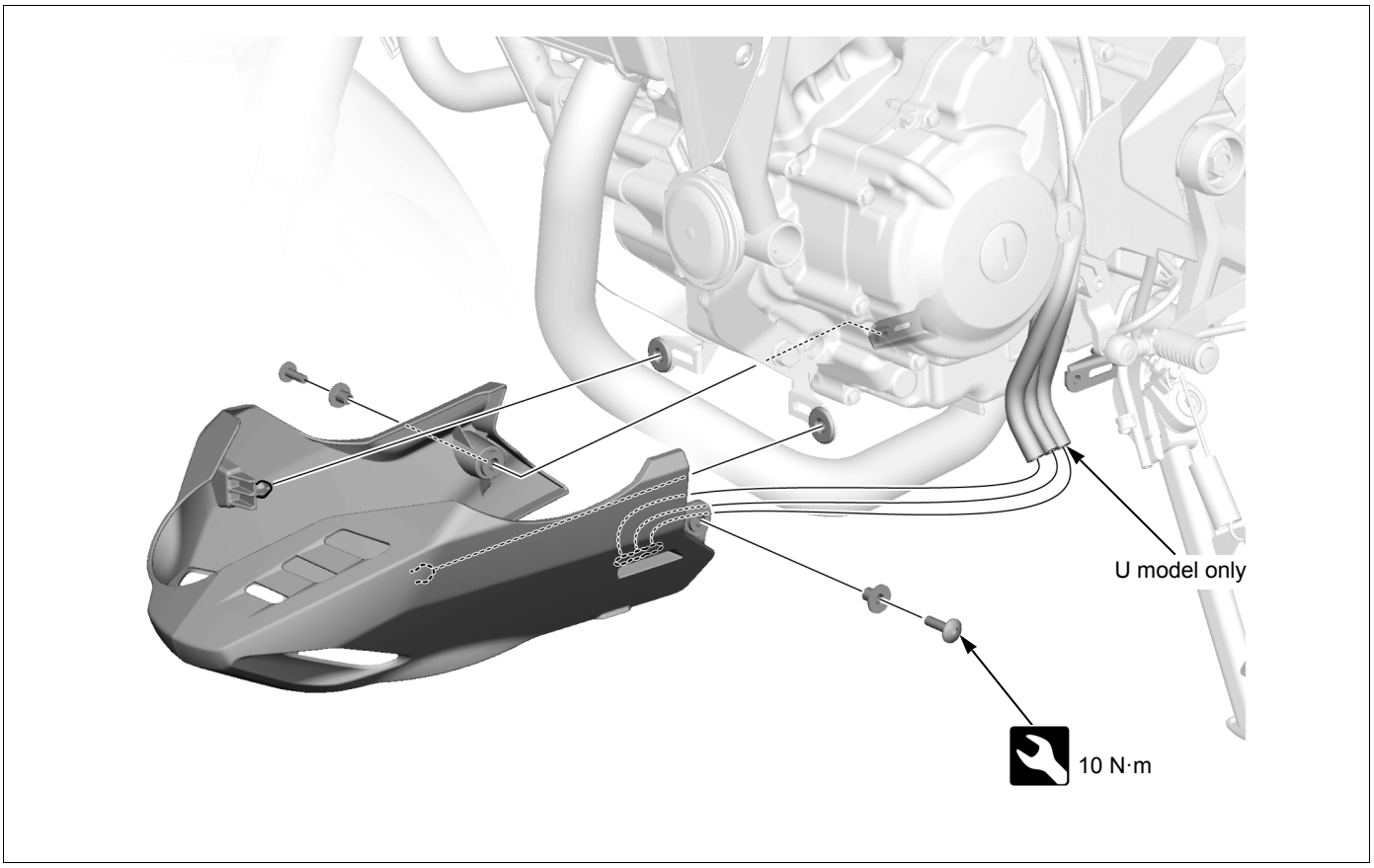


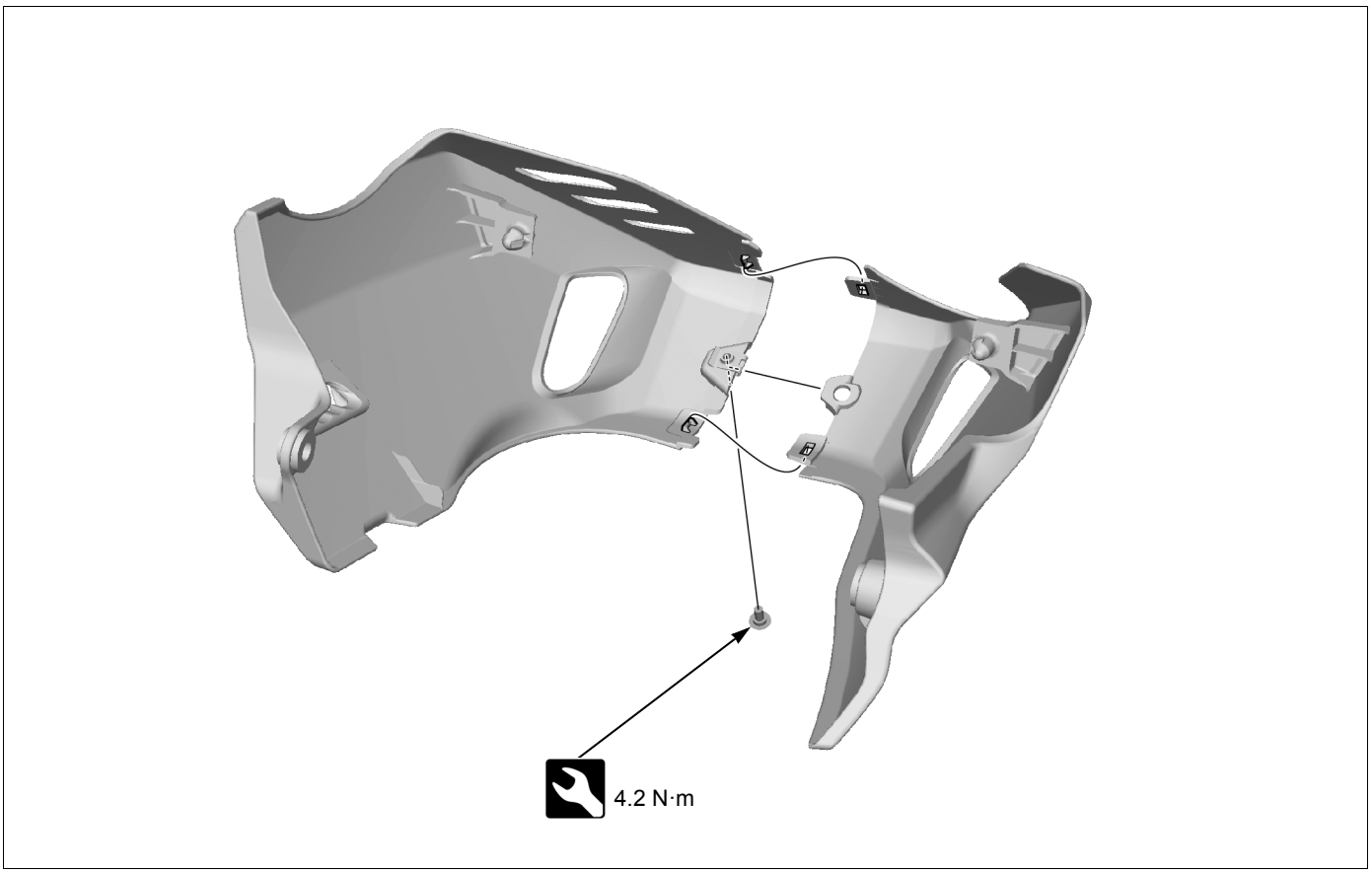
- Exhaust pipe/muffler ➔3-15

BRAKE PEDAL

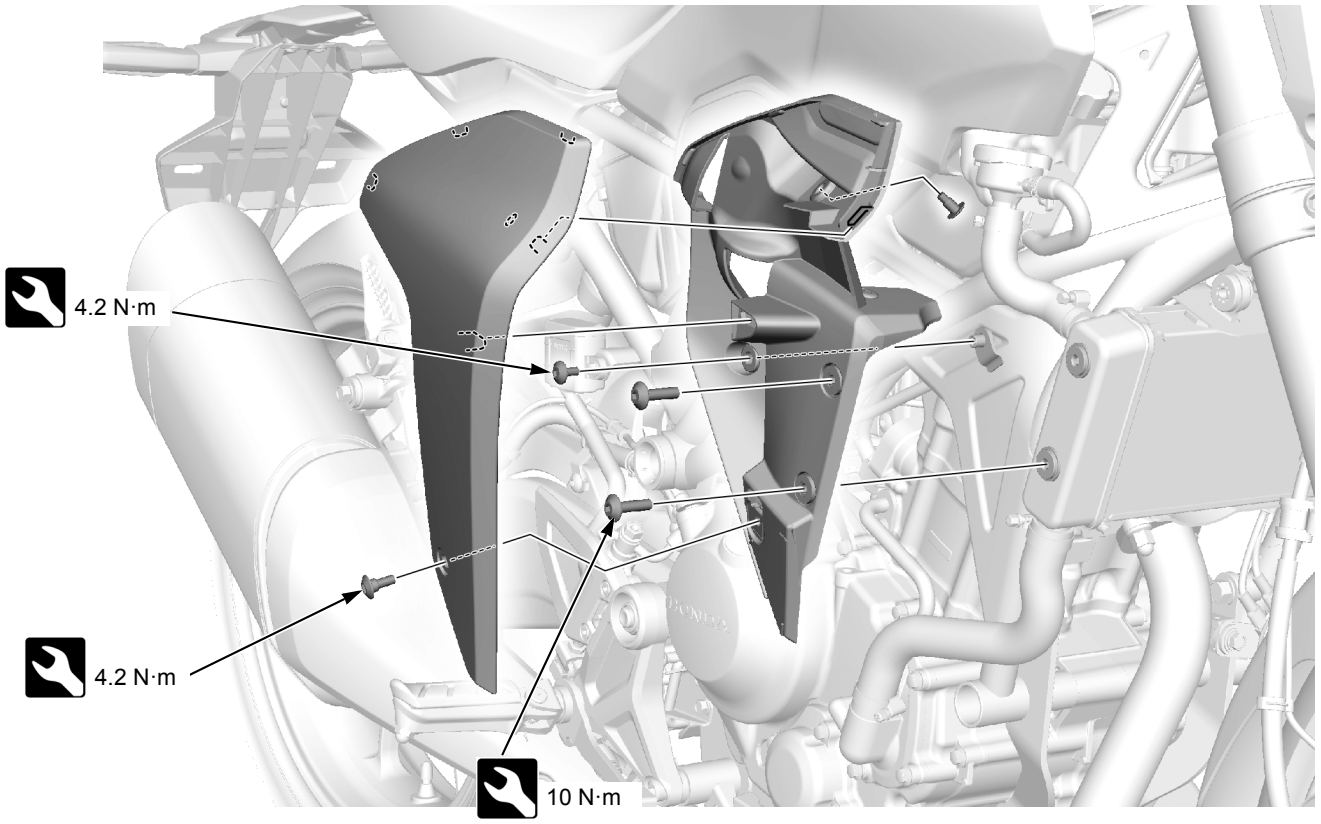


UNDER COWL

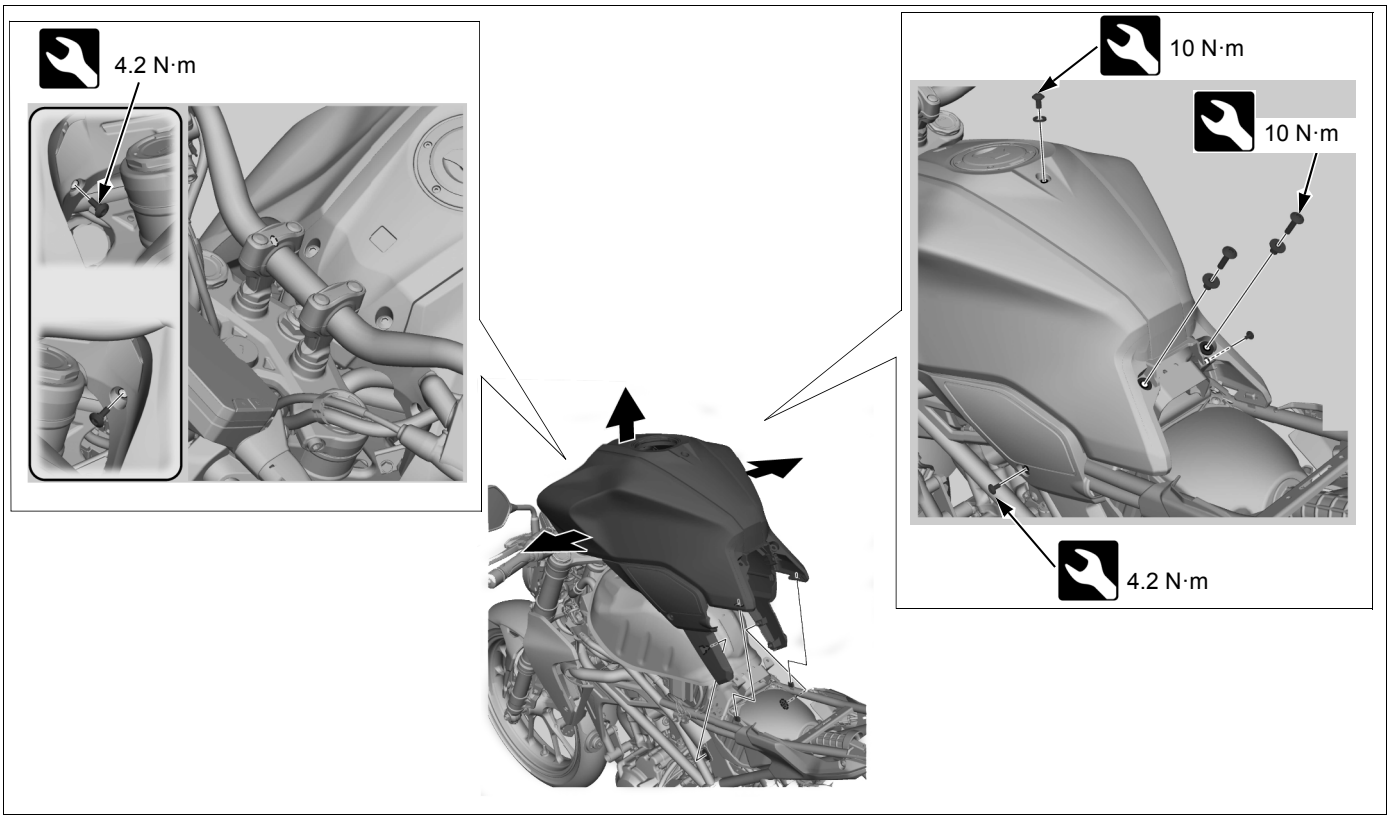




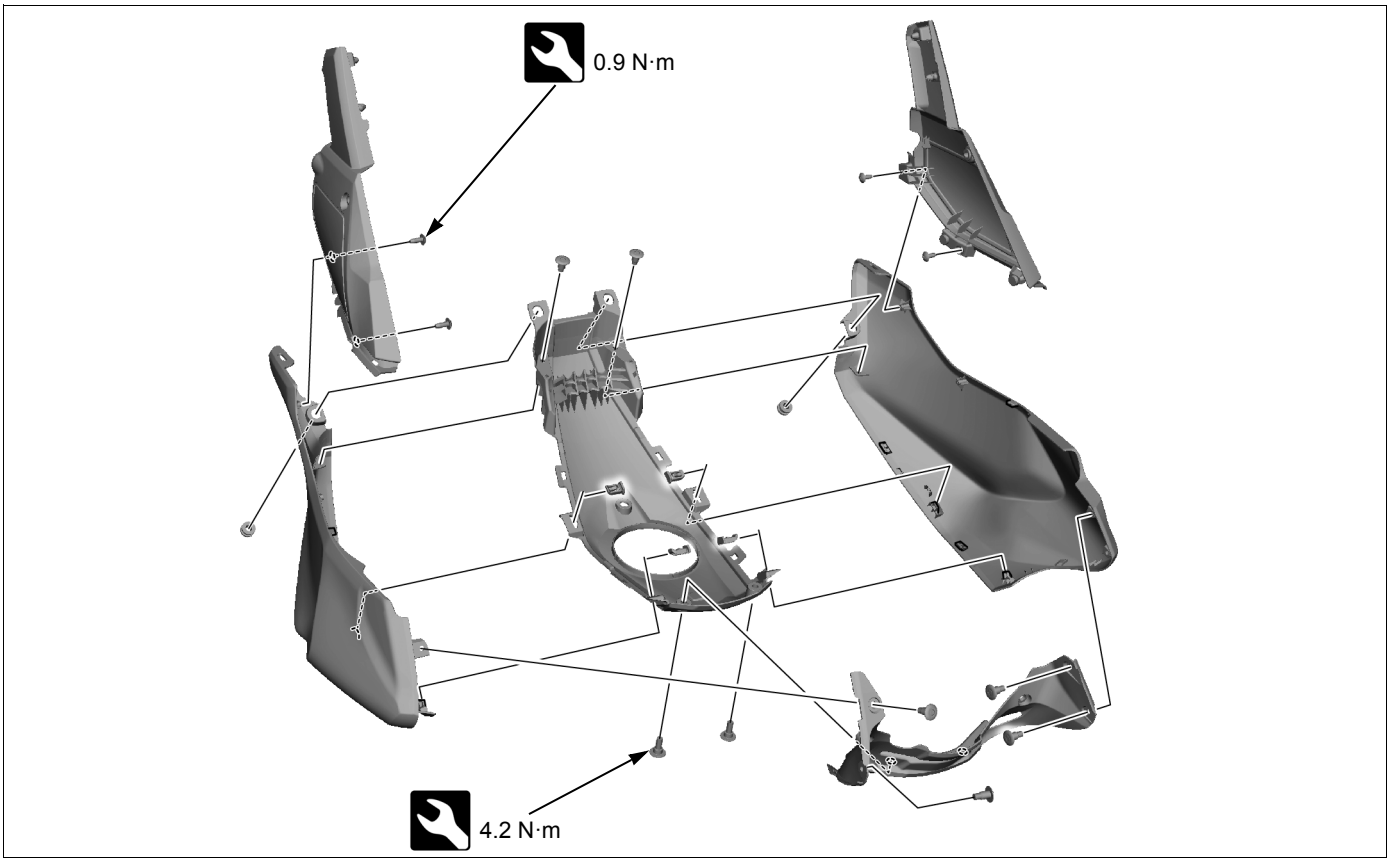
RADIATOR COVER



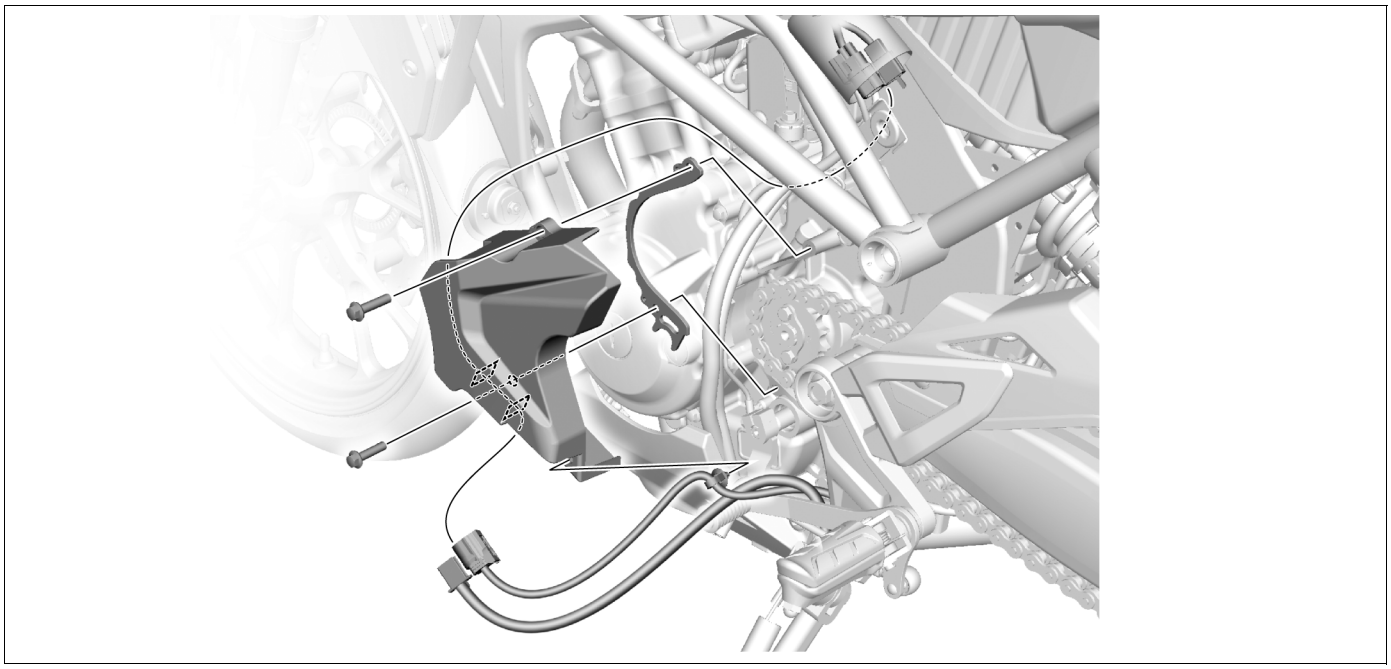
FUEL TANK COVER



- Single seat ➔3-4

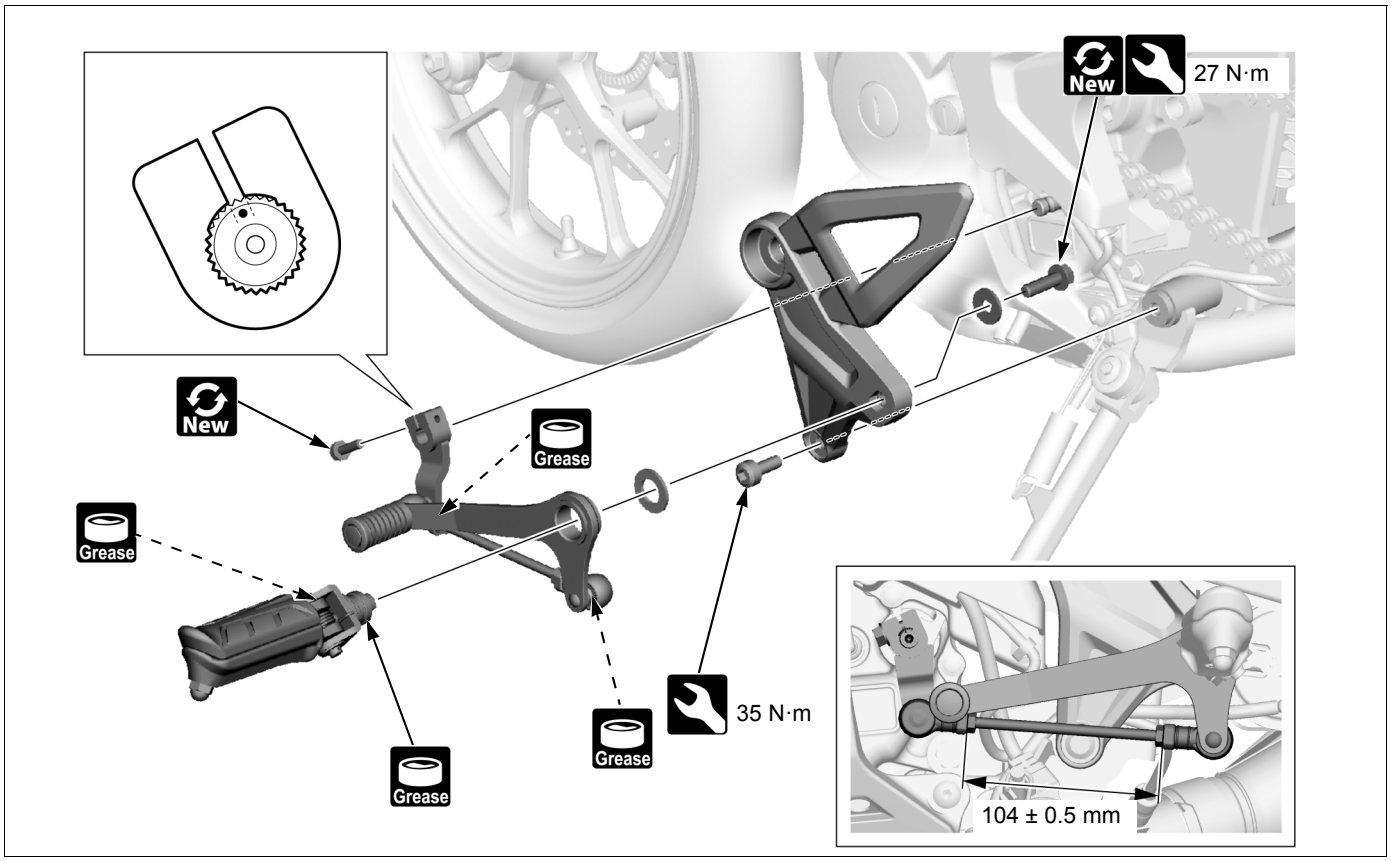


DRIVE SPROCKET COVER



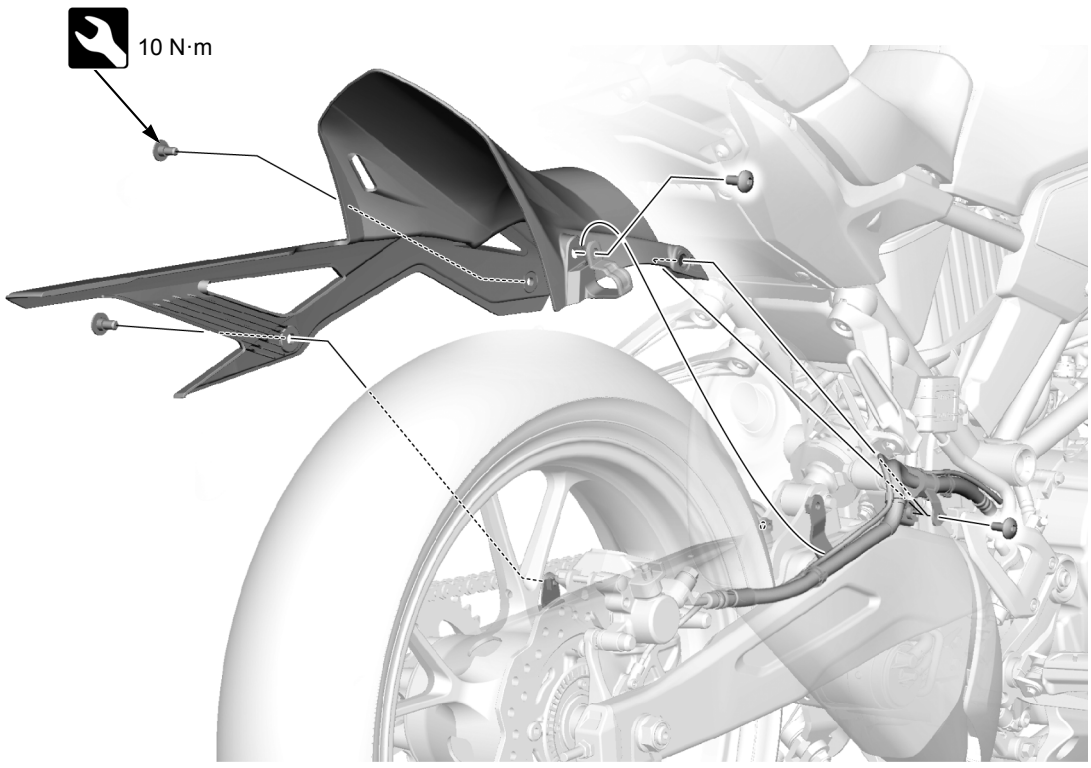
- Fuel tank cover ➔3-9

GEARSHIFT PEDAL

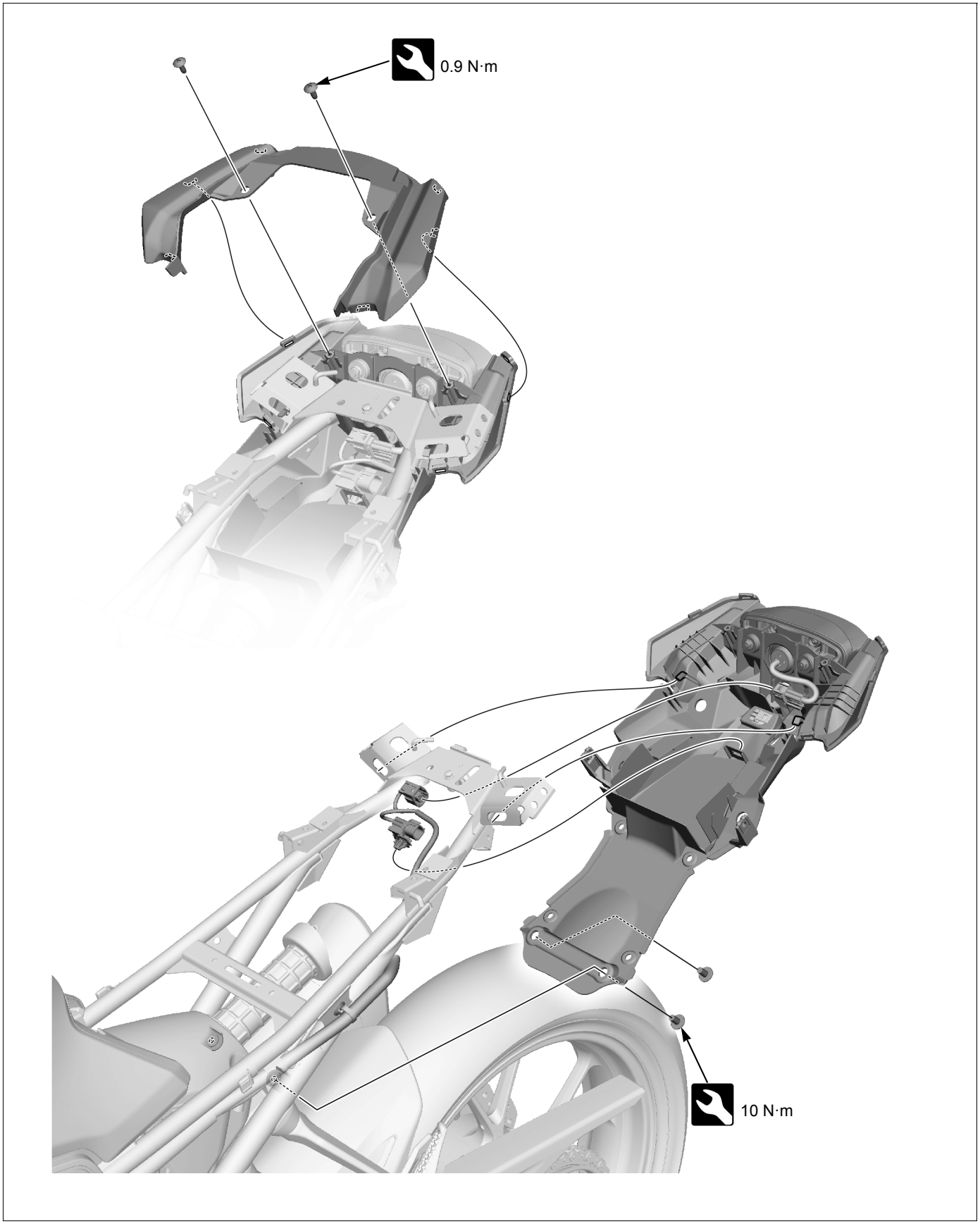


- Rear suspension ➔3-27

DRIVE CHAIN CASE

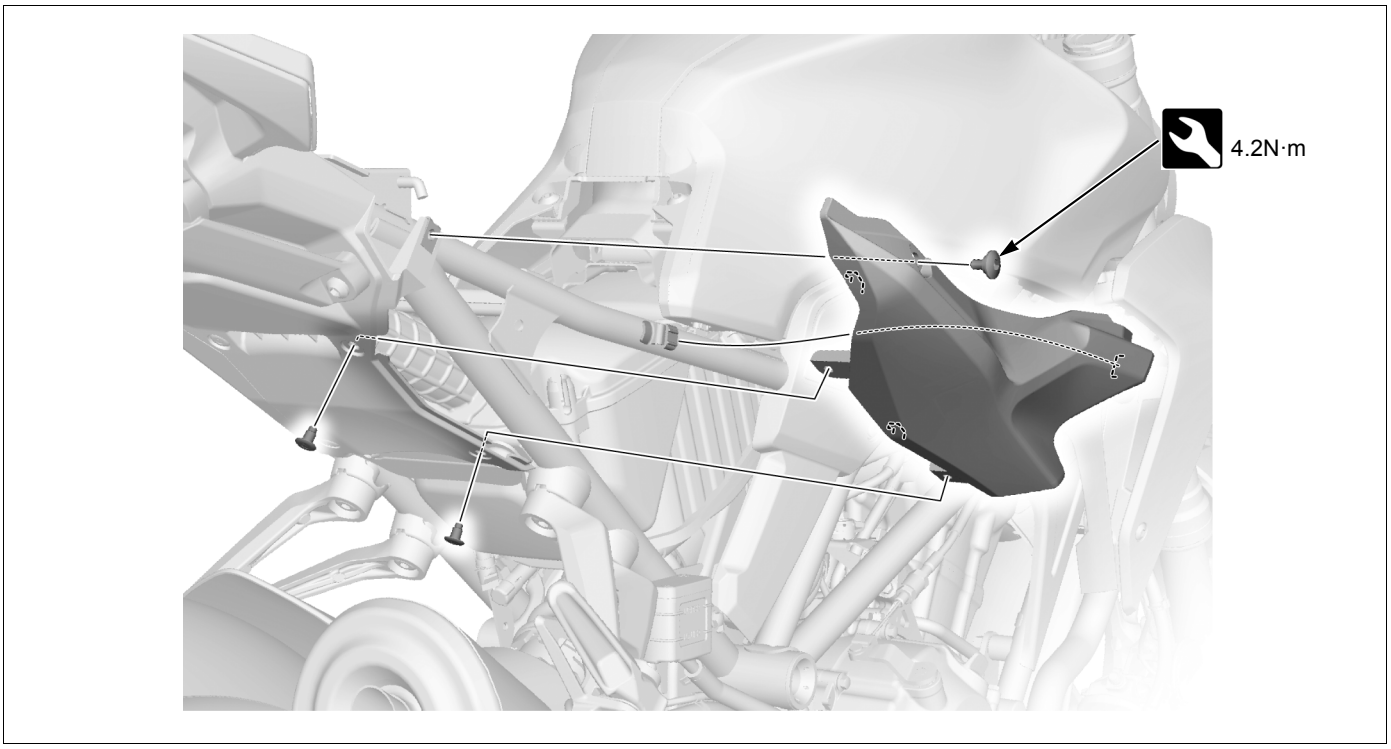


REAR FENDER B



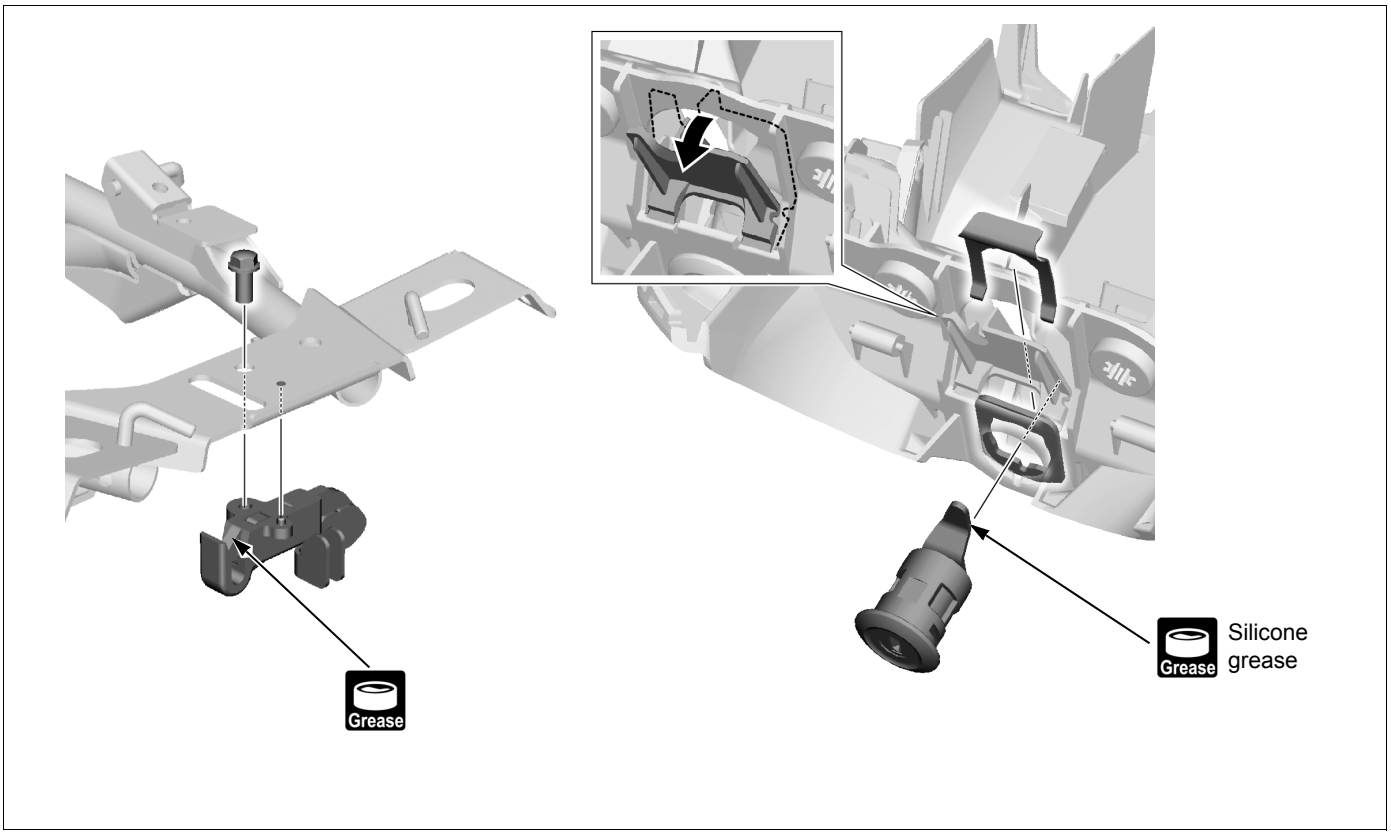
- Rear fender A ➔3-5
- Rear cowl ➔3-13

REAR COWL



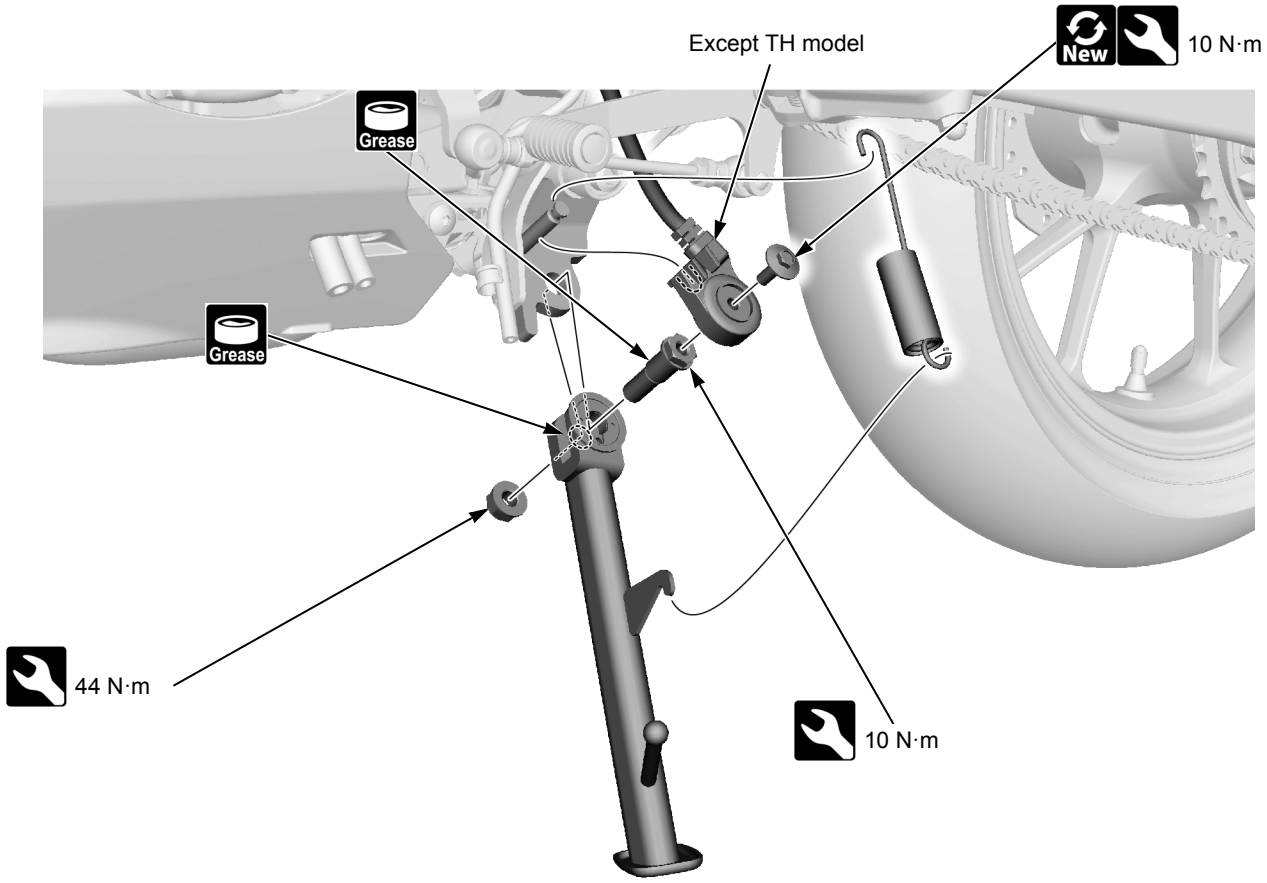
- Single seat ➔3-4

SEAT LOCK

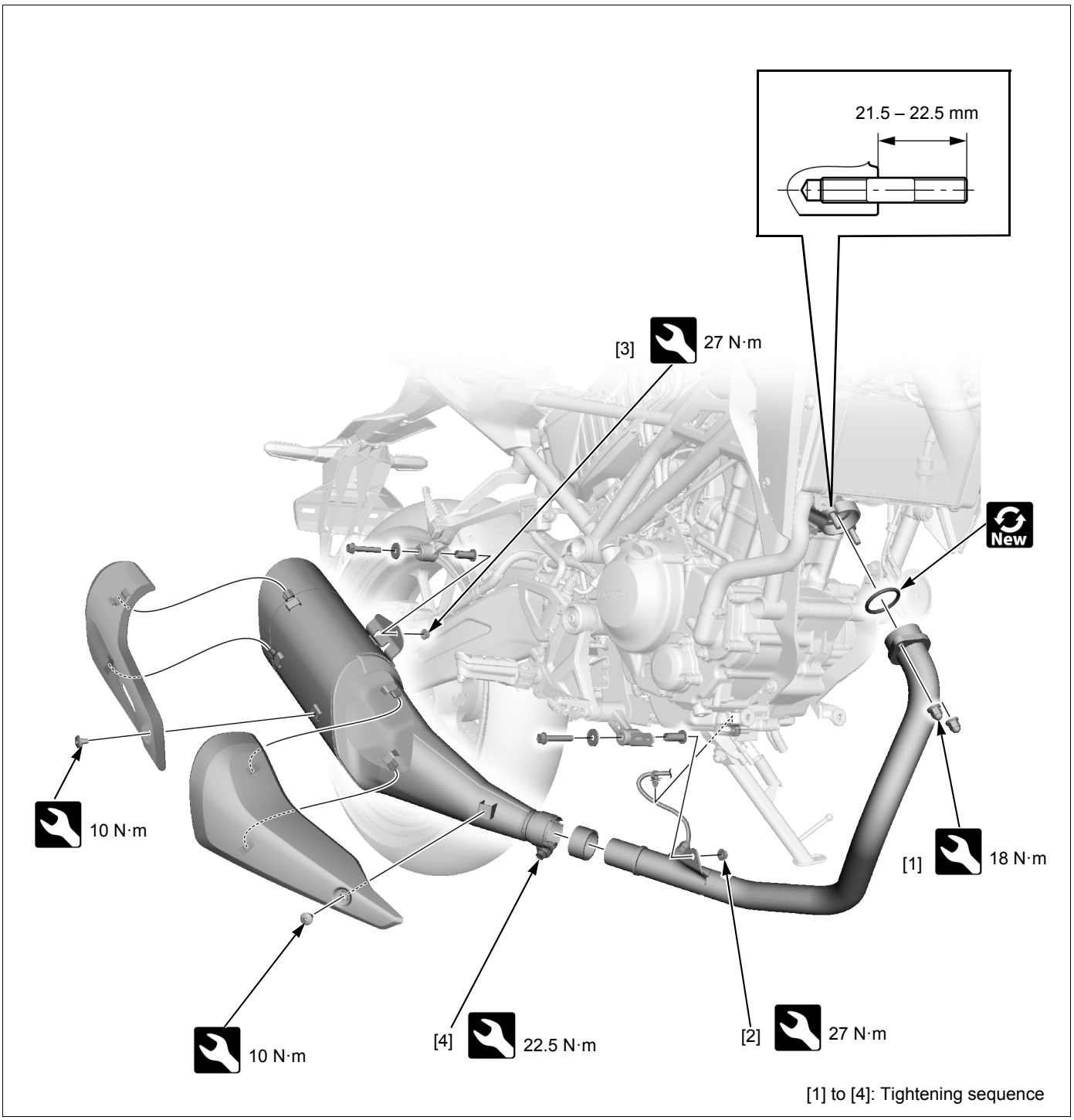


- Rear fender B ➔3-12
- Brake/taillight ➔4-54

SIDESTAND

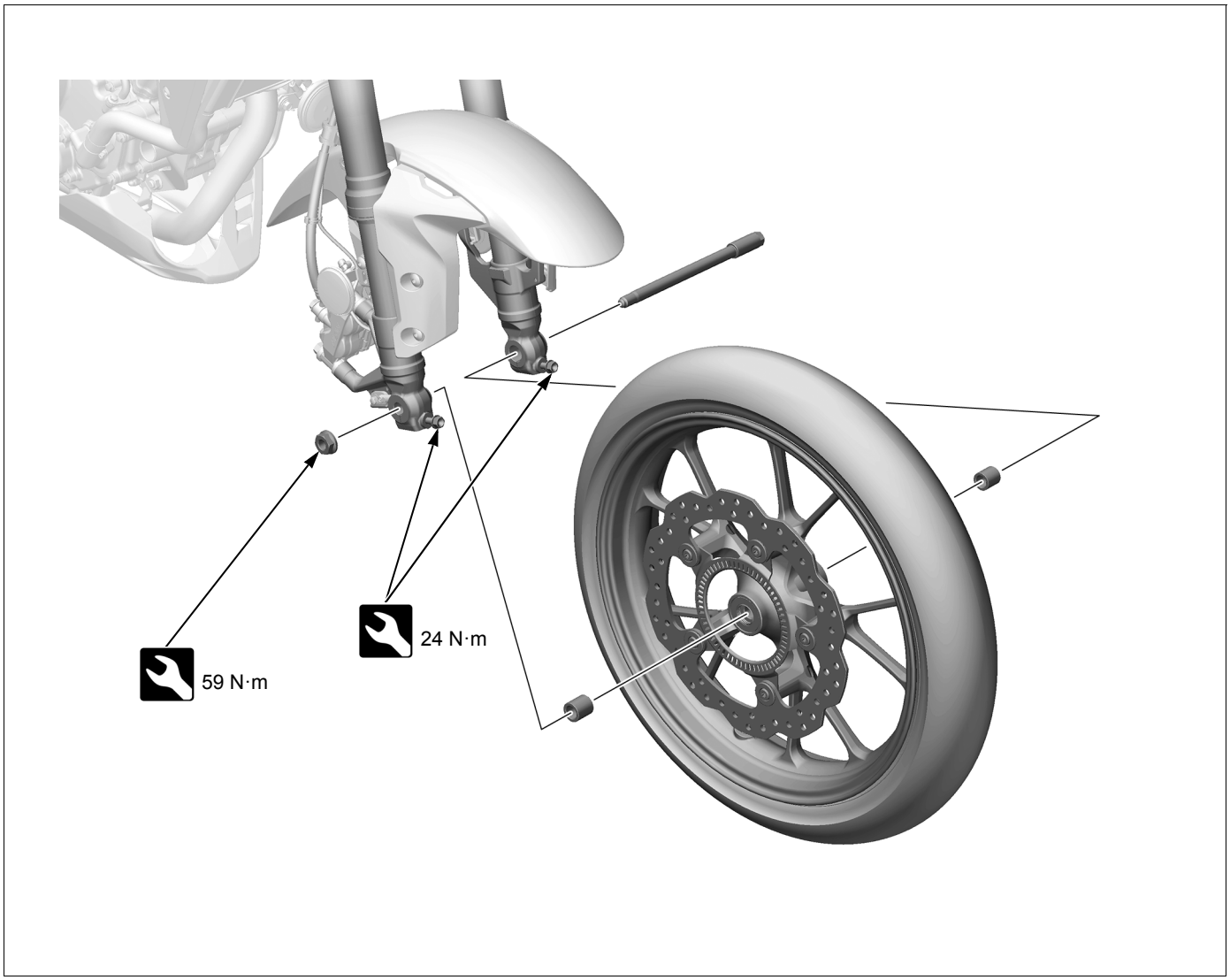


EXHAUST PIPE/MUFFLER

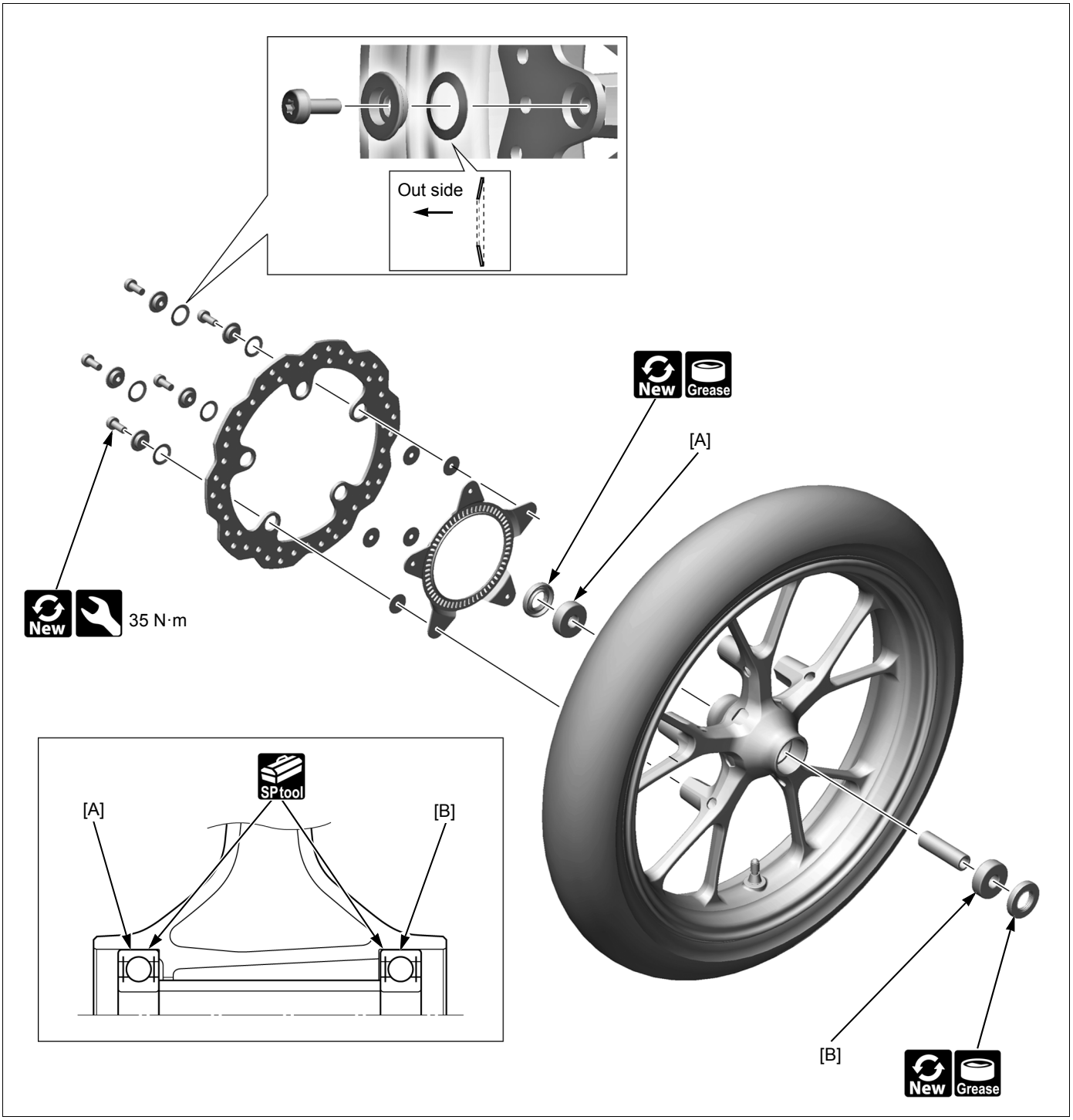


- Under cowl ➔3-7
- Drive sprocket cover ➔3-10

FRONT WHEEL

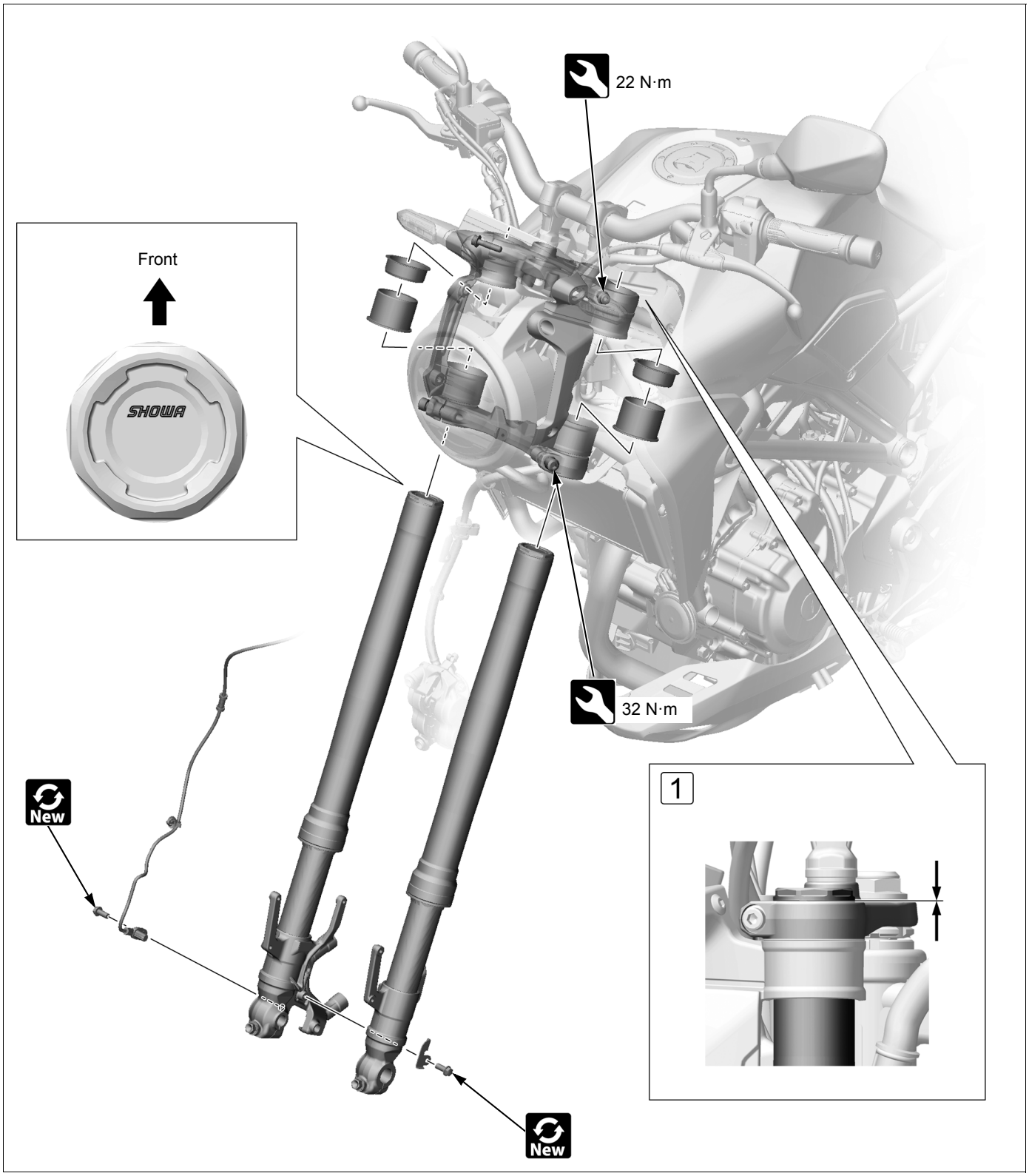


Basic • Wheel inspection



- Install the bearing remover head into the bearing. From the opposite side, install the bearing remover shaft and drive out the bearing from the wheel hub.
  Bearing remover head, 15 mm: 07746-0050400
  Bearing remover shaft: 07746-0050100
- Drive in a new right bearing [A] squarely with its marked side facing outside until it is fully seated.
- Install the distance collar.
- Drive in a new left bearing [B] squarely with its marked side facing outside until it is fully seated on the distance collar.
  Attachment, 42 x 47 mm: 07746-0010300
  Pilot 15 mm: 07746-0040300
  Driver: 07749-0010000
- Wheel disassembly and inspection

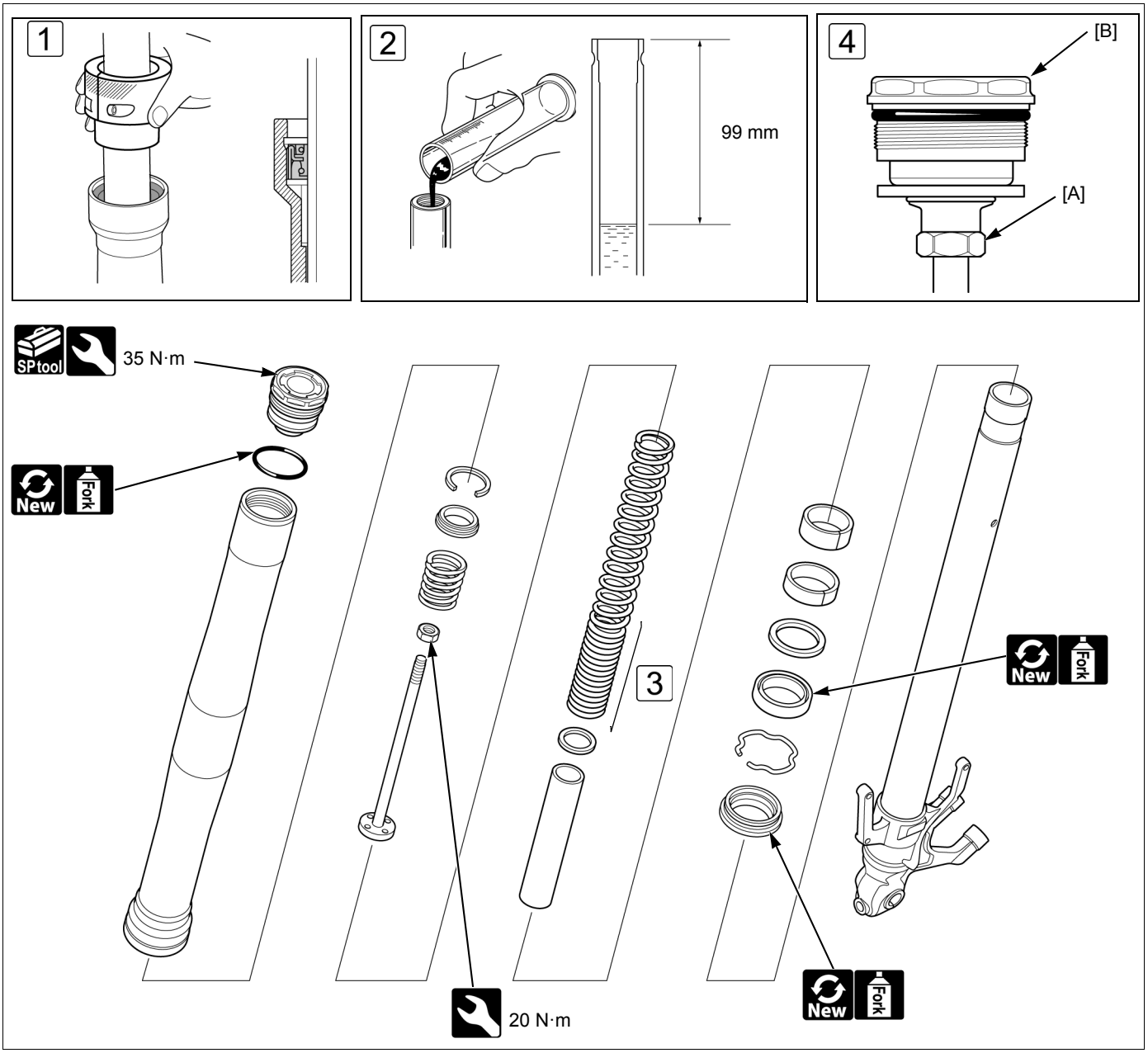
FORK



- Front fender ➔3-3
- Front brake caliper ➔3-29

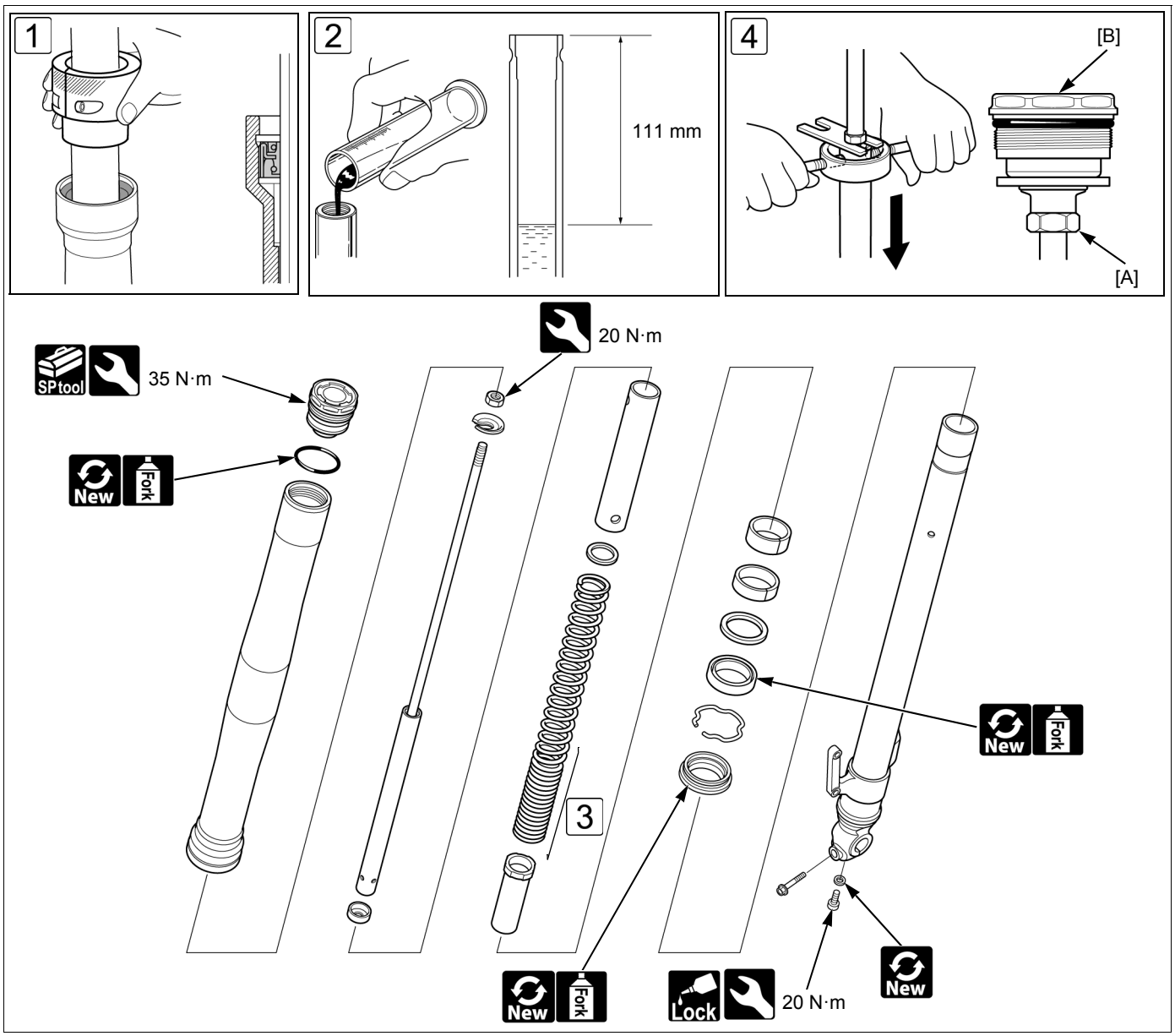
- 1 Install the front fork so that the end of the outer pipe is aligned with the top bridge upper surface.

RIGHT SIDE:



- Fork cap:
  Fork cap wrench: 070MA-MGP0100
- 1 Drive in the oil seal into the outer tube using the special tool.
  Fork seal driver, 43.2 mm: 07YMD-MCF0100
- 2 Pour the specified amount of recommended fork fluid into the fork pipe.
  RECOMMENDED FORK FLUID: Honda Ultra Cushion Oil 10W or equivalent
  FORK FLUID CAPACITY: 513 ± 2.5 cm³
- Compress the fork leg fully and measure the fluid level from the top of the outer tube.
  FORK FLUID LEVEL: 99 mm
- 3 Install the fork spring with its tightly wound coil side facing down.
- 4 Hold the fully seated fork rod nut [A] and tighten the fork cap [B].
- Fork cap:
  Fork cap wrench: 070MA-MGP0100
- Fork disassembly and inspection

LEFT SIDE:



- Fork cap:
  Fork cap wrench: 070MA-MGP0100

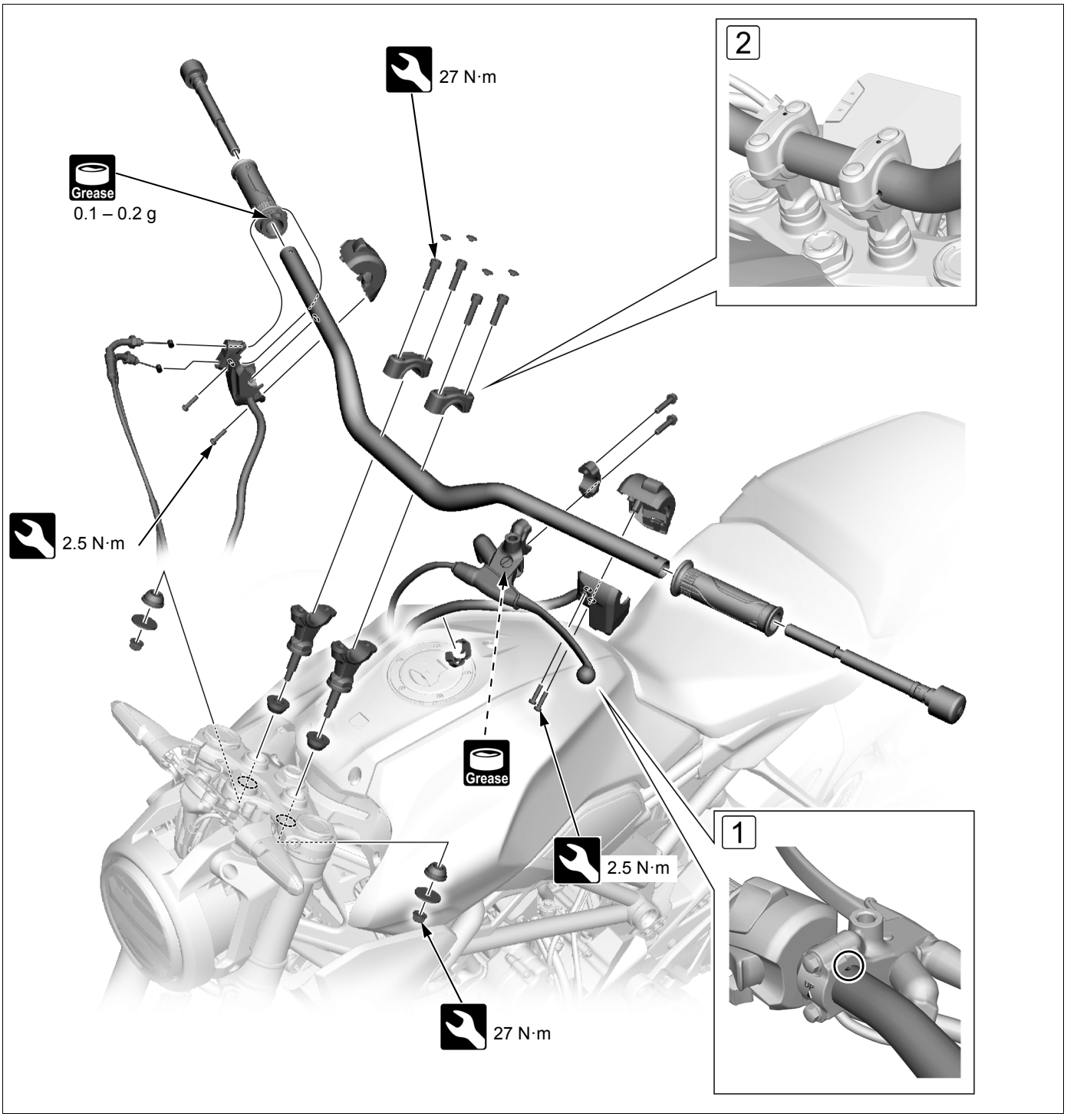
- 1 Drive in the oil seal into the outer tube using the special tool.
  Fork seal driver, 43.2 mm: 07YMD-MCF0100

- 2 Pour the specified amount of recommended fork fluid into the fork pipe.
  RECOMMENDED FORK FLUID: Honda Ultra Cushion Oil 10W or equivalent
  FORK FLUID CAPACITY: 425 ± 2.5 cm³
- Compress the fork leg fully and measure the fluid level from the top of the outer tube.
  FORK FLUID LEVEL: 111 mm

- 3 Install the fork spring with its tightly wound coil side facing down.
- 4 Attach the special tool to the spring collar holes. Compress the spring collar with the spring collar holder.
  Damper rod holder: 070MF-MBZC120
  Spring collar holder: 070MF-MBZC110
- Insert the special tool between the lock nut and spring collar.
  Stopper plate: 070MF-MBZC130
- Hold the fully seated fork rod nut [A] and tighten the fork cap [B].
  Fork cap wrench: 070MA-MGP0100

- Fork disassembly and inspection

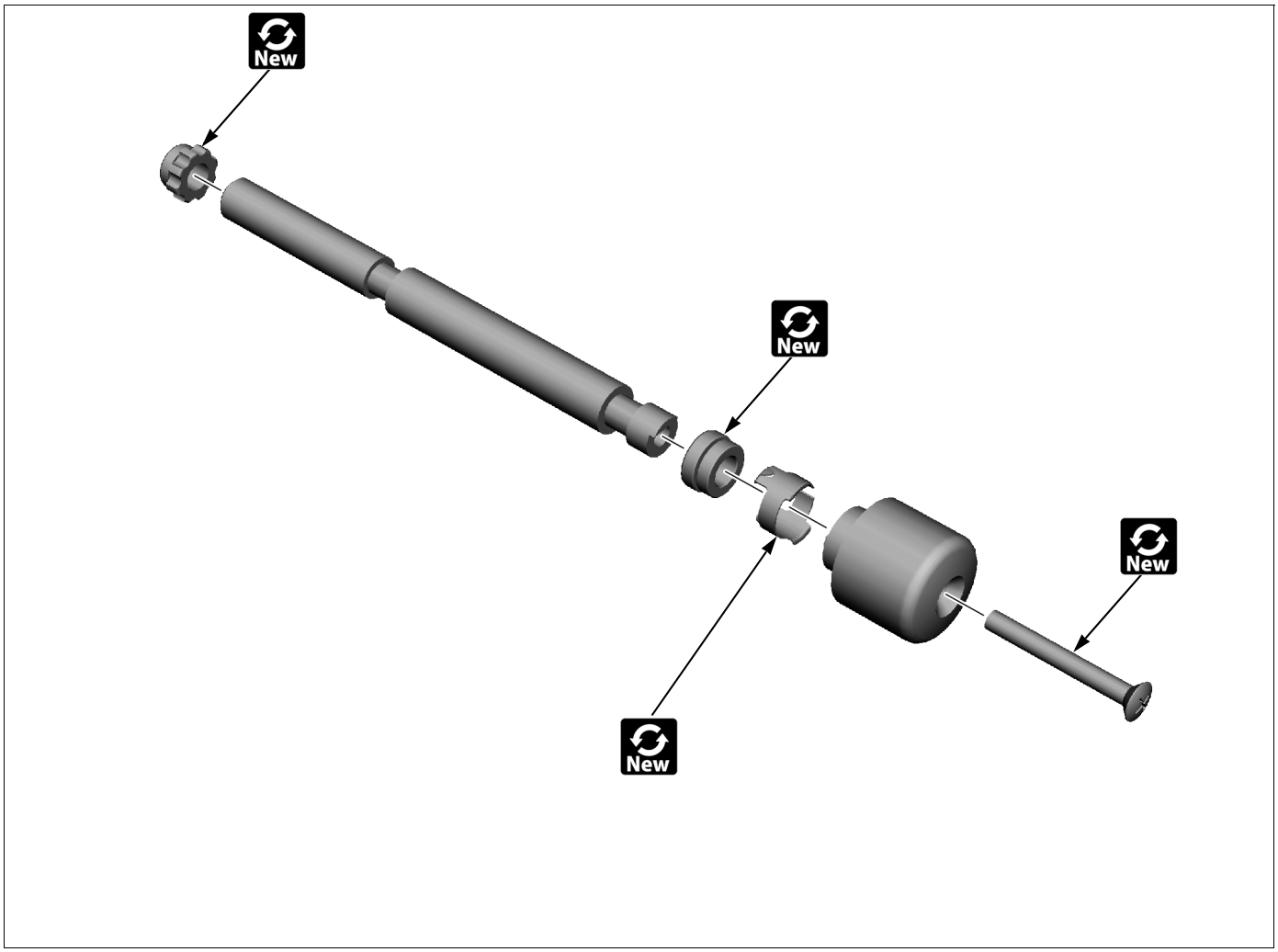
HANDLEBAR



- Front brake master cylinder ➔3-28

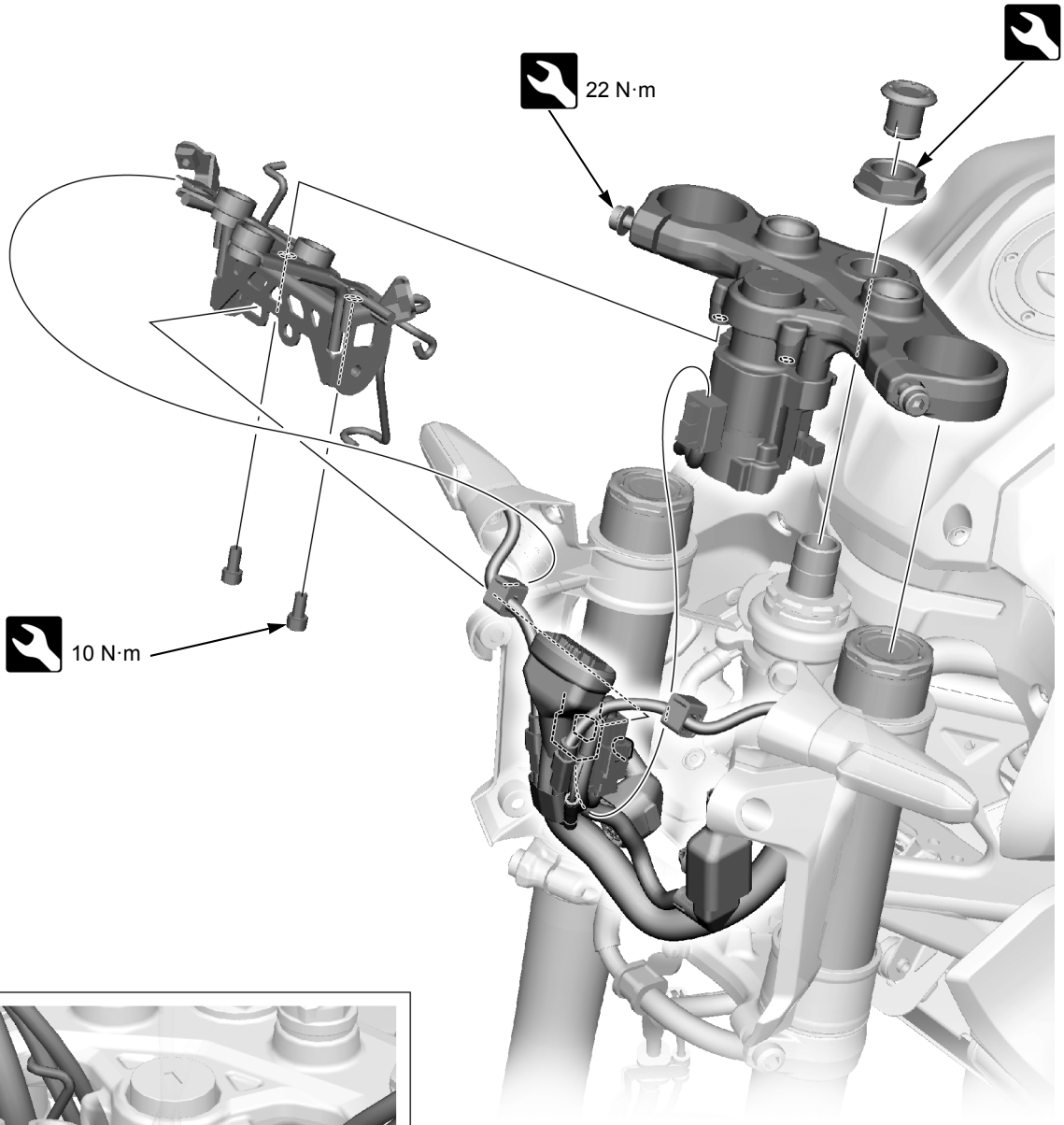
- 1 Install the holder with the "UP" mark facing up. Align the edge of the lever bracket with the punch mark.
- 2 Align the upper surface of the lower handlebar holder with the punch mark on the handlebar. Tighten the forward bolts first, then the rear bolts.

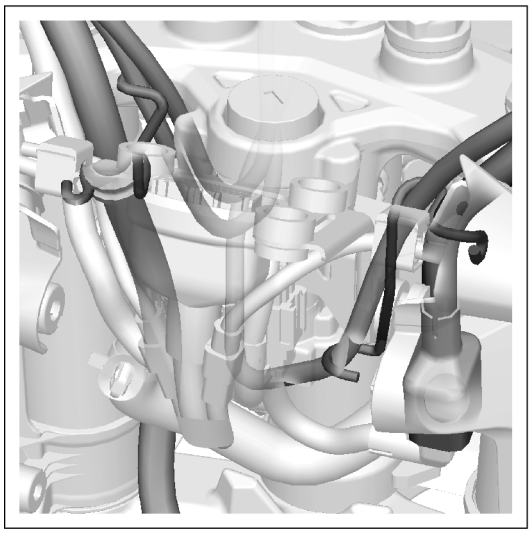
HANDLEBAR WEIGHT



STEERING STEM

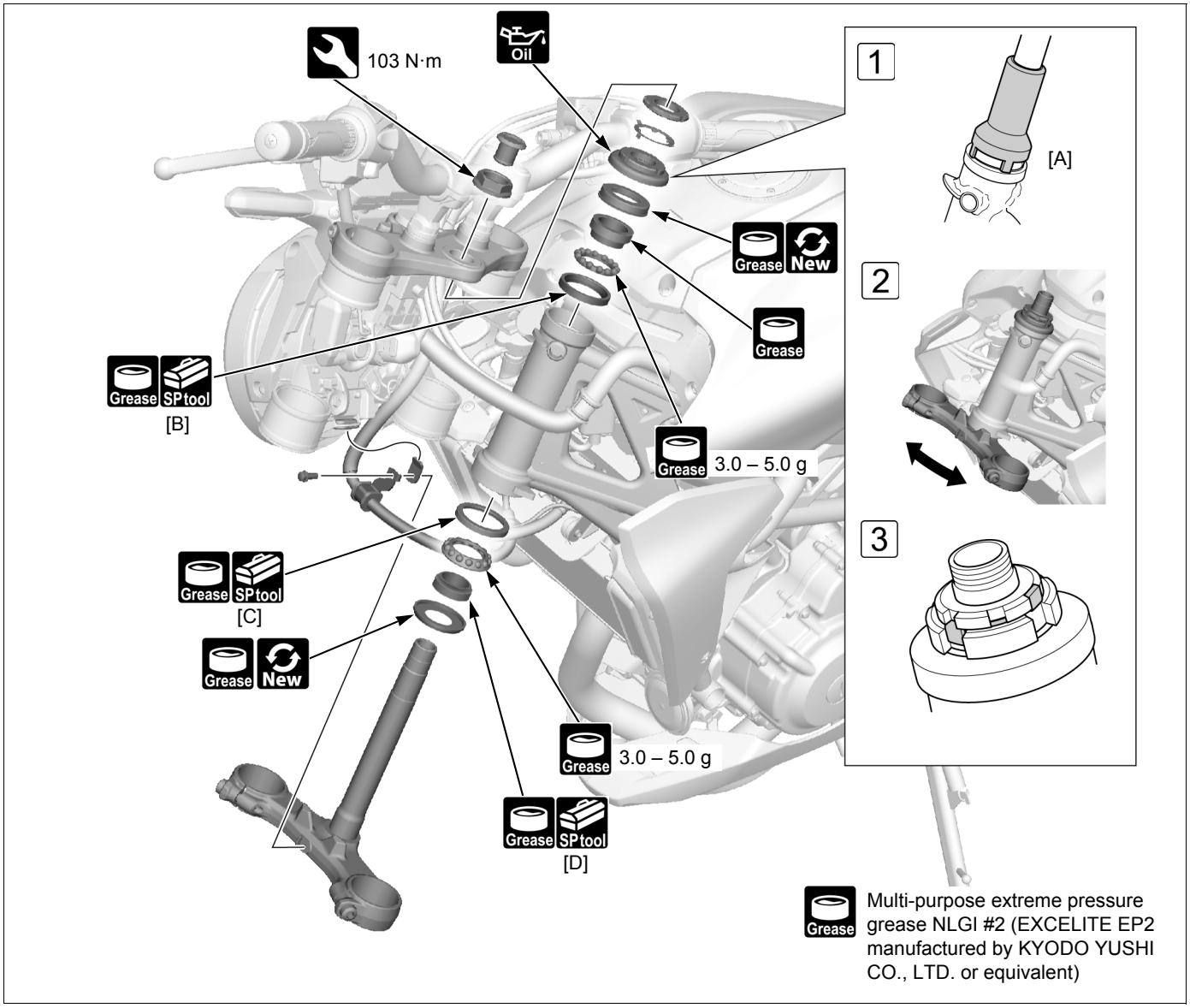
TOP BRIDGE





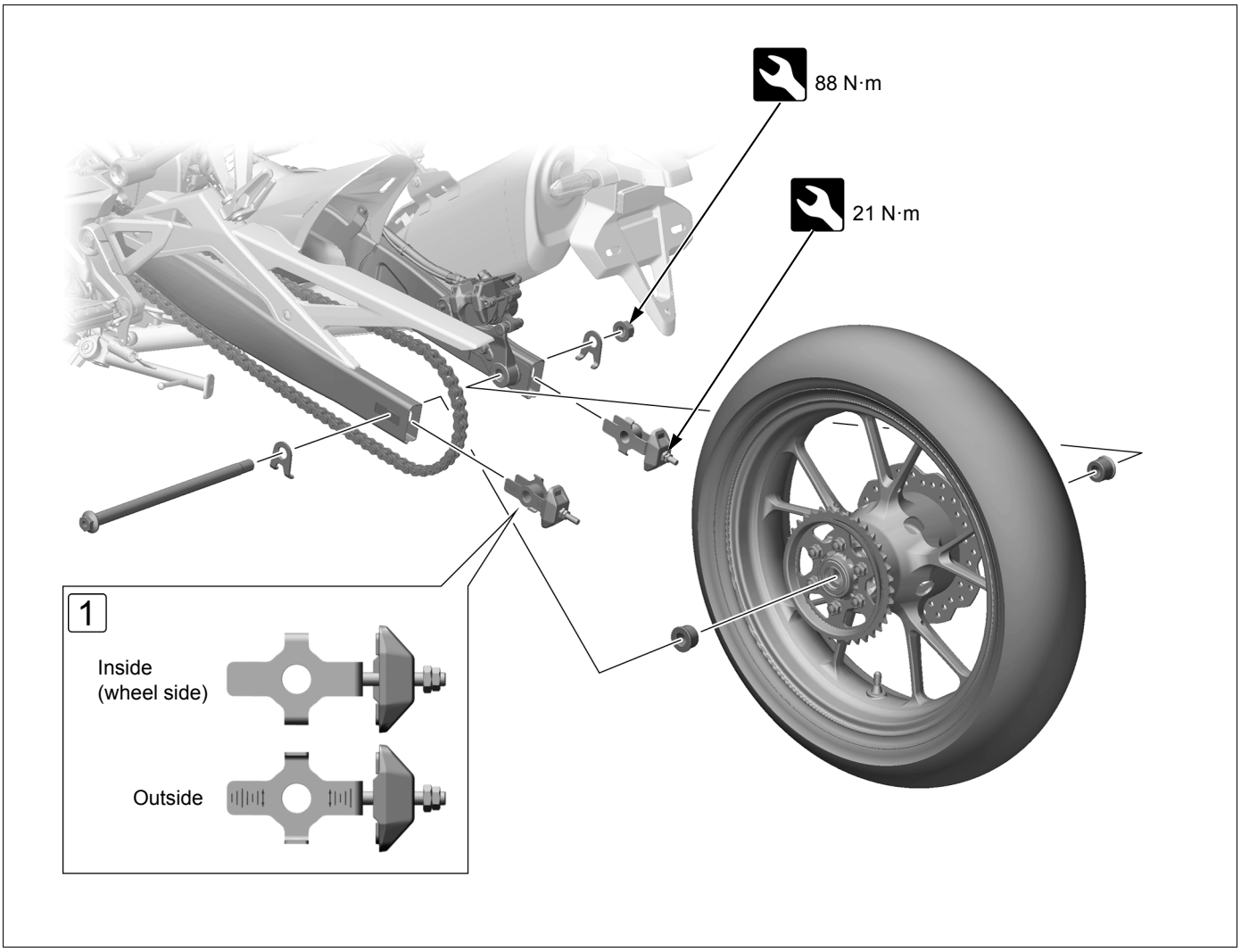
- Handlebar ➔3-21
- Combination meter ➔4-57

BOTTOM BRIDGE



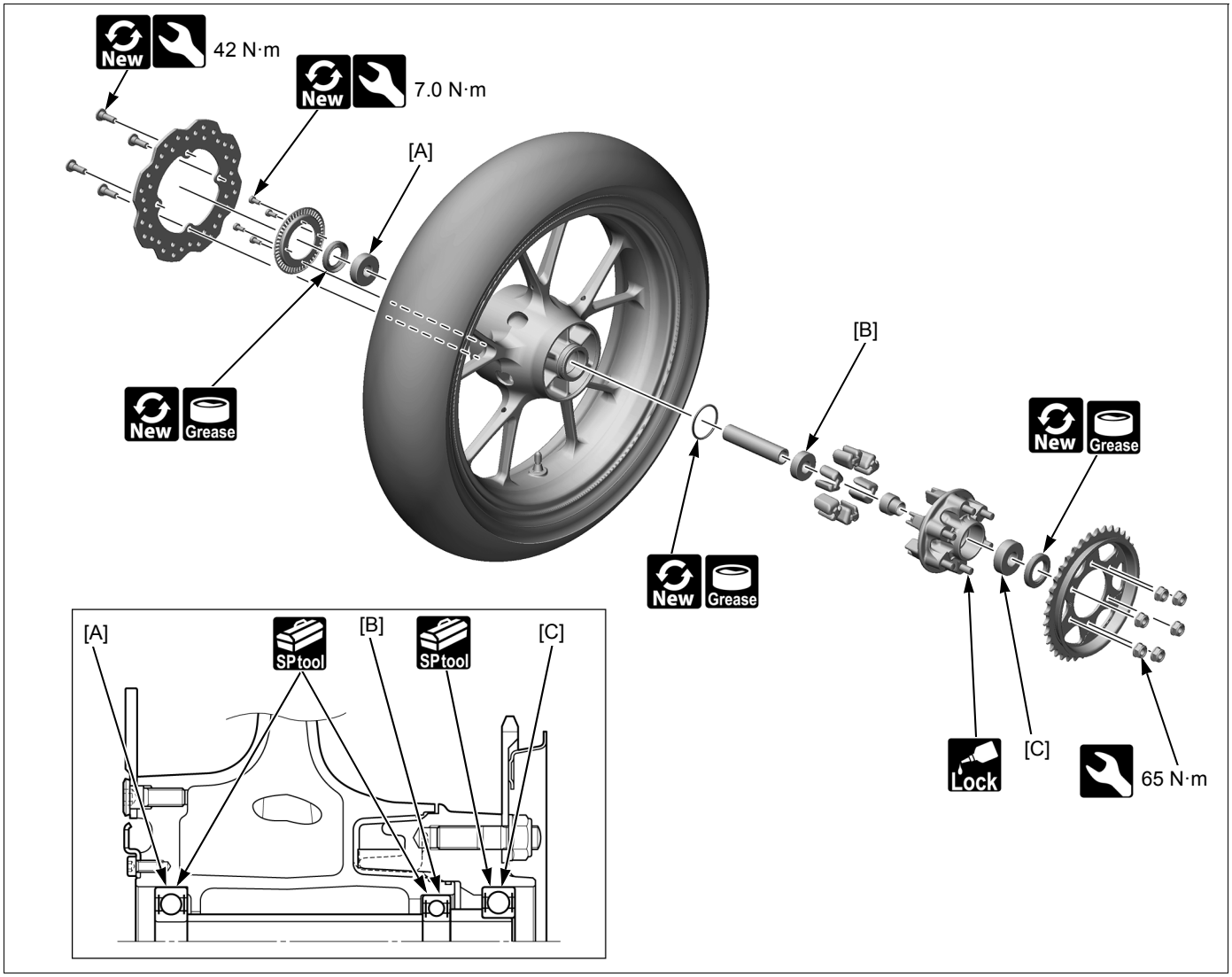
- Fork ➔3-18
- STEERING STEM:
  [A] Steering stem socket: 07916-3710101
- STEERING STEM BEARING:
  [B] Remover attachment: 07953-MJ10100 Remover handle: 07953-MJ10200
- STEERING STEM BEARING:
  [C] Bearing remover: 07946-3710500
- STEERING STEM BEARING:
  [D] Driver, 30 mm I.D.: 07946-MB00000
- STEERING STEM:
  [A] Steering stem socket: 07916-3710101
- 1 Install the adjusting nut. Hold the steering stem and tighten the adjusting nut to the initial torque.
  TORQUE: 39 N·m
- 2 Turn the steering stem lock-to-lock five times to seat the bearing. Completely loosen the adjusting nut, and then tighten the adjusting nut to the specified torque.
  TORQUE: 29 N·m
- 3 Install the top thread until it is seated to the lock washer tabs lightly. Further tighten the top thread within 90° enough to align its grooves with the lock washer tabs. Bend the lock washer tabs up into the lock nut grooves. Then, make sure the steering stem is smooth movement by turning the steering stem again.
- Steering disassembly/assembly and inspection

REAR WHEEL



Basic • Wheel inspection

• 1 Install the swingarm end cap in the direction as shown.



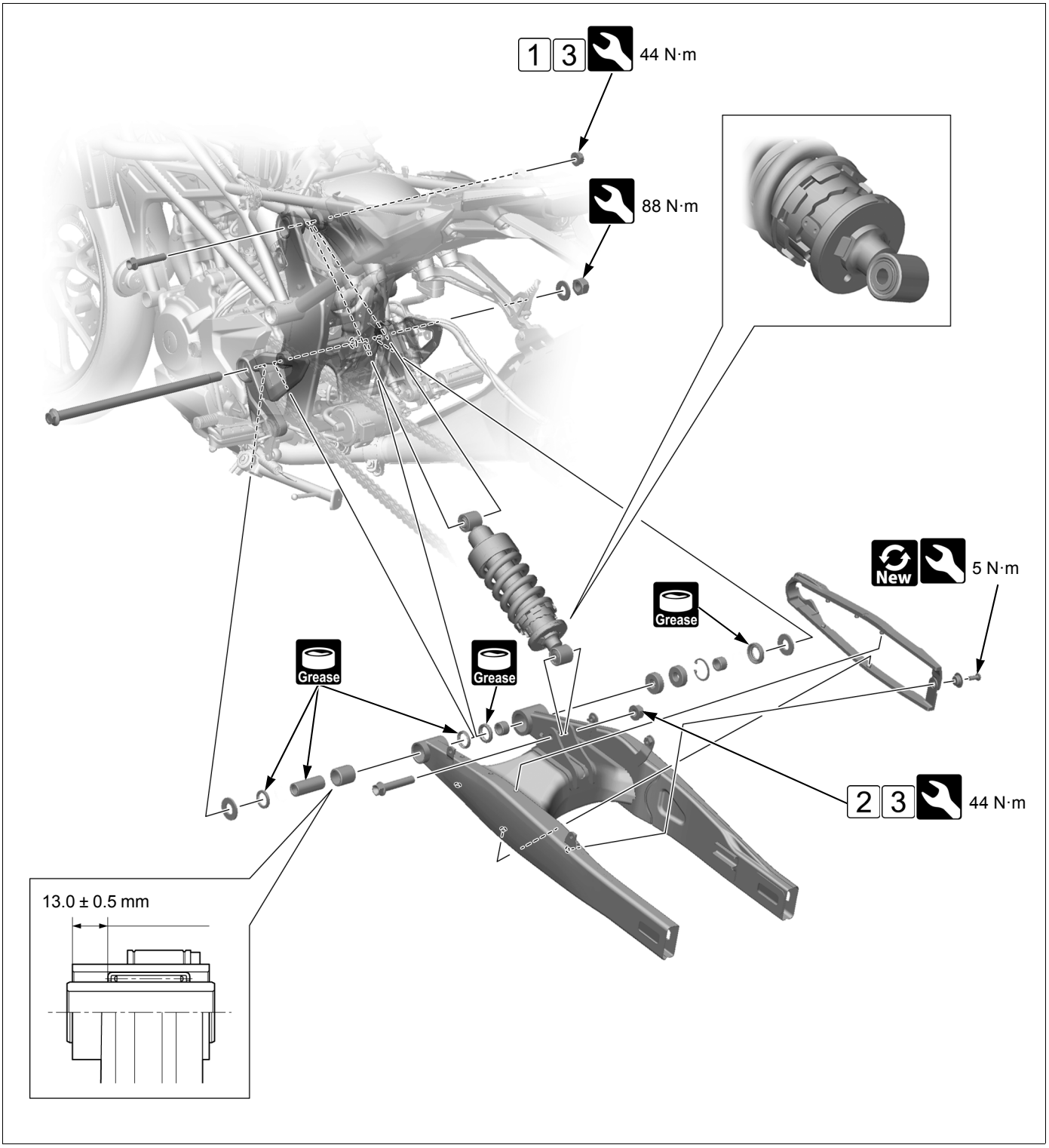
REAR WHEEL

- Install the bearing remover head into the bearing. From the opposite side, install the bearing remover shaft and drive out the bearing from the wheel hub.
  Remover head, 17 mm: 07746-0050500
  Bearing remover shaft: 07746-0050100
- Drive in a new right bearing [A] squarely with its marked side facing outside until it is fully seated.
  Attachment, 42 x 47 mm: 07746-0010300
  Pilot 17 mm: 07746-0040400
  Driver: 07749-0010000
- Install the distance collar.
- Drive in a new left bearing [B] squarely with its marked side facing outside until it is fully seated on the distance collar.
  Attachment, 37 x 40 mm: 07746-0010200
  Pilot 17 mm: 07746-0040400
  Driver: 07749-0010000
- Wheel disassembly and inspection

DRIVEN FLANGE

- Drive in a new bearing [C] squarely.
  Attachment, 42 x 47 mm: 07746-0010300
  Pilot 20 mm: 07746-0040500
  Driver: 07749-0010000

REAR SUSPENSION

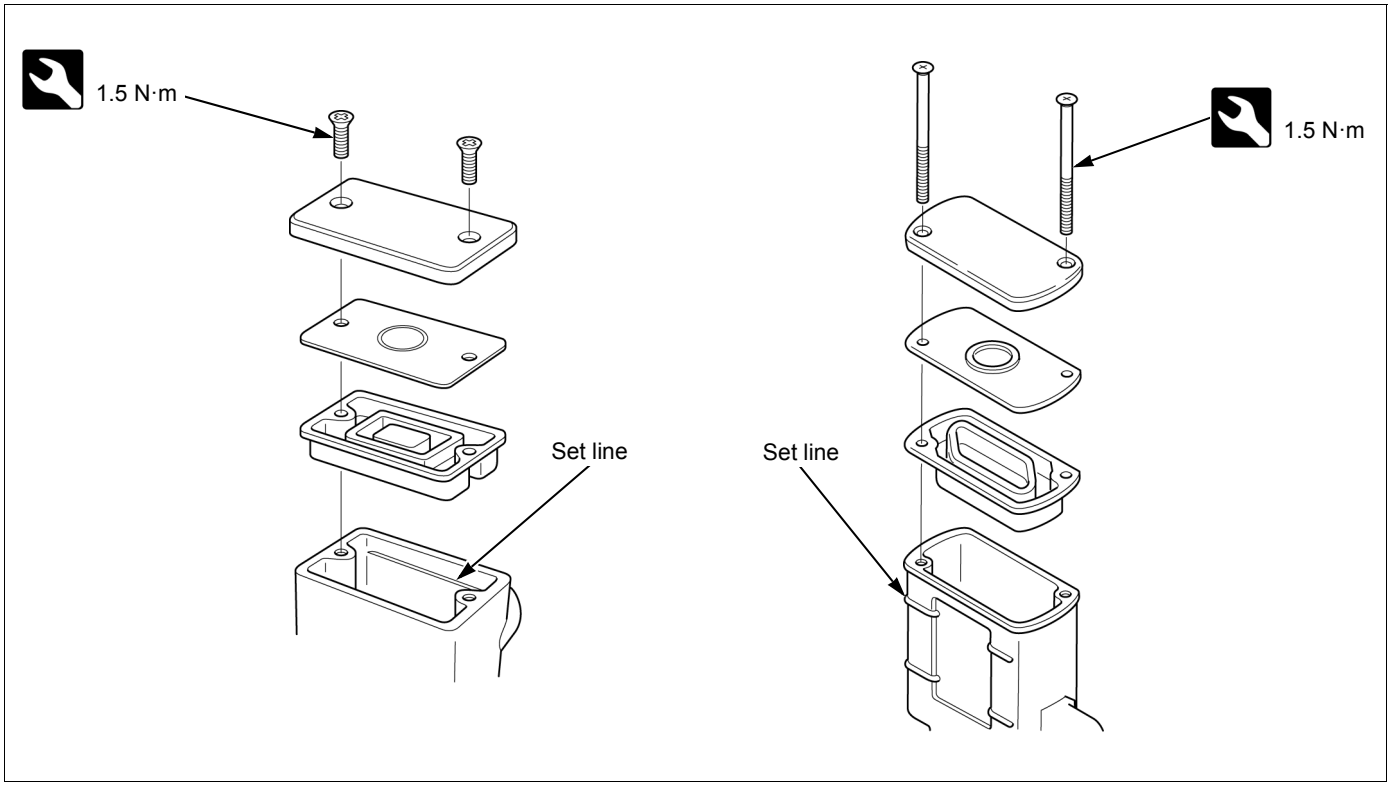


- Fuel tank cover ➔3-9
- Drive chain case ➔3-11
- Rear wheel ➔3-25

- 1 Loosely install the shock absorber upper nut.
- 2 Loosely install the shock absorber lower nut.
- Rear wheel ➔3-25
- 3 Place the vehicle on the ground. Compressing the rear end several times, then tighten the shock absorber nuts to the specified torque.

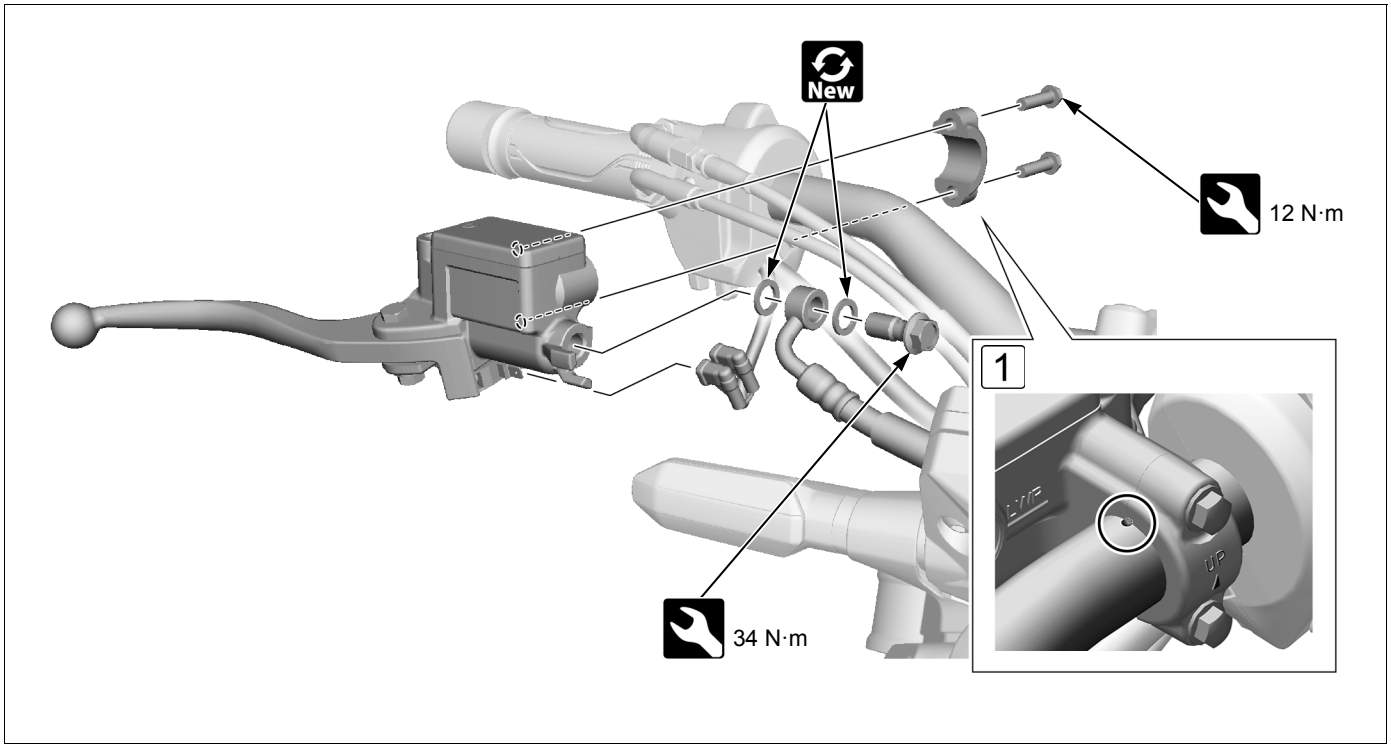
FRONT BRAKE

BRAKE FLUID REPLACEMENT

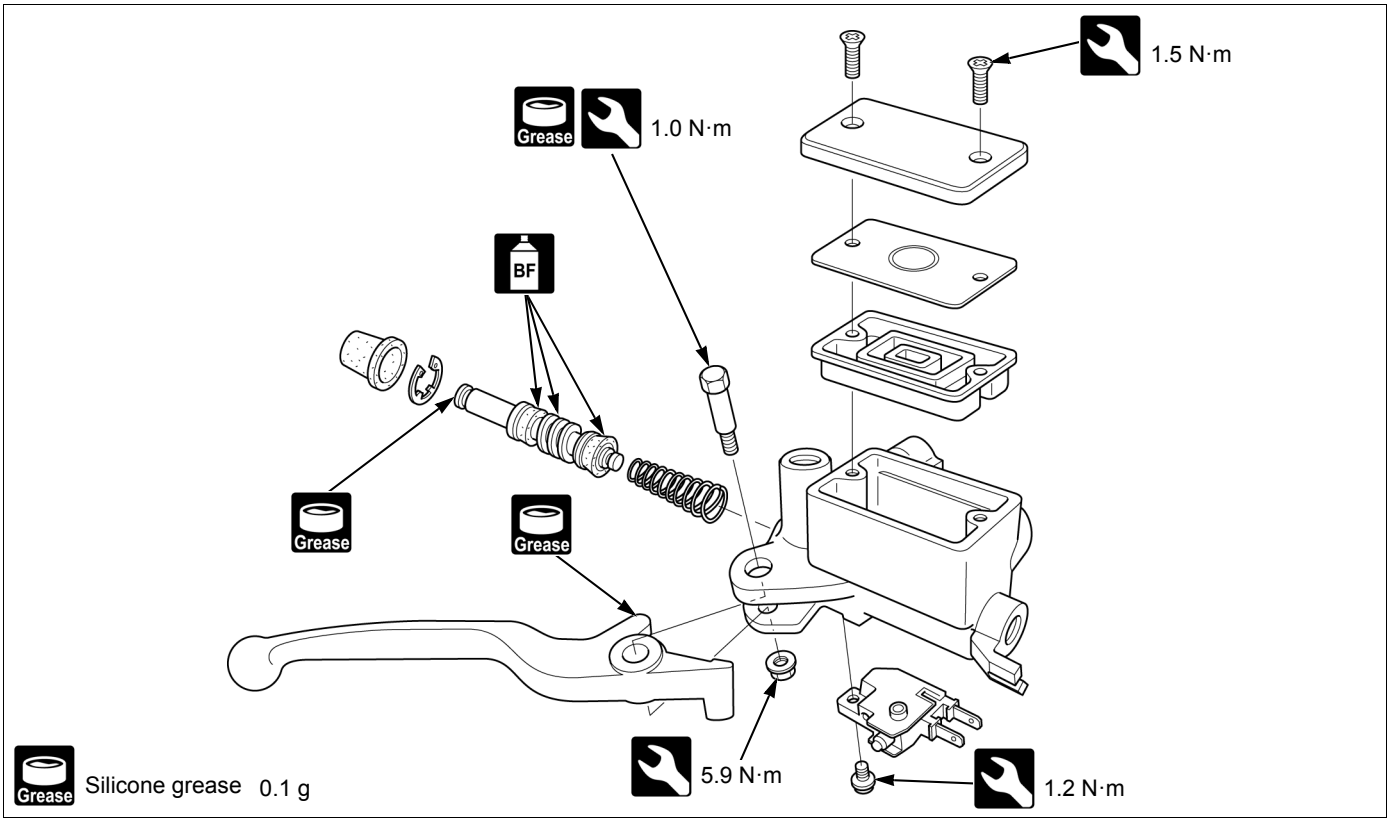


- Add the reservoir with brake fluid from a sealed container to the set line.
  RECOMMENDED BRAKE FLUID: DOT 3 or 4 brake fluid

BRAKE MASTER CYLINDER



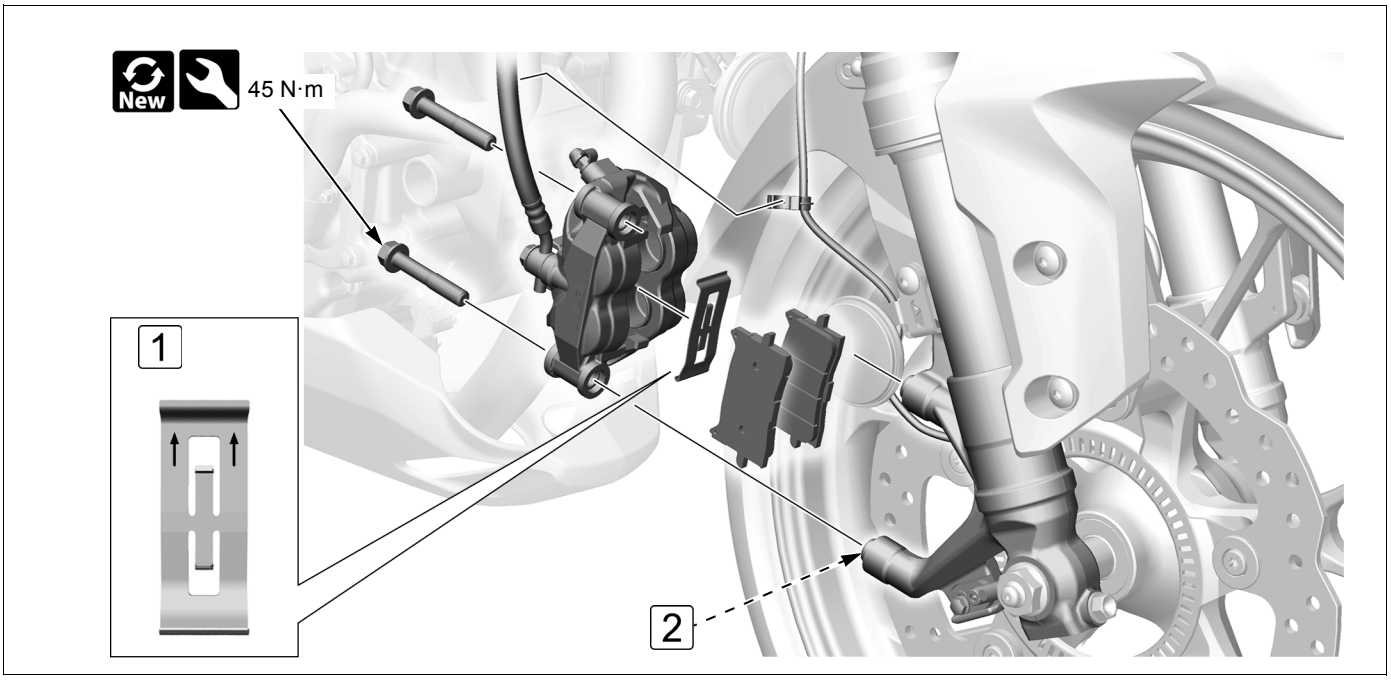
- Rearview mirror ➔3-3
- [1] Install the holder with the "UP" mark facing up. Align the edge of the master cylinder with the punch mark.



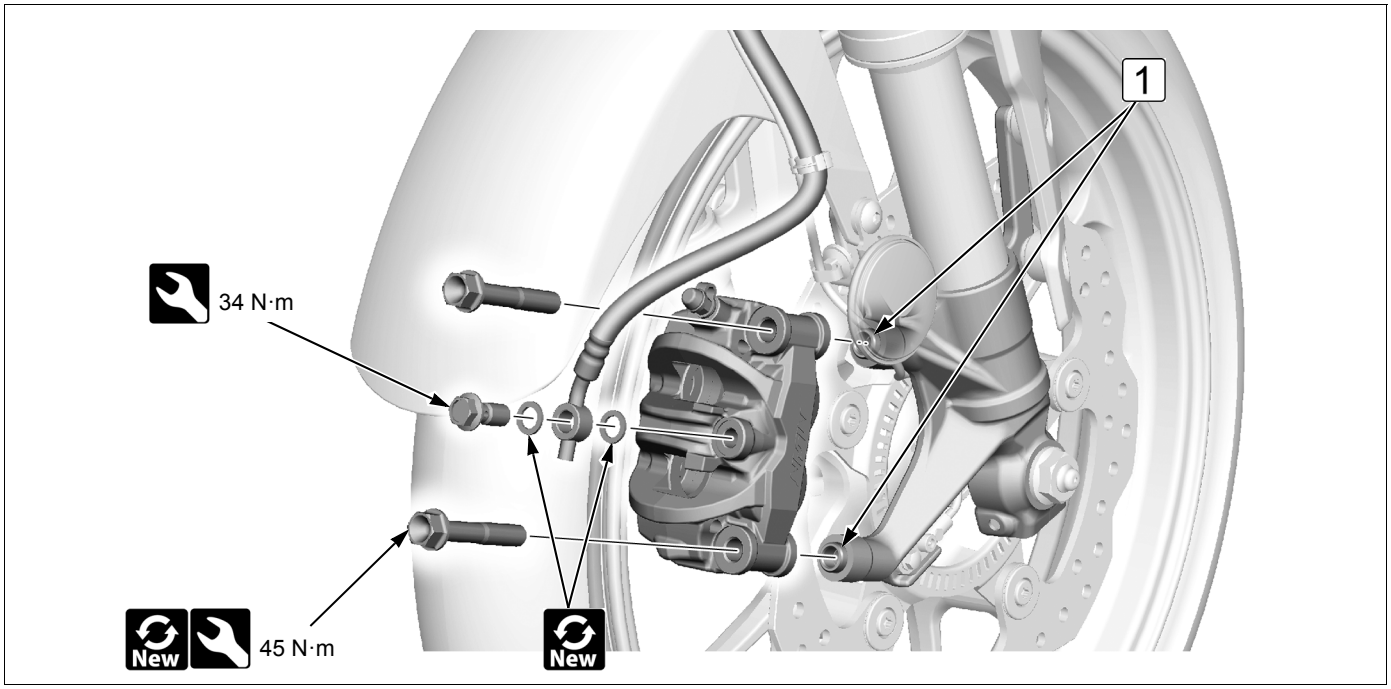
- Remove the snap ring.
  Snap ring pliers: 07914-SA50001
- Master cylinder inspection

BRAKE CALIPER

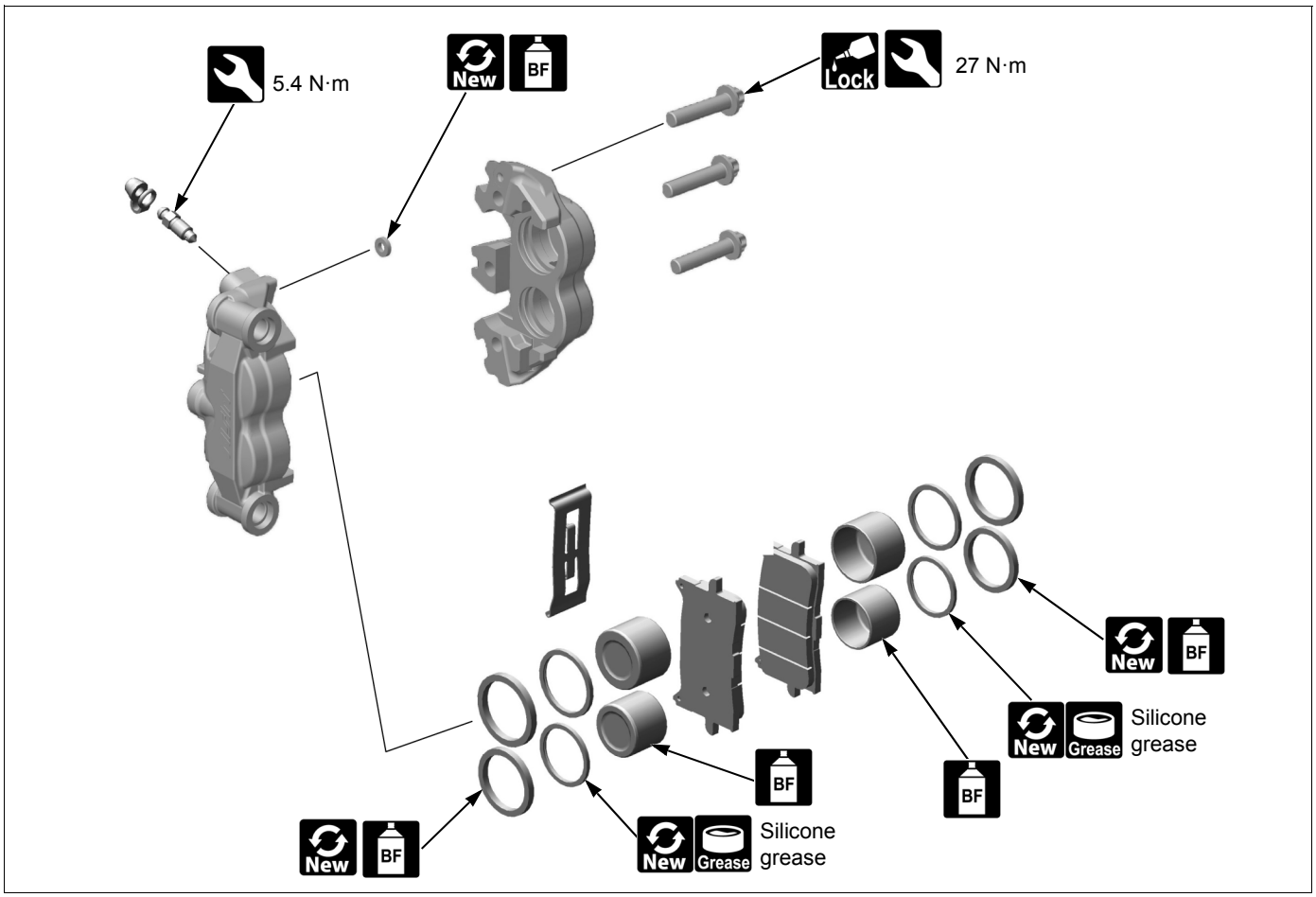
BRAKE PAD REPLACEMENT



- 1 Install the pad spring with the arrow mark facing up.
- 2 Make sure that the collars are installed into the caliper bracket properly.



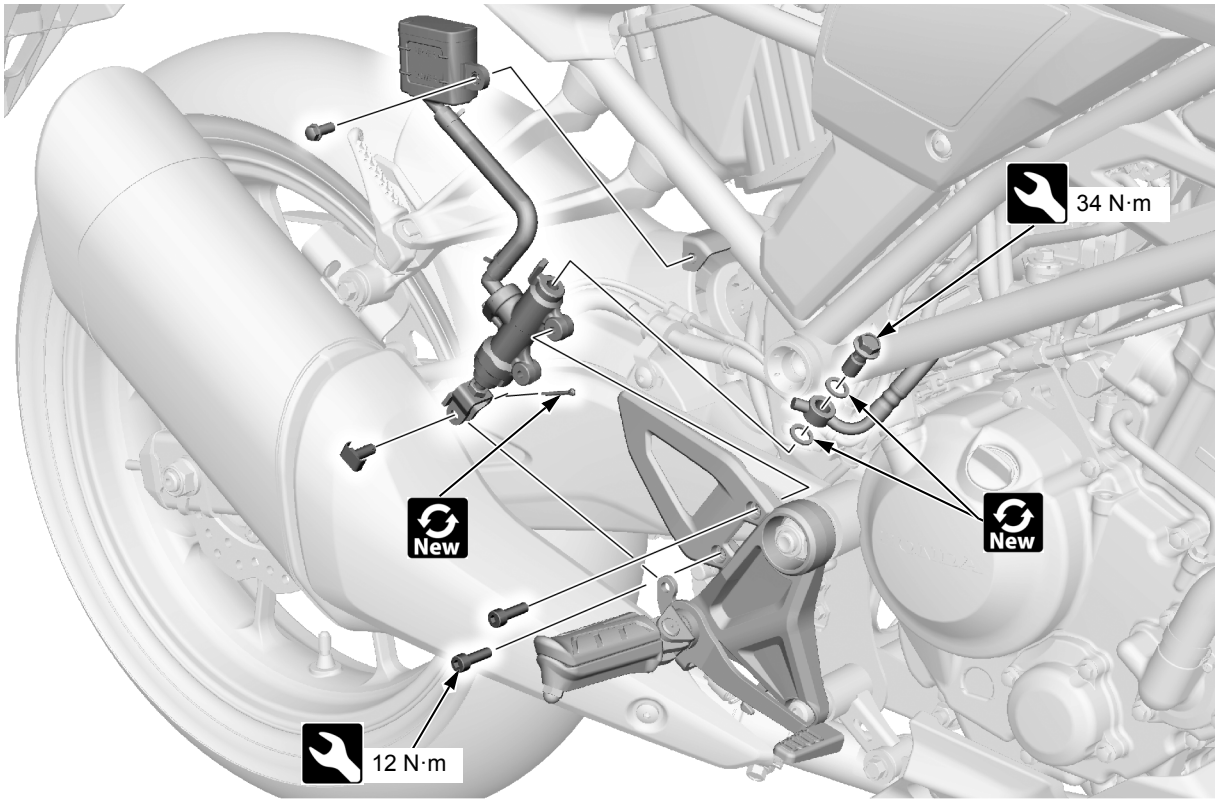
- 1 Make sure that the collars are installed into the caliper bracket properly.

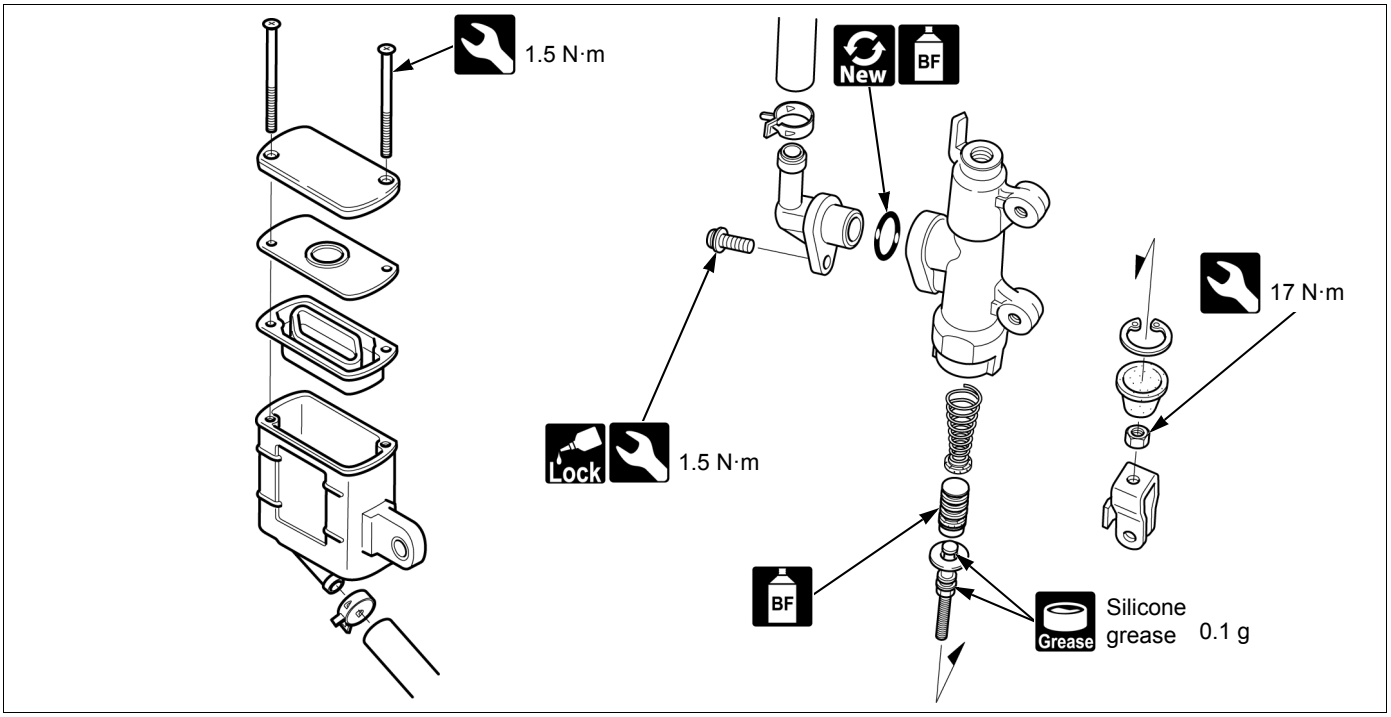


- Brake caliper inspection

REAR BRAKE

BRAKE MASTER CYLINDER

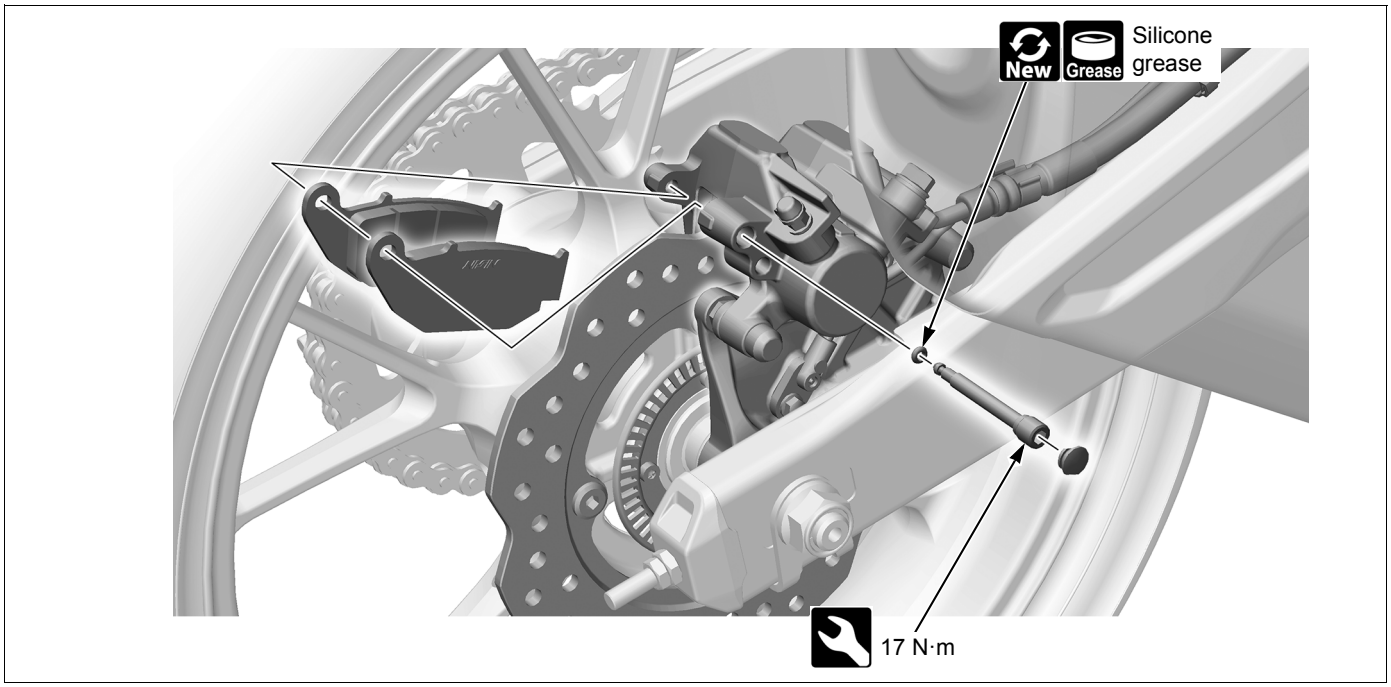


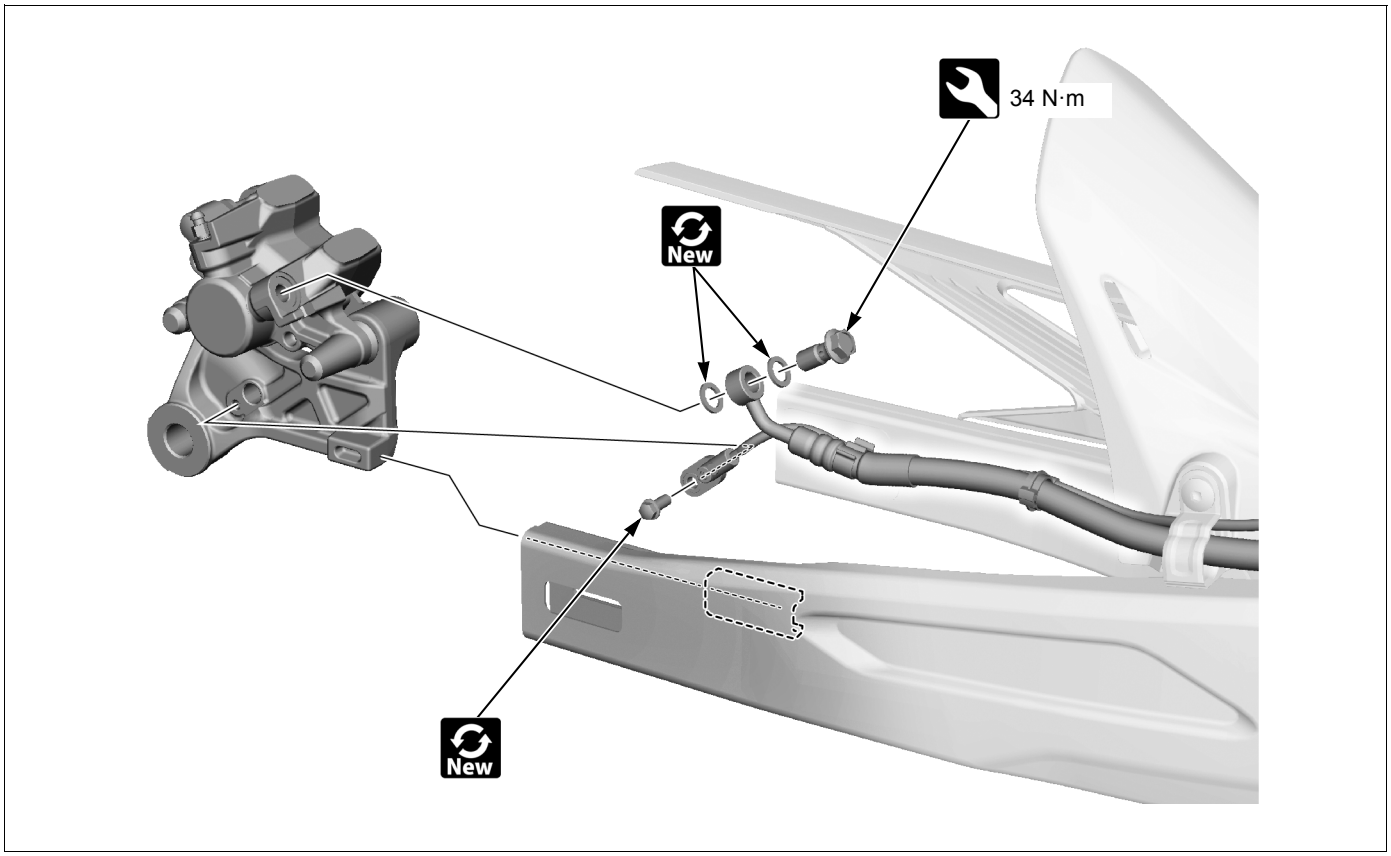


- Remove the snap ring.
  Snap ring pliers: 07914-SA50001
- Master cylinder inspection

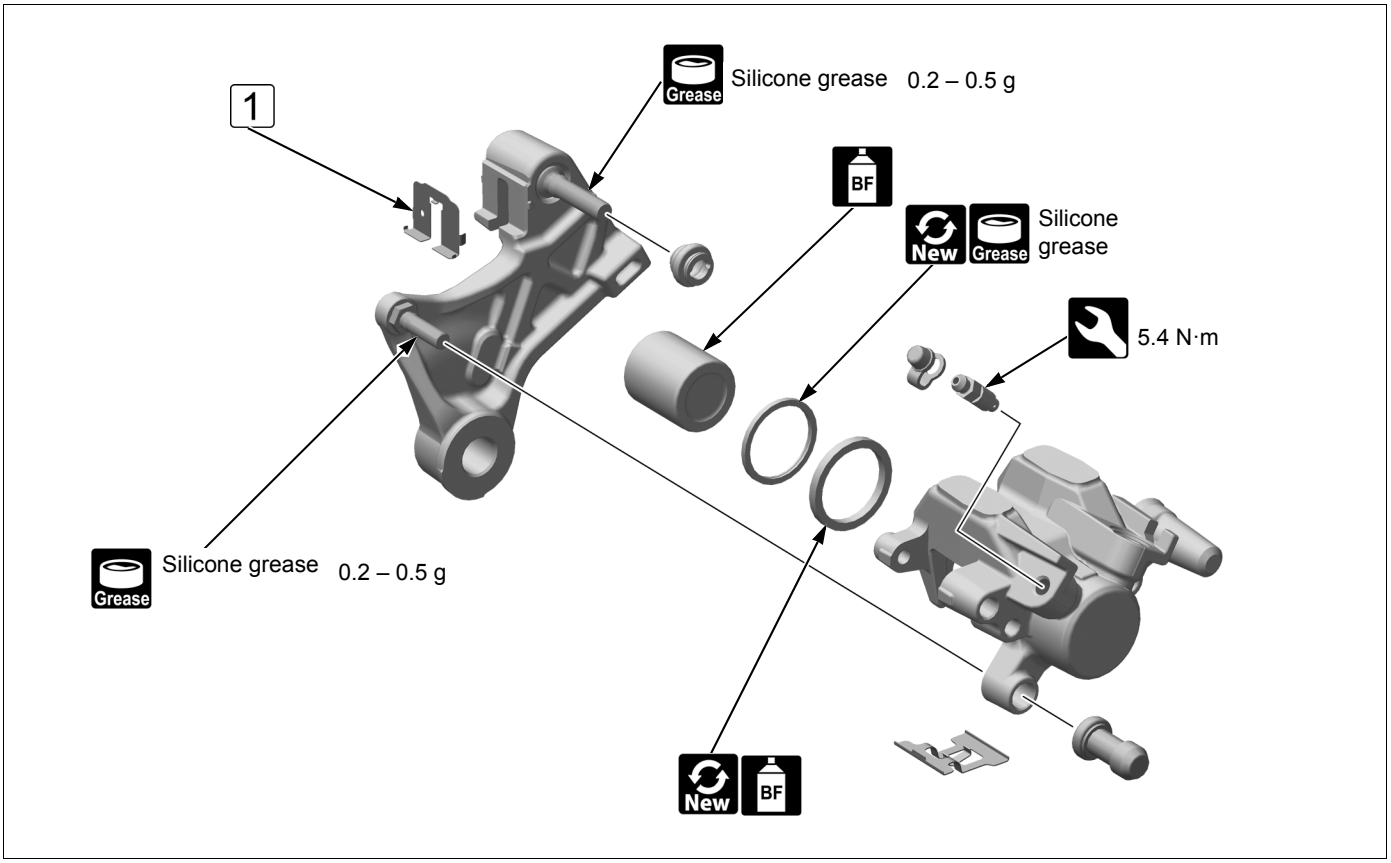
BRAKE CALIPER

BRAKE PAD REPLACEMENT





- Rear wheel ➔3-25

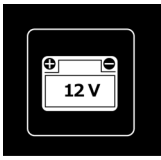


Basic • Brake caliper inspection

• 1 Apply Honda Bond A or equivalent to the retainer seating surface.

MEMO

4. ELECTRICAL SYSTEM



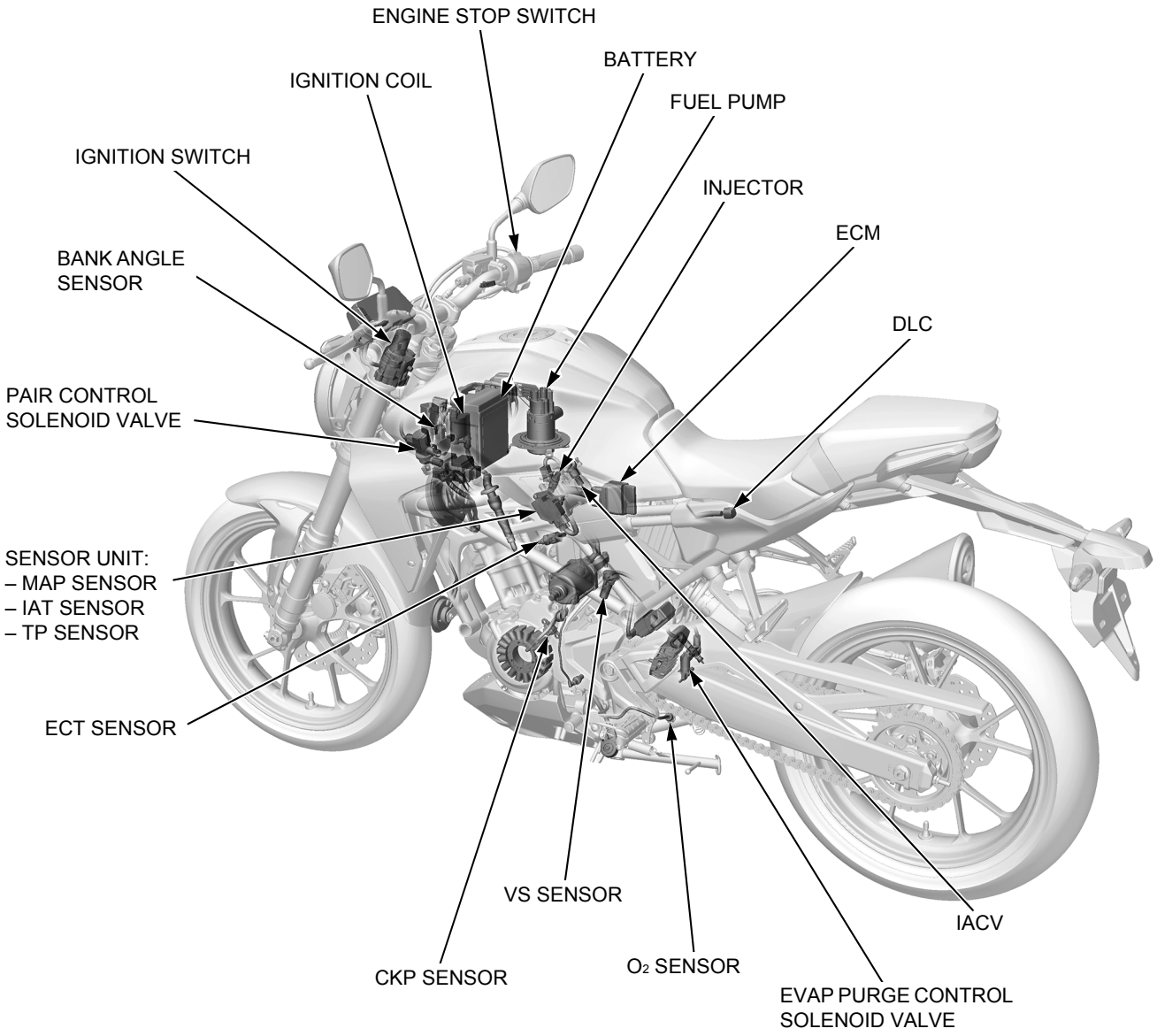
PGM-FI SYSTEM

- Refer to "Basic Shop manual" for the following information.
  – PGM-FI technical feature and each sensor function.
  – Symptom troubleshooting for the PGM-FI system.
  – MCS (Motorcycle Communication System) information.

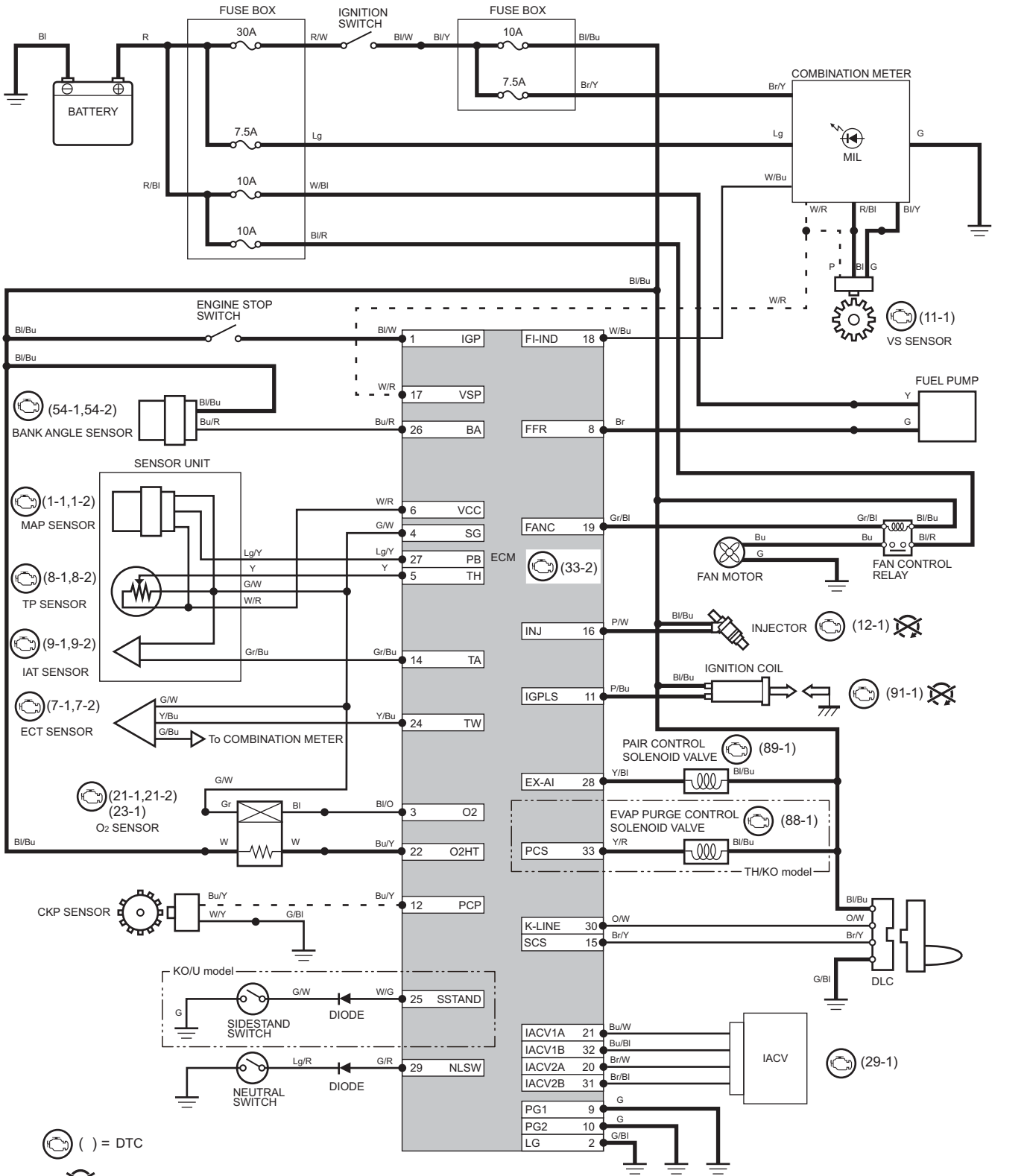
DTC CODE INDEX

DTC	Function Failure	Symptom/Fail-safe function	Page
1-1	MAP sensor malfunction • MAP sensor low voltage	• Engine operates normally	➔4-5
1-2	MAP sensor malfunction • MAP sensor high voltage	• Engine operates normally	➔4-6
7-1	ECT sensor malfunction • ECT sensor low voltage	• Hard start at a low temperature	➔4-7
7-2	ECT sensor malfunction • ECT sensor high voltage	• Hard start at a low temperature	➔4-8
8-1	TP sensor malfunction • TP sensor low voltage	• Poor engine acceleration	➔4-9
8-2	TP sensor malfunction • TP sensor high voltage	• Poor engine acceleration	➔4-10
9-1	IAT sensor malfunction • IAT sensor low voltage	• Engine operates normally	➔4-11
9-2	IAT sensor malfunction • IAT sensor high voltage	• Engine operates normally	➔4-12
11-1	VS sensor malfunction	• Engine operates normally	➔4-13
12-1	Injector malfunction	• Engine does not start • Injector, fuel pump and ignition coil shut down	➔4-14
21-1	O_2 sensor malfunction • O_2 sensor low voltage	• Engine operates normally	➔4-15
21-2	O_2 sensor malfunction • O_2 sensor high voltage	• Engine operates normally	➔4-16
23-1	O_2 sensor heater malfunction	• Engine operates normally	➔4-17
29-1	IACV malfunction	• Engine stalls, hard to start, rough idling	➔4-18
33-2	ECM EEPROM malfunction	• Engine stalls, hard to start, rough idling • Does not hold the self diagnosis data • Does not erase the self diagnosis data with SCS connector	➔4-19
54-1	Bank angle sensor malfunction • Bank angle sensor low voltage	• Engine operates normally • Engine stop function does not operate	➔4-20
54-2	Bank angle sensor malfunction • Bank angle sensor high voltage	• Engine operates normally • Engine stop function does not operate	➔4-21
88-1	EVAP purge control solenoid valve malfunction • Loose or poor contact of the EVAP purge control solenoid valve connector • EVAP purge control solenoid valve or its circuit malfunction	• Engine operates normally	➔4-22
89-1	PAIR control solenoid valve malfunction	• Engine operates normally	➔4-23
91-1	Ignition coil primary circuit malfunction • Ignition coil or its circuit malfunction	• Engine does not start • Injector and ignition coil shut down	➔4-24

PGM-FI SYSTEM LOCATION



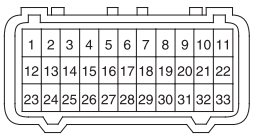
PGM-FI SYSTEM DIAGRAM



( ) = DTC

= Engine does not start when detecting failure code

= Short terminals for reading failure code



ECM 33P (Black)
CONNECTOR (ECM side)

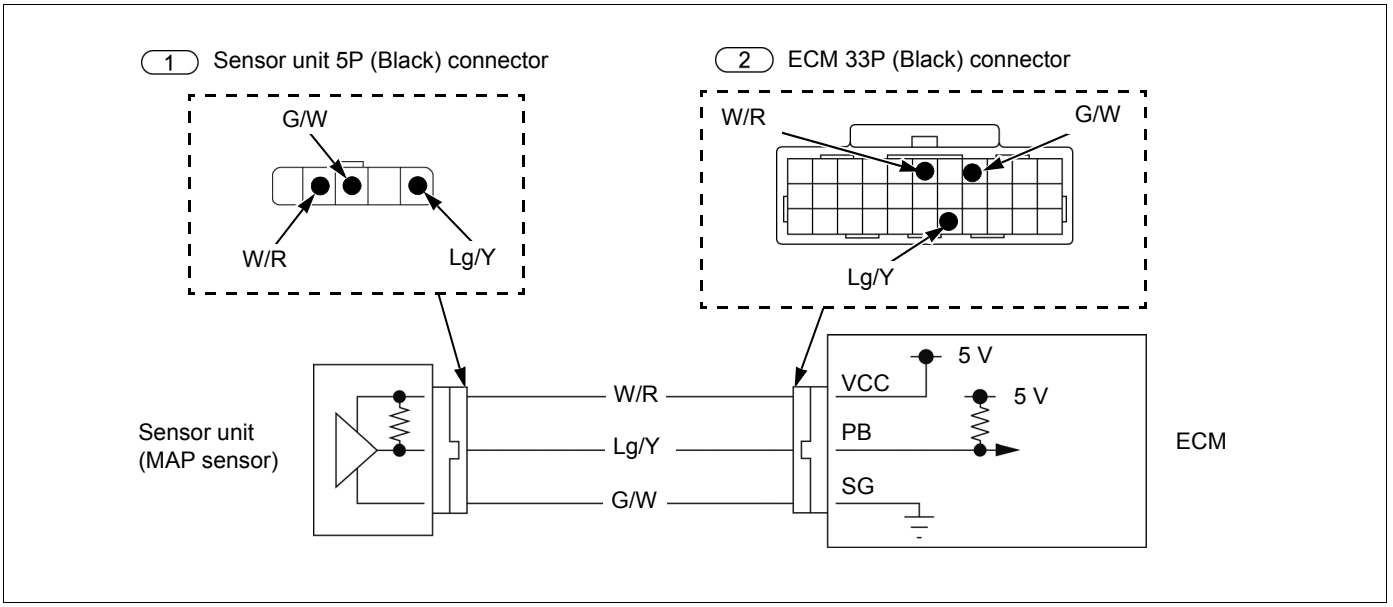
Bl : Black
Br : Brown
Bu : Blue
G : Green
Gr : Gray
Lg : Light green
O : Orange
P : PINK
R : Red
W : White
Y : Yellow

DTC TROUBLESHOOTING

DTC 1-1 (MAP SENSOR LOW VOLTAGE)

- Fuel tank lifting ➔4-52

MAP Sensor Diagram



1. MAP Sensor System Inspection

• Check the MAP sensor voltage with MCS. • Is the voltage about 0 V indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

Yes ▼

2. Sensor unit Power Input Voltage Inspection

• Connection: W/R (+) – G/W (–) • Is the voltage within 4.75 – 5.25 V?	No ►	• Open or short circuit in W/R wire • If there is no open or short circuit, replace the ECM with a new one ➔4-25, and recheck.

Yes ▼

3. MAP Sensor Output Voltage Inspection

• Connection: Lg/Y (+) – G/W (–) • Is the voltage within 3.80 – 5.25 V?	Yes ►	• Replace the sensor unit (MAP sensor) with a new one ➔2-8, and recheck.

No ▼

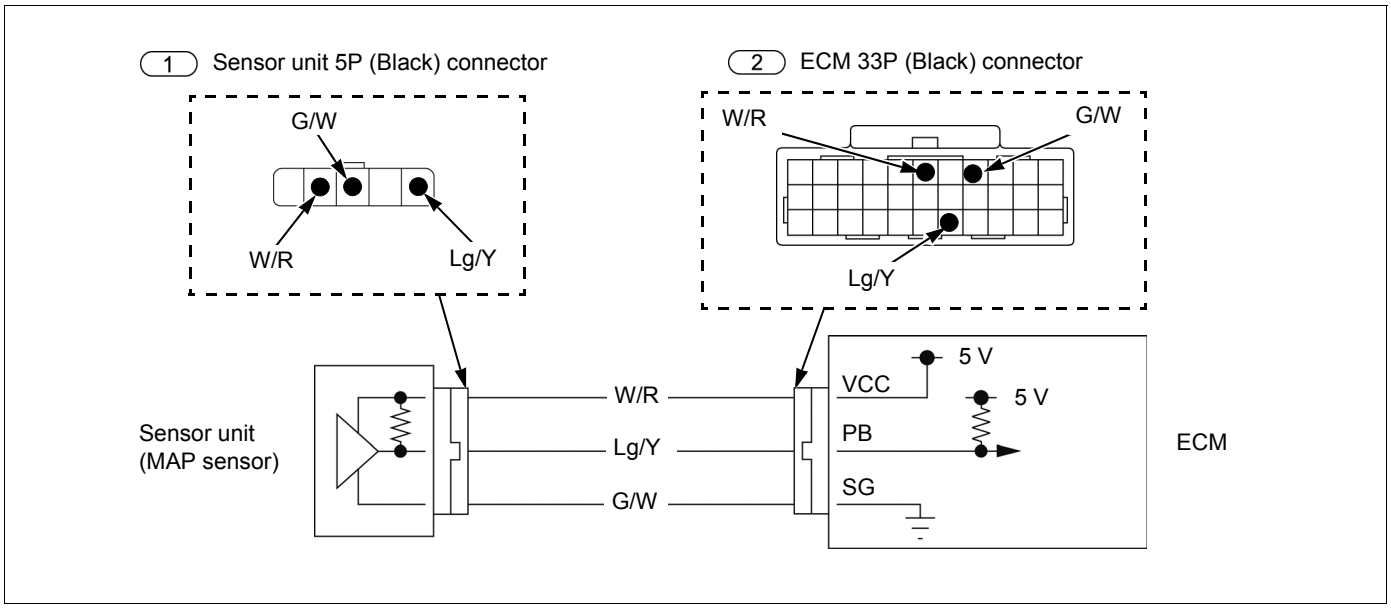
4. MAP Sensor Output Line Inspection

- Check a short circuit in Lg/Y wire.
- If there is no short circuit, replace the ECM with a new one ➔4-25, and recheck.

DTC 1-2 (MAP SENSOR HIGH VOLTAGE)

- Fuel tank lifting ➔4-52

MAP Sensor Diagram



1. MAP Sensor System Inspection

- Check the MAP sensor voltage with MCS.
- Is the voltage about 5 V indicated?

No ►

- Intermittent failure
- Loose or poor contact at the connector

Yes ▼

2. MAP Sensor Inspection

1

- Install a jumper wire between the terminals. Connection: Lg/Y – G/W
- Check the MAP sensor voltage with MCS.
- Is the voltage about 0 V indicated?

Yes ►

- Replace the sensor unit (MAP sensor) with a new one ➔2-8, and recheck.

No ▼

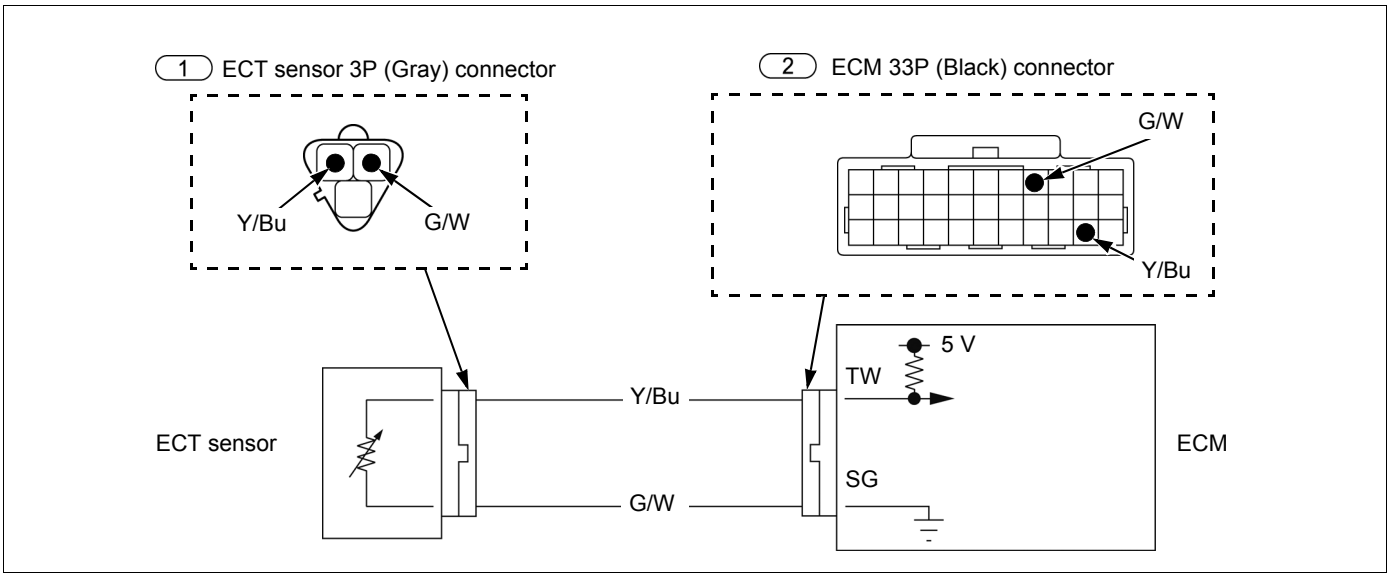
3. MAP Sensor Output Line Inspection

- Check an open circuit in Lg/Y and G/W wire.
- If there is no open circuit, replace the ECM with a new one ➔4-25, and recheck.

DTC 7-1 (ECT SENSOR LOW VOLTAGE)

- Fuel tank lifting ➔4-52

ECT Sensor Diagram



1. ECT Sensor System Inspection

• Check the ECT sensor voltage with MCS. • Is the voltage about 0 V indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

Yes ▼

2. ECT Sensor Inspection

1 ⇨ • Check the ECT sensor voltage with MCS. • Is the voltage about 0 V indicated?	No ►	• Replace the ECT sensor with a new one ➔4-25, and recheck.

Yes ▼

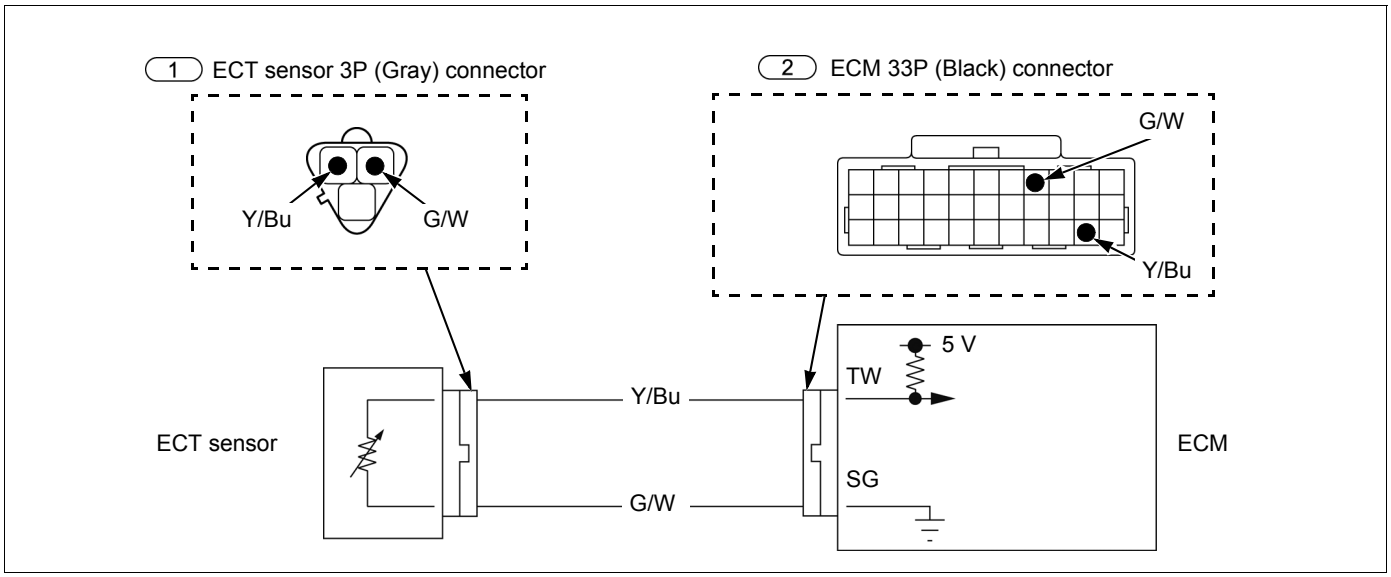
3. ECT Sensor Output Line Inspection

- Check a short circuit in Y/Bu wire.
- If there is no short circuit, replace the ECM with a new one ➔4-25, and recheck.

DTC 7-2 (ECT SENSOR HIGH VOLTAGE)

- Fuel tank lifting ➔4-52

ECT Sensor Diagram



1. ECT Sensor System Inspection

- Check the ECT sensor voltage with MCS.
- Is the voltage about 5 V indicated?

No ►

- Intermittent failure
- Loose or poor contact at the connector

Yes ▼

2. ECT Sensor Inspection

1 ⇨

- Install a jumper wire between the terminals. Connection: Y/Bu – G/W
- Check the ECT sensor voltage with MCS.
- Is the voltage about 0 V indicated?

Yes ►

- Replace the ECT sensor with a new one ➔4-25, and recheck.

No ▼

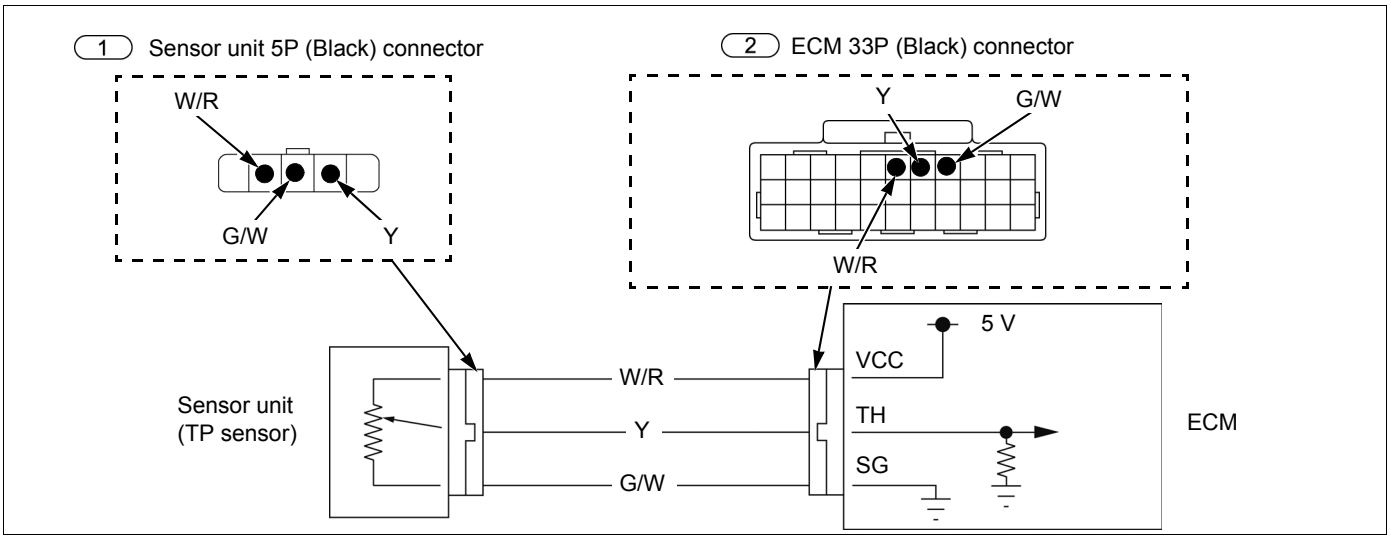
3. ECT Sensor Output Line Inspection

- Check an open circuit in Y/Bu and G/W wire.
- If there is no open circuit, replace the ECM with a new one ➔4-25, and recheck.

DTC 8-1 (TP SENSOR LOW VOLTAGE)

- Fuel tank lifting ➔4-52

TP Sensor Diagram



1. TP Sensor System Inspection

• Check the TP sensor voltage with MCS. • Is the voltage about 0 V indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

Yes ▼

2. Sensor unit Power Input Voltage Inspection

1 ⇨ ⇨ 1 • Connection: W/R (+) – G/W (–) • Is the voltage within 4.75 – 5.25 V?	No ►	• Open or short circuit in W/R wire • If there is no open or short circuit, replace the ECM with a new one ➔4-25, and recheck.

Yes ▼

3. TP Sensor Output Line Inspection

• Check a open or short circuit in Y wire. • Is there open or short circuit?	Yes ►	• Faulty Y wire

No ▼

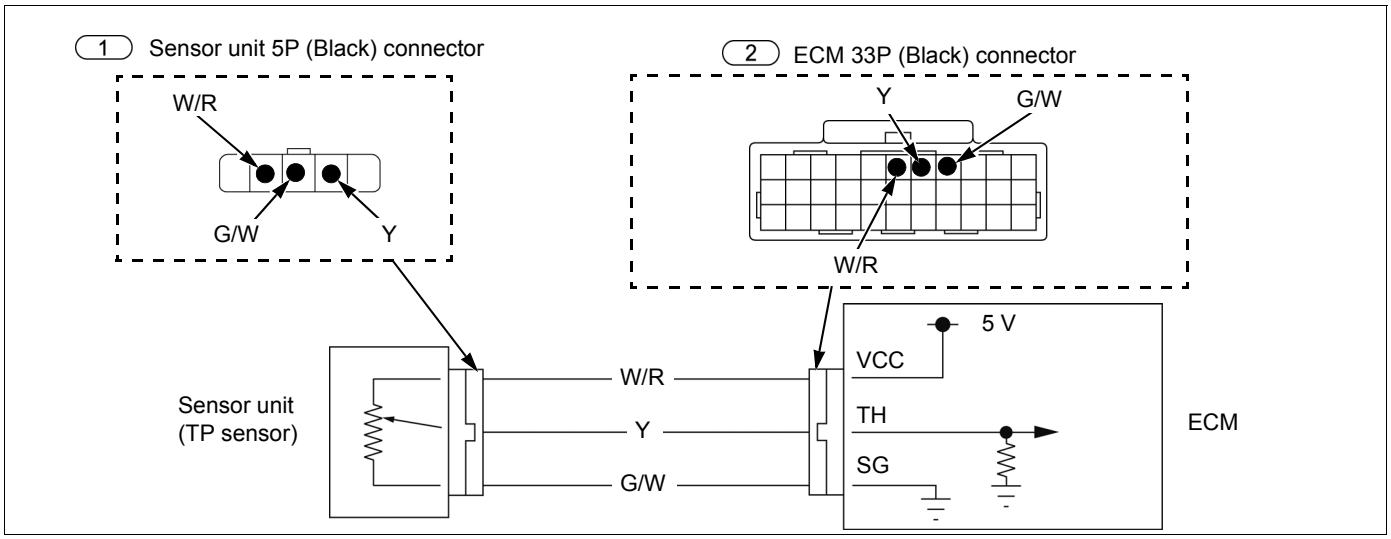
4. TP Sensor Inspection

- Replace the sensor unit (TP sensor) with a new one ➔2-8
- Erase the DTC.
- Check the TP sensor with MCS.
- If DTC 8-1 is indicated, replace the ECM with a new one ➔4-25, and recheck.

DTC 8-2 (TP SENSOR HIGH VOLTAGE)

- Fuel tank lifting ➔4-52

TP Sensor Diagram



1. TP Sensor System Inspection

- Check the TP sensor voltage with MCS when the throttle fully closed.
- Is the voltage about 5 V indicated?

No ►

- Check the TP sensor voltage with MCS.
- Operate the throttle from fully closed to fully opened.
- If the voltage is not increase continuously, replace the sensor unit (TP sensor) with a new one ➔2-8, and recheck.

Yes ▼

2. TP Sensor Ground Line Inspection

- Check a open circuit in G/W wire.
- Is there open circuit?

Yes ►

- Faulty G/W wire

No ▼

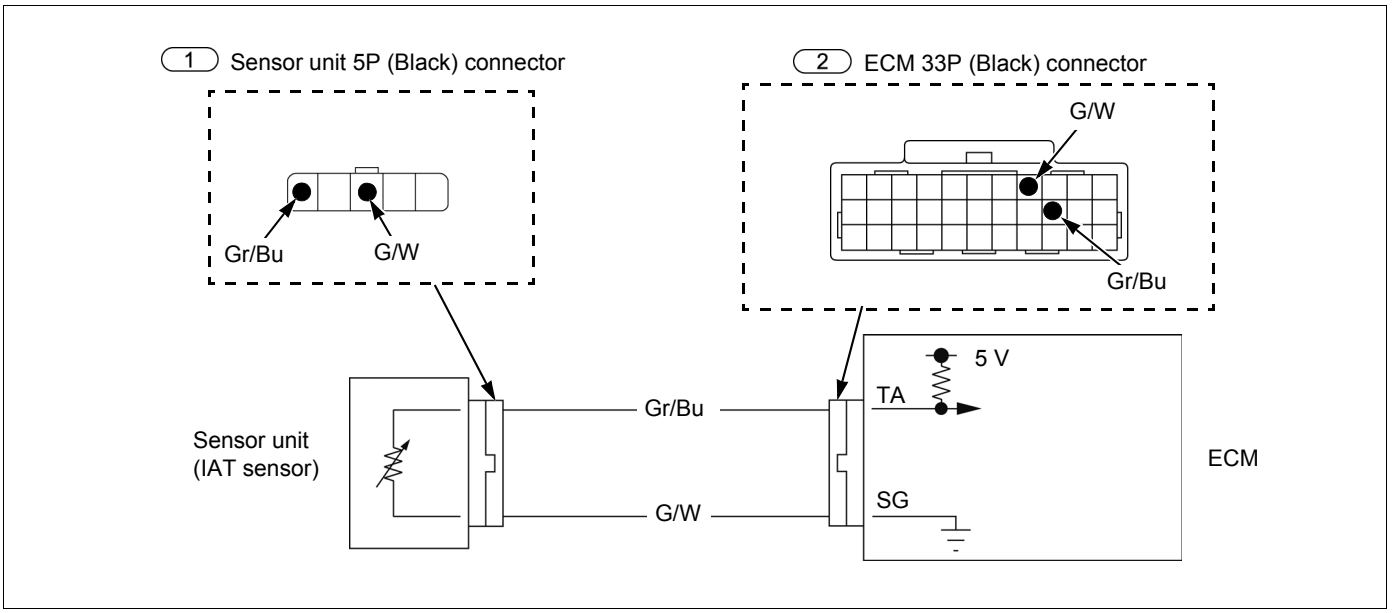
3. TP Sensor Inspection

- Replace the sensor unit (TP sensor) with a new one ➔2-8
- Erase the DTC.
- Check the TP sensor with MCS.
- If DTC 8-2 is indicated, replace the ECM with a new one ➔4-25, and recheck.

DTC 9-1 (IAT SENSOR LOW VOLTAGE)

- Fuel tank lifting ➔4-52

IAT Sensor Diagram



1. IAT Sensor System Inspection

• Check the IAT sensor voltage with MCS. • Is the voltage about 0 V indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

Yes ▼

2. IAT Sensor Inspection

1 ⇨ • Check the IAT sensor voltage with MCS. • Is the voltage about 0 V indicated?	No ►	• Replace the sensor unit (IAT sensor) with a new one ➔2-8, and recheck.

Yes ▼

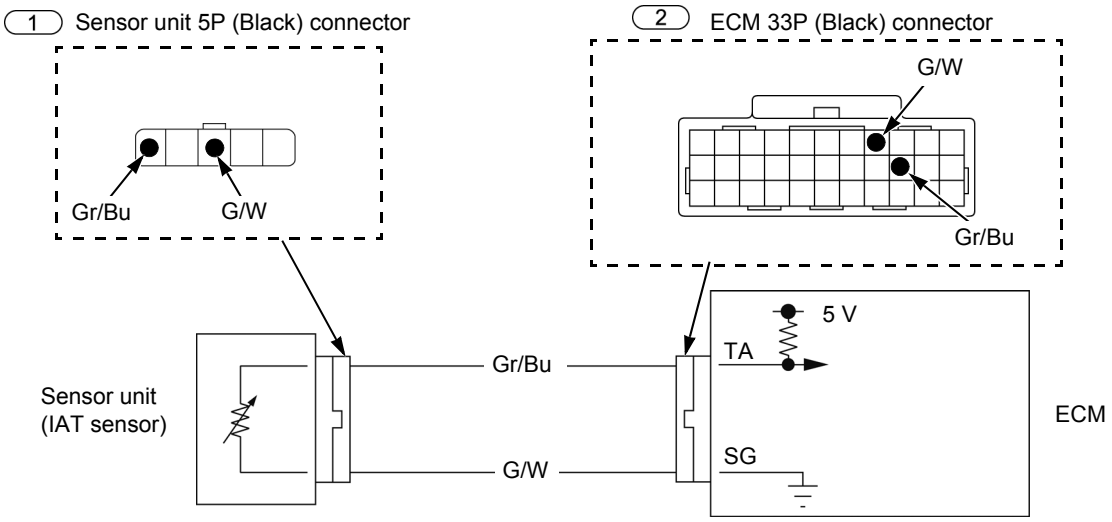
3. IAT Sensor Output Line Inspection

- Check a short circuit in Gr/Bu wire.
- If there is no short circuit, replace the ECM with a new one ➔4-25, and recheck.

DTC 9-2 (IAT SENSOR HIGH VOLTAGE)

- Fuel tank lifting ➔4-52

IAT Sensor Diagram



1. IAT Sensor System Inspection

• Check the IAT sensor voltage with MCS. • Is the voltage about 5 V indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

Yes ▼

2. IAT sensor Inspection

1 ⇨ • Install a jumper wire between the terminals. Connection: Gr/Bu – G/W • Check the IAT sensor voltage with MCS. • Is the voltage about 0 V indicated?	Yes ►	• Replace the sensor unit (IAT sensor) with a new one ➔2-8, and recheck.

No ▼

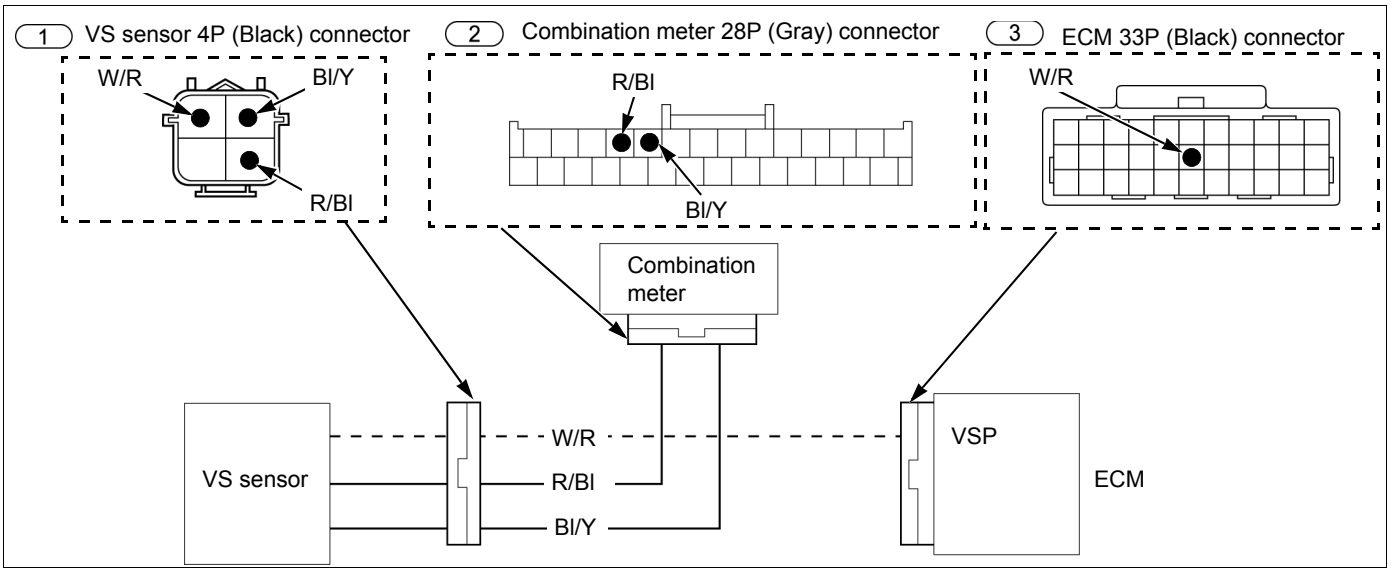
3. IAT Sensor Voltage Input Line Inspection

- Check an open circuit in Gr/Bu and G/W wire.
- If there is no open circuit, replace the ECM with a new one ➔4-25, and recheck.

DTC 11-1 (VS SENSOR)

- Meter cover ➔4-54
- Fuel tank lifting ➔4-52

VS Sensor Diagram



1. VS Sensor System Inspection

- Check the VS sensor with MCS.
- Is the DTC 11-1 indicated?

No ►
- Intermittent failure
- Loose or poor contact at the connector

Yes ▼

2. VS Sensor Input Voltage Inspection

- Connection: R/Bl (+) – Bl/Y (–)
- Does the battery voltage exist?

No ►
- Faulty R/Bl or Bl/Y wire

Yes ▼

3. VS Sensor Signal Line Inspection

- Check for an open or short circuit in W/R wire.
- Is there open or short circuit?

Yes ►
- Faulty W/R wire

No ▼

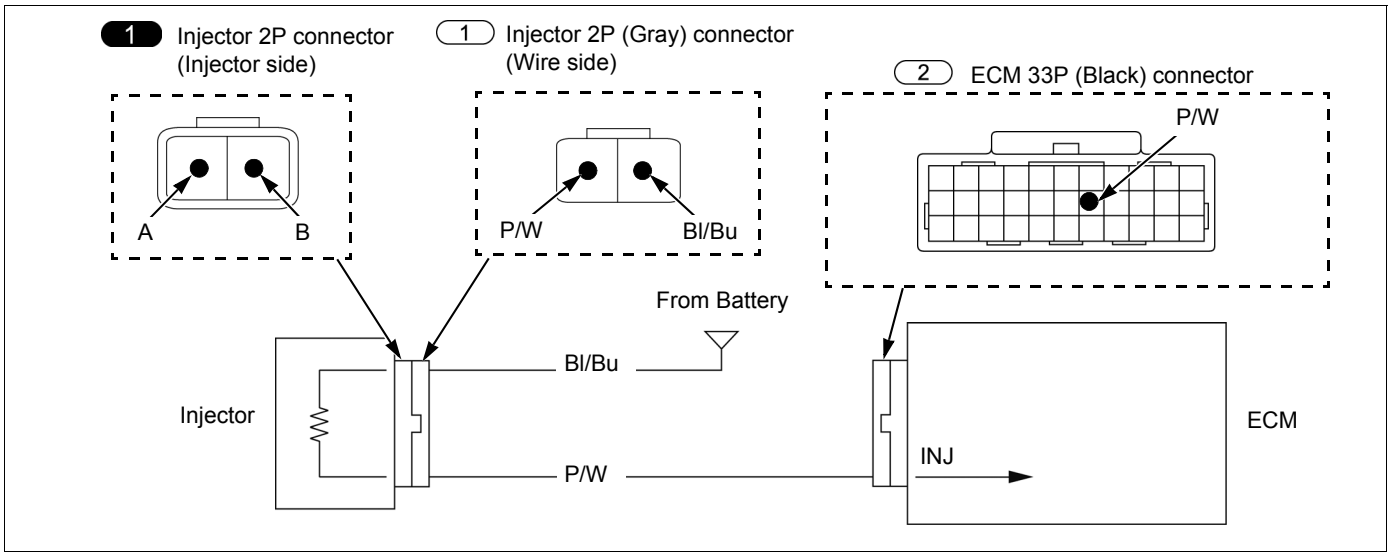
4. VS Sensor Inspection

- Replace the VS sensor with a new one. ➔4-59
- Erase the DTC's.
- Test-ride the vehicle and check the VS sensor with MCS.
- If DTC 11-1 is indicated, replace the combination meter with a new one ➔4-57, and recheck.
- Erase the DTC's.
- Test-ride the vehicle and check the VS sensor with MCS.
- If DTC 11-1 is indicated, replace the ECM with a new one ➔4-25, and recheck.

DTC 12-1 (INJECTOR)

- Fuel tank lifting ➔4-52

Injector Diagram



1. Fuel Injector System Inspection

• Check the fuel injector with MCS. • Is the DTC 12-1 is indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

Yes ▼

2. Fuel Injector Input Voltage Inspection

• Connection: Bl/Bu (+) – Ground (–) • Does the battery voltage exist?	No ►	• Open circuit in Bl/Bu wire

Yes ▼

3. Fuel Injector Signal Line Inspection

• Check an open or short circuit in P/W wire. • Is there open or short circuit?	Yes ►	• Faulty P/W wire

No ▼

4. Fuel Injector Resistance inspection

• Connection: A – B • Is the resistance within 11 – 13 Ω (20°C)?	No ►	• Faulty fuel injector

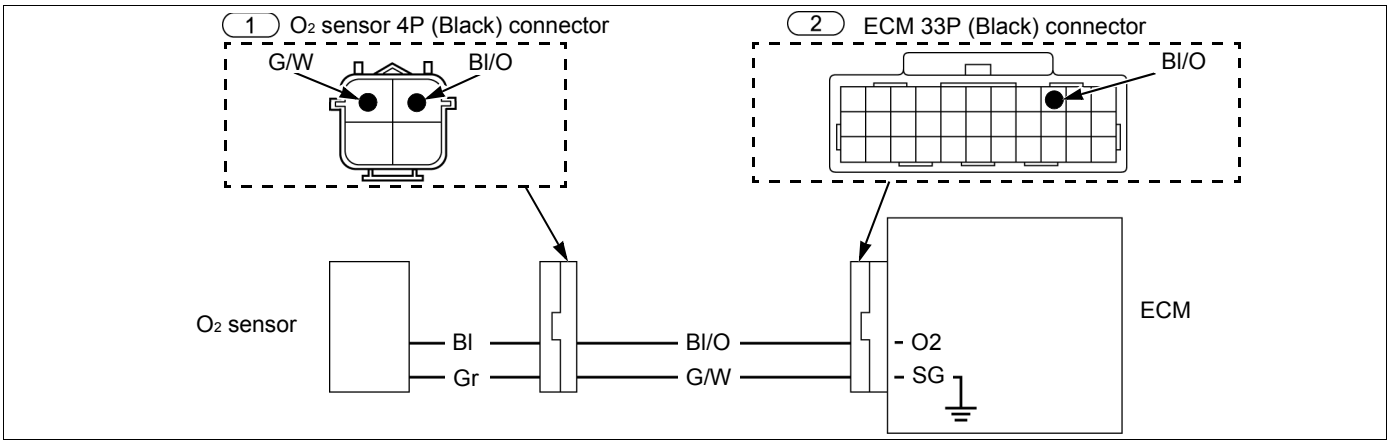
Yes ▼

- Replace the ECM with a new one ➔4-25, and re-check.

DTC 21-1 (O_2 SENSOR LOW VOLTAGE)

- Fuel tank lifting ➔4-52

O_2 Sensor Diagram



1. O_2 Sensor System Inspection

• Test-ride the vehicle and check the O_2 sensor with MCS. • Is the DTC 21-1 indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

Yes ▼

2. O_2 Sensor Circuit Inspection

• Check the short circuit in Bl/O wire. • Are there short circuit?	Yes ►	• Faulty Bl/O wire.

No ▼

3. Fuel Supply Test (Fuel Pressure Test)

• Perform the fuel pressure test. ➔2-3 • Is the fuel pressure within specification?	No ►	• Check that there is any erratic swing or vibration of the gauge needle in the pressure gauge reading. – If the needle is swing or vibration, replace the fuel filter. ➔2-5 – If the needle is stable, replace the fuel pump unit. ➔2-4

Yes ▼

4. Fuel Supply Test (Fuel Flow Test)

• Adjust the fuel in the tank until the fuel gauge segment is positioned the specified range, and inspect the fuel flow.➔2-3 • Is the fuel flow within specification?	No ►	• Replace the fuel filter. ➔2-5

Yes ▼

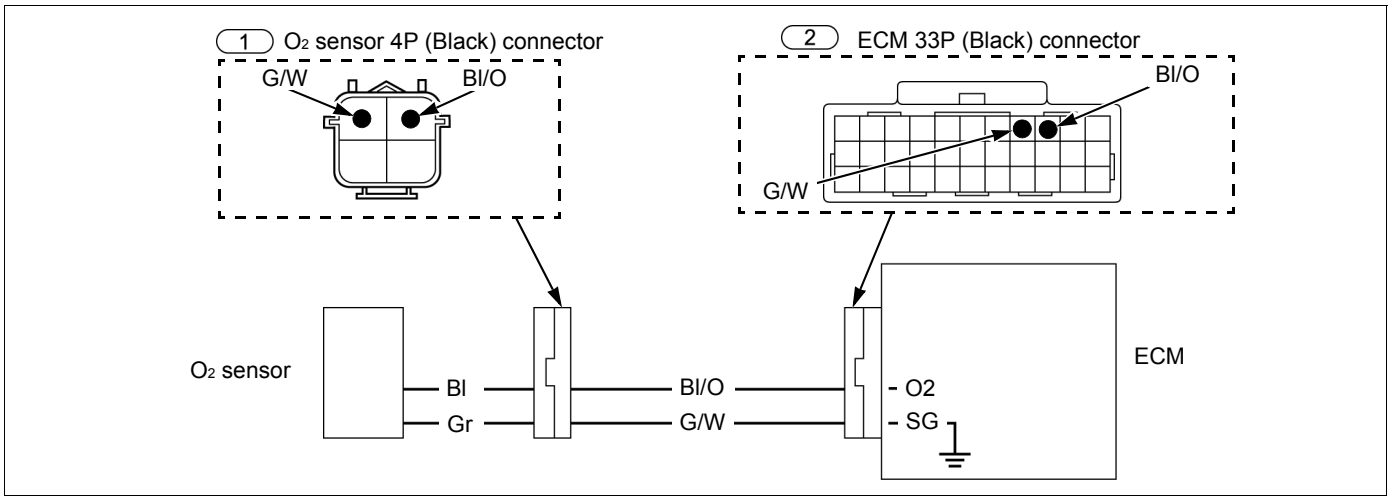
5. O_2 Sensor Inspection

- Replace the O_2 sensor with a new one. ➔4-26
- Erase the DTC's.
- Test-ride the vehicle and check the O_2 sensor with MCS.
- If DTC 21-1 is indicated, replace the ECM with a new one ➔4-25, and recheck.

DTC 21-2 (O_2 SENSOR HIGH VOLTAGE)

- Fuel tank lifting ➔4-52

O_2 Sensor Diagram



1. O_2 Sensor System Inspection

• Test-ride the vehicle and check the O_2 sensor with MCS. • Is the DTC 21-2 indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

Yes ▼

2. O_2 Sensor Circuit Inspection

• Check the open circuit in Bl/O and G/W wires. • Are there open circuit?	Yes ►	• Faulty Bl/O or G/W wire.

No ▼

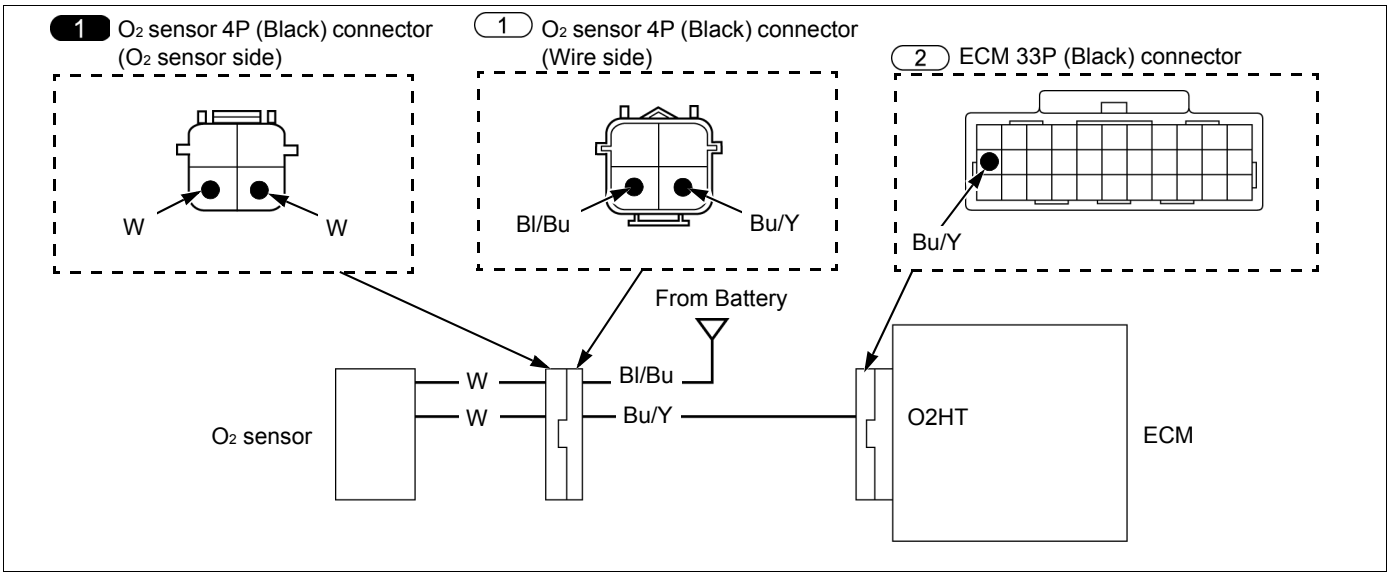
3. O_2 Sensor Inspection

- Replace the O_2 sensor with a new one. ➔4-26
- Erase the DTC's.
- Test-ride the vehicle and check the O_2 sensor with MCS.
- If DTC 21-2 is indicated, replace the ECM with a new one ➔4-25, and recheck.

DTC 23-1 (O_2 SENSOR HEATER)

- Fuel tank lifting ➔4-52

O_2 Sensor Heater Diagram



1. O_2 Sensor Heater System Inspection

• Erase the DTC's, and check the O_2 sensor heater with MCS. • Is the DTC 23-1 indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

Yes ▼

2. O_2 Sensor Heater Input Voltage Inspection

 • Connection: Bl/Bu (+) – Ground (–) • Does the battery voltage exist?	No ►	• Faulty Bl/Bu wire

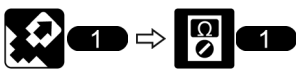
Yes ▼

3. O_2 Sensor Heater Signal Line Inspection

• Check a open or short circuit in Bu/Y wire. • Is there open or short circuit?	Yes ►	• Faulty Bu/Y wire

No ▼

3. O_2 Sensor Heater Resistance Inspection

 • Connection: W – W • Is the resistance within 13 – 19 Ω (20 °C)?	No ►	• Faulty O_2 sensor

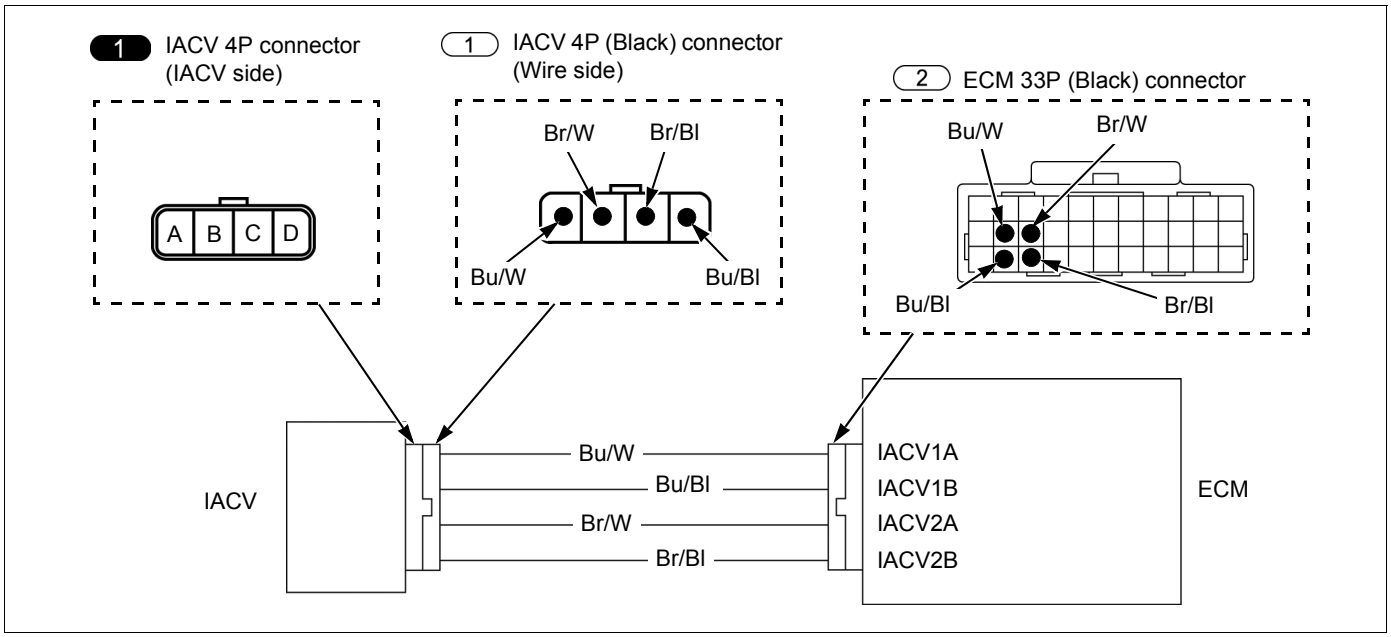
Yes ▼

- Replace the ECM with a new one ➔4-25, and recheck.

DTC 29-1 (IACV)

- Fuel tank lifting ➔4-52

IACV Diagram



1. IACV System Inspection

• Check the IACV with MCS. • Is the DTC 29-1 is indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

Yes ▼

2. IACV Circuit Inspection

• Check a open or short circuit in Bu/W, Br/W, Br/Bl and Bu/Bl wires. • Is there open or short circuit?	Yes ►	• Faulty Bu/W, Br/W, Br/Bl or Bu/Bl wire

No ▼

3. IACV Resistance Inspection

1 ⇨ 1 • Connection: A – D, B – C • Is the resistance within 110 – 150 Ω (25°C)?	No ►	• Faulty IACV

Yes ▼

4. IACV Short Circuit Inspection

• Connection: A – B, C – D • Is there continuity?	Yes ►	• Faulty IACV

No ▼

- Replace the ECM with a new one ➔4-25, and re-check.

DTC 33-2 (EEPROM)

1. EEPROM System Inspection

• Check the EEPROM with MCS. • Is the DTC 33-2 is indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

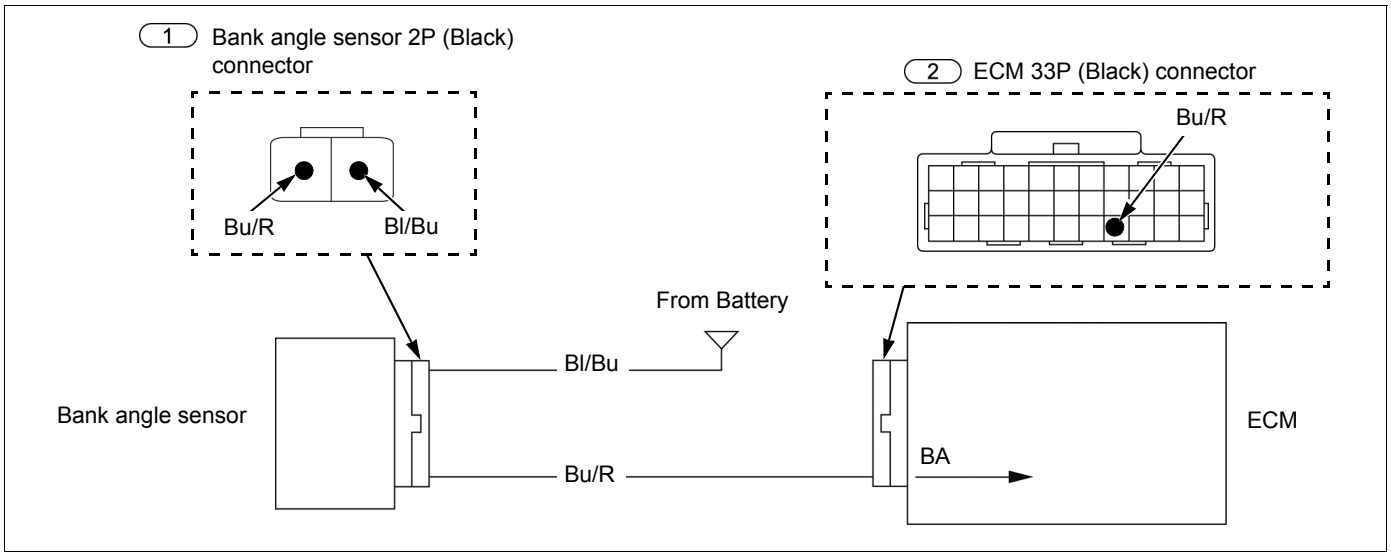
Yes ▼

- Replace the ECM with a new one ➔4-25, and re-check.

DTC 54-1 (BANK ANGLE SENSOR LOW VOLTAGE)

- Battery box ➔4-53

Bank Angle Sensor Diagram



1. Bank Angle Sensor System Inspection

• Check the bank angle sensor voltage with MCS. • Is the voltage about 0 V indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

Yes ▼

2. Bank Angle Sensor Power Input Voltage Inspection

 • Connection: Bl/Bu (+) – Ground (–) • Does the battery voltage exist?	No ►	• Faulty Bl/Bu wire

Yes ▼

3. Bank Angle Sensor Output Line Inspection

• Check a open or short circuit in Bu/R wire. • Is there open or short circuit?	Yes ►	• Faulty Bu/R wire

No ▼

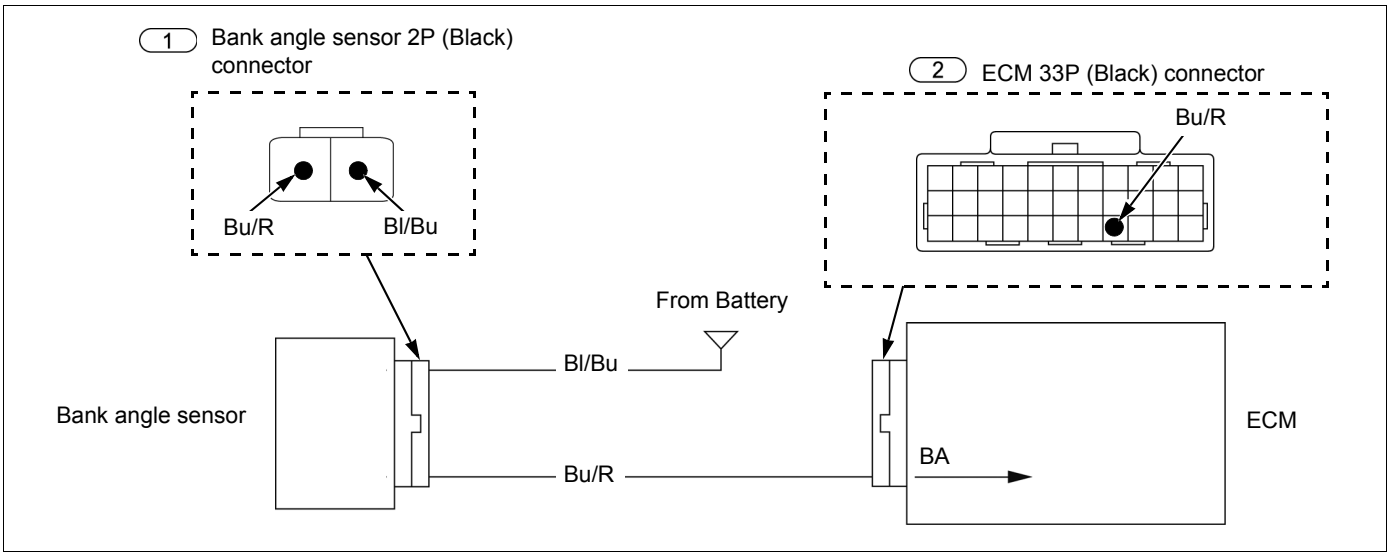
4. Bank Angle Sensor Inspection

- Replace the bank angle sensor with a new one. ➔4-26
- Erase the DTC's.
- Check the bank angle sensor with MCS.
- If DTC 54-1 is indicated, replace the ECM with a new one ➔4-25, and recheck.

DTC 54-2 (BANK ANGLE SENSOR HIGH VOLTAGE)

- Bank angle sensor (Connector is connected.) ➔4-26

Bank Angle Sensor Diagram



1. Bank Angle Sensor System Inspection

- Check the bank angle sensor voltage with MCS.
- Incline the bank angle sensor.
- Is the voltage decrease?

Yes ►

- Replace the ECM with a new one ➔4-25, and recheck.

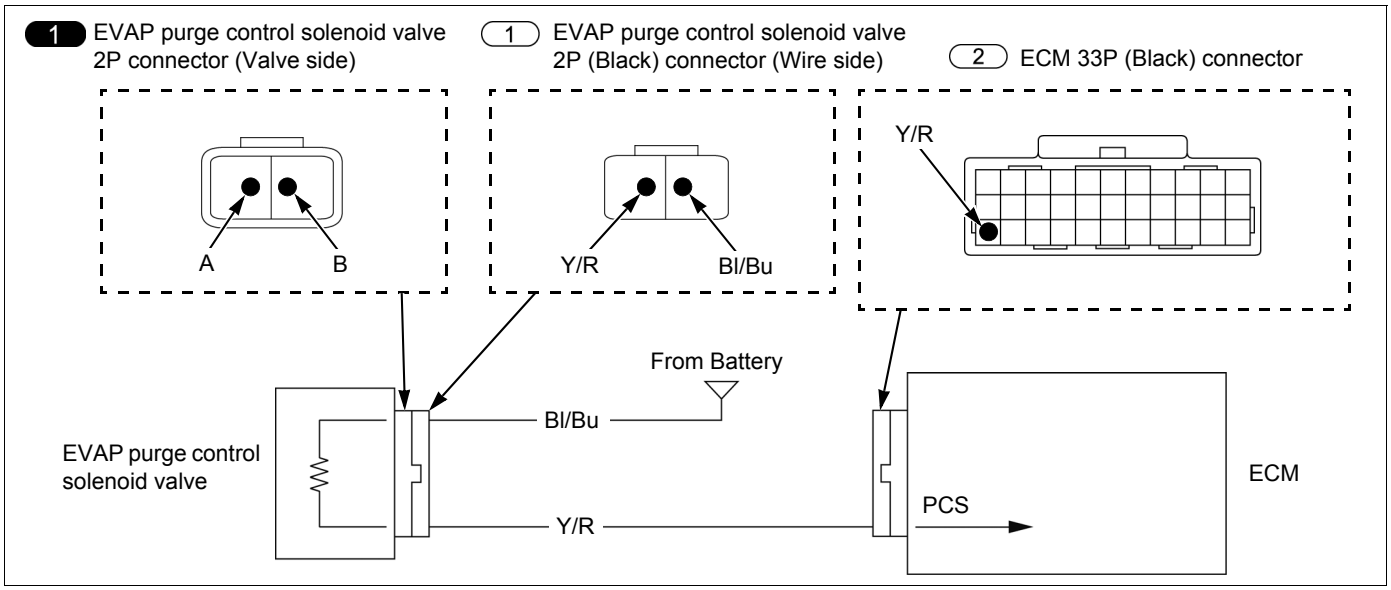
No ▼

- Replace the bank angle sensor with a new one ➔4-26, and recheck.

DTC 88-1 (EVAP PURGE CONTROL SOLENOID VALVE)

- Fuel tank lifting ➔4-52

EVAP Purge Control Solenoid Valve Diagram



1. EVAP Purge Control Solenoid Valve System Inspection

- Check the EVAP purge control solenoid valve with MCS.
- Is the DTC 88-1 indicated?

No ►
- Intermittent failure
- Loose or poor contact at the connector

Yes ▼

2. EVAP Purge Control Solenoid Valve Input Voltage Inspection

- Connection: Bl/Bu (+) – Ground (–)
- Does the battery voltage exist?

No ►
- Faulty Bl/Bu wire

Yes ▼

3. EVAP Purge Control Solenoid Valve Signal Line Inspection

- Check an open or short circuit in Y/R wire.
- Is there open or short circuit?

Yes ►
- Faulty Y/R wire

No ▼

4. EVAP Purge Control Solenoid Valve Resistance inspection

- Connection: A – B
- Is the resistance within 37 – 44 Ω (20°C)?

No ►
- Faulty EVAP purge control solenoid valve

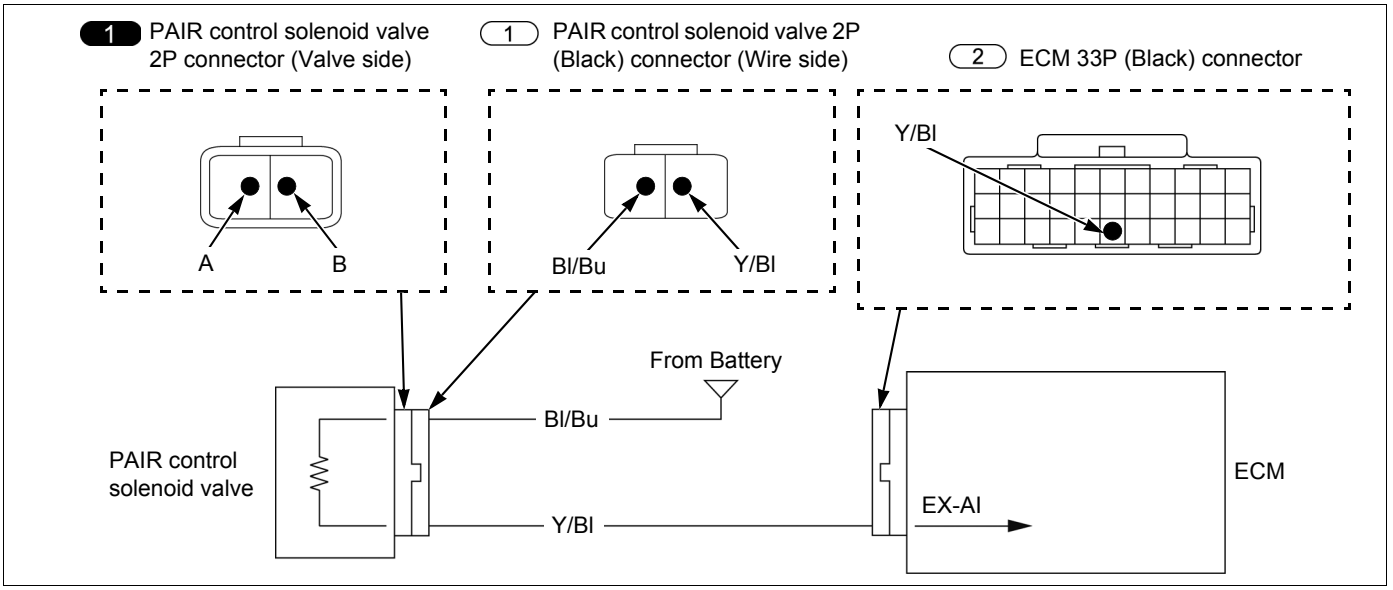
Yes ▼

- Replace the ECM with a new one ➔4-25, and re-check.

DTC 89-1 (PAIR CONTROL SOLENOID VALVE)

- Fuel tank lifting ➔4-52

PAIR Control Solenoid Valve Diagram



1. PAIR Control Solenoid Valve System Inspection

• Check the PAIR Control Solenoid Valve with MCS. • Is the DTC 89-1 indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

Yes ▼

2. PAIR Control Solenoid Valve Input Voltage Inspection

1 ⇨ ⇨ 1 • Connection: Bl/Bu (+) – Ground (–) • Does the battery voltage exist?	No ►	• Faulty Bl/Bu wire

Yes ▼

3. PAIR Control Solenoid Valve Signal Line Inspection

• Check an open or short circuit in Y/Bl wire. • Is there open or short circuit?	Yes ►	• Faulty Y/Bl wire

No ▼

4. PAIR Control Solenoid Valve Resistance Inspection

1 ⇨ 1 • Connection: A – B • Is the resistance within 20 – 24 Ω (20°C)?	No ►	• Faulty PAIR Control Solenoid Valve

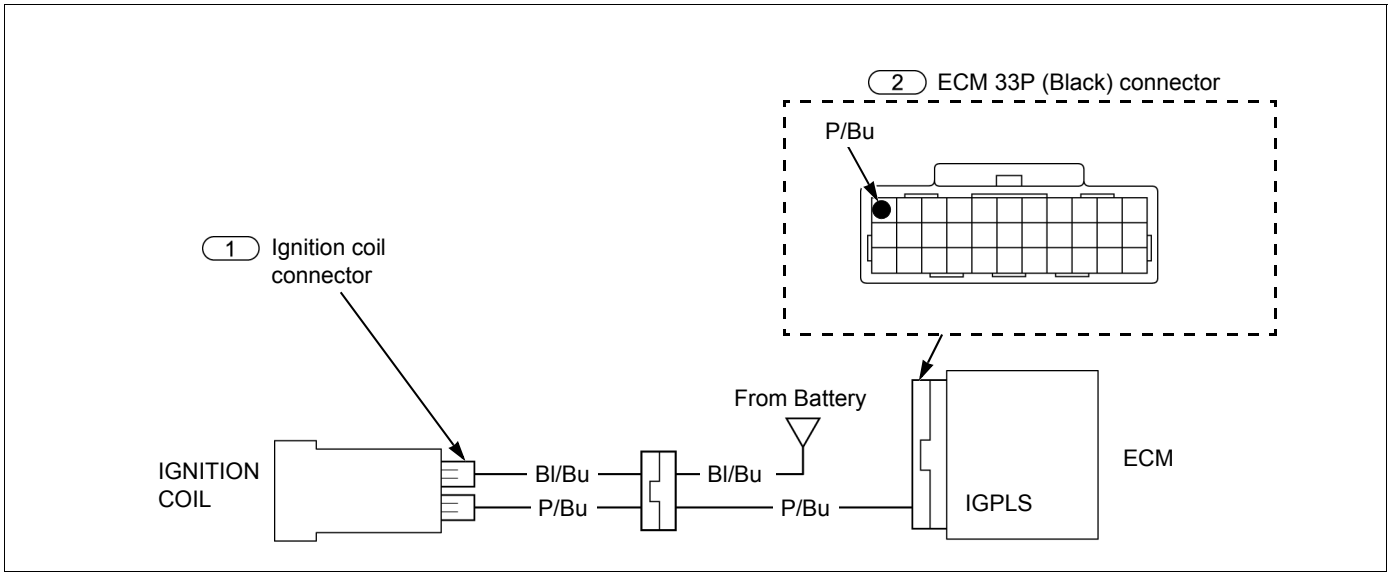
Yes ▼

- Replace the ECM with a new one ➔4-25, and re-check.

DTC 91-1 (IGNITION COIL PRIMARY CIRCUIT)

- Battery box ➔4-53

Ignition Coil Primary Circuit Diagram



1. Ignition Coil Primary Circuit System Inspection

• Check the Ignition coil with MCS. • Is the DTC 91-1 indicated?	No ►	• Intermittent failure • Loose or poor contact at the connector

Yes ▼

2. Ignition Coil Primary Circuit Input Voltage Inspection

1 ⇨ ⇨ 1 • Connection: Bl/Bu (+) – Ground (–) • Does the battery voltage exist?	No ►	• Faulty Bl/Bu wire

Yes ▼

3. Ignition Coil Primary Circuit Signal Line Inspection

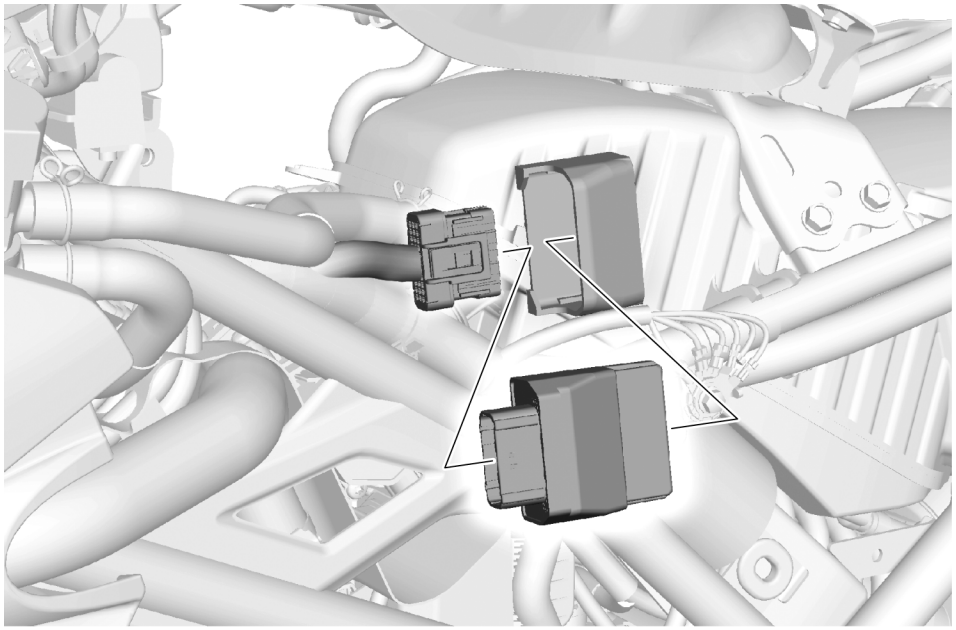
• Check an open or short circuit in P/Bu wire • Is there open or short circuit?	Yes ►	• Faulty P/Bu wire

No ▼

4. Ignition Coil Inspection

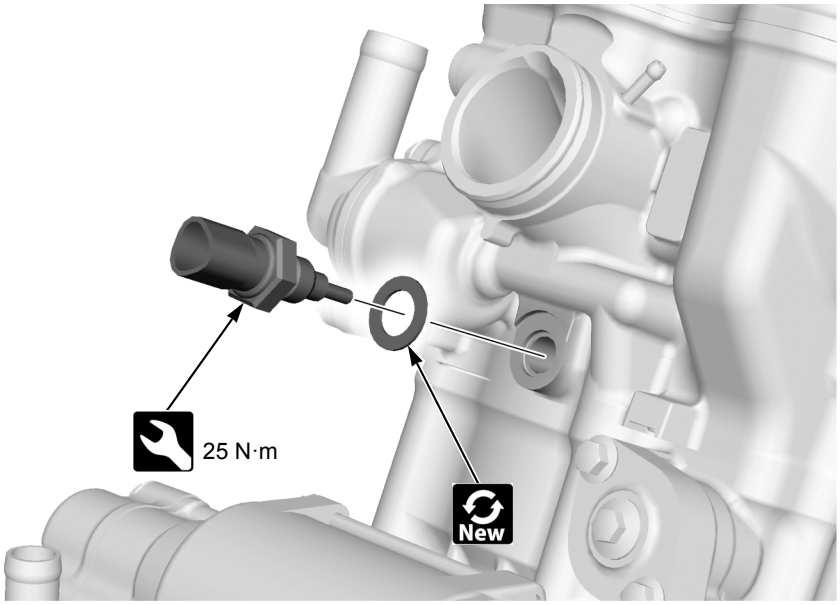
- Replace the ignition coil with a new one ➔4-53
- Erase the DTC's.
- Test-ride the vehicle and check the ignition coil with MCS.
- If DTC 91-1 is indicated, replace the ECM with a new one ➔4-25, and recheck.

ECM



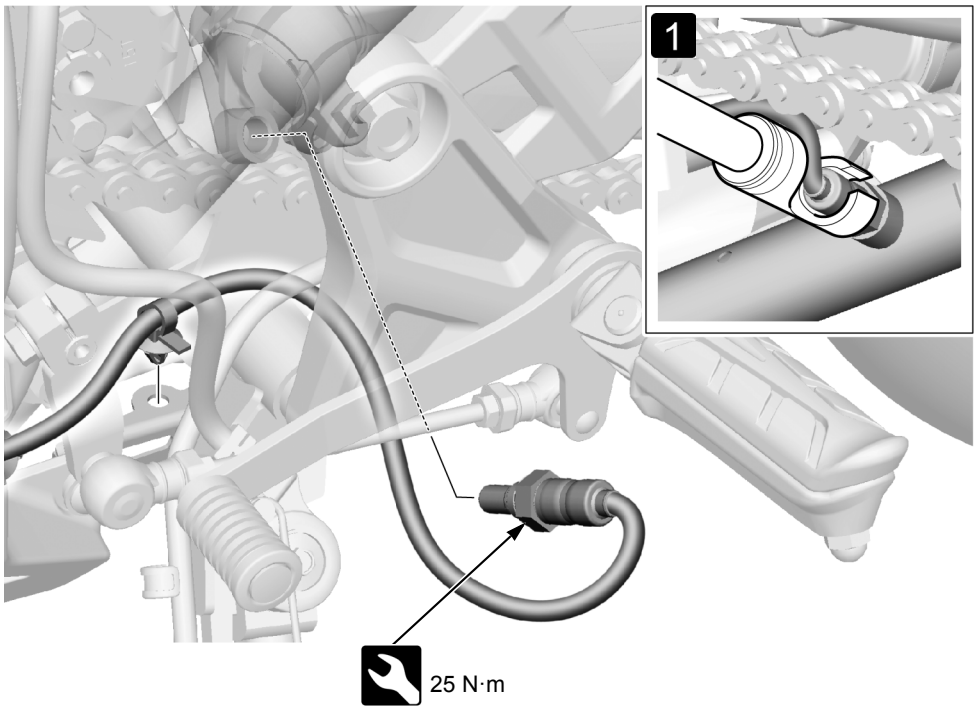
- Fuel tank lifting ➔4-52
- ECM power circuit and ground circuit inspection

ECT SENSOR



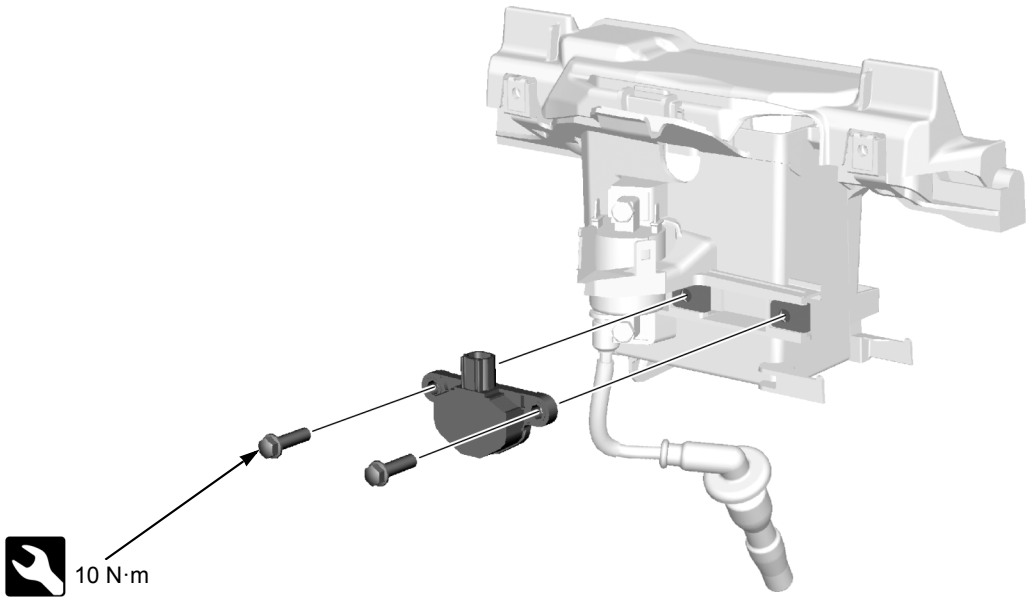
- Engine ➔2-40
- ECT sensor inspection

O_2 SENSOR



- Drive sprocket cover ➔3-10
- 1 Remove the O_2 sensor.
  Flare nut socket: FRXM17 (Snap on) or equivalent

BANK ANGLE SENSOR

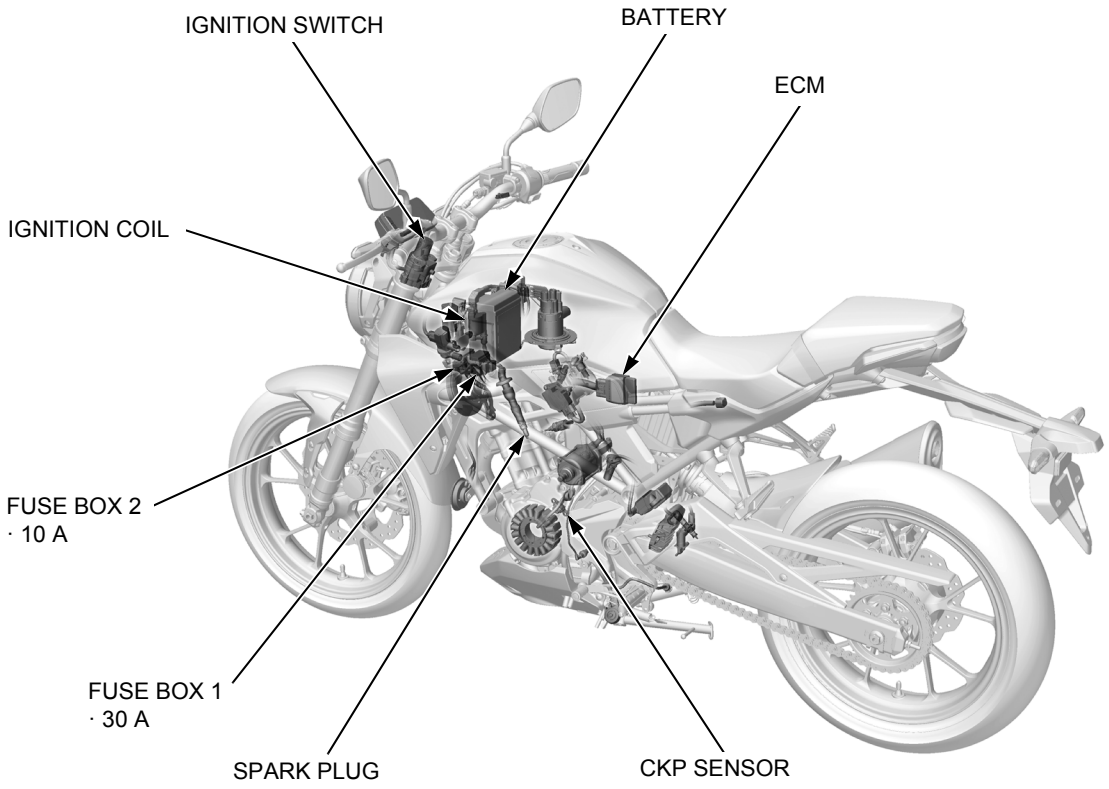


- Battery box ➔4-53

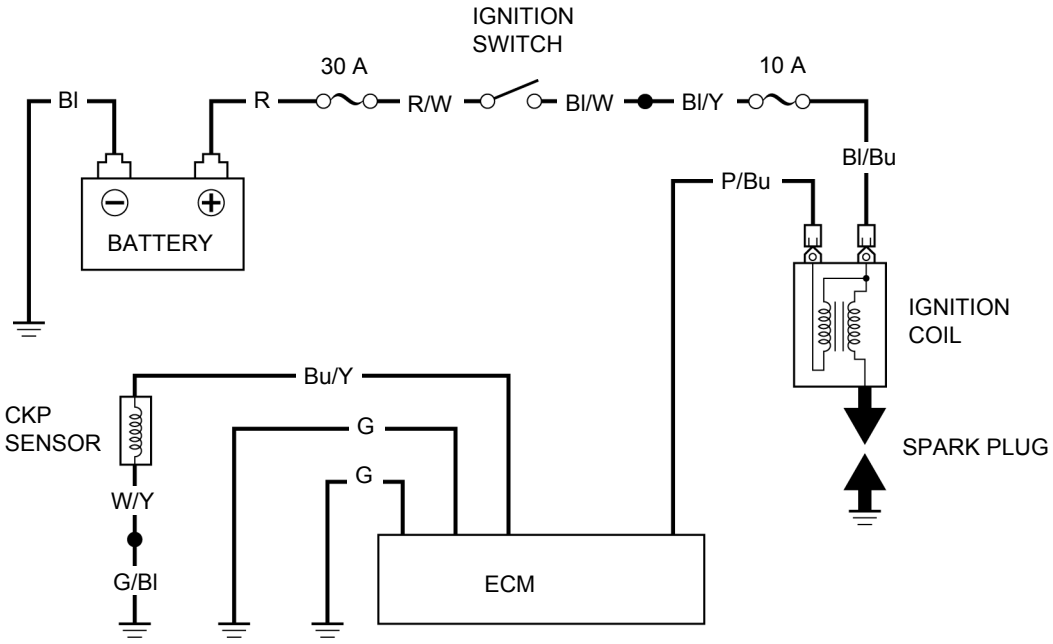
- Bank angle sensor inspection

IGNITION SYSTEM

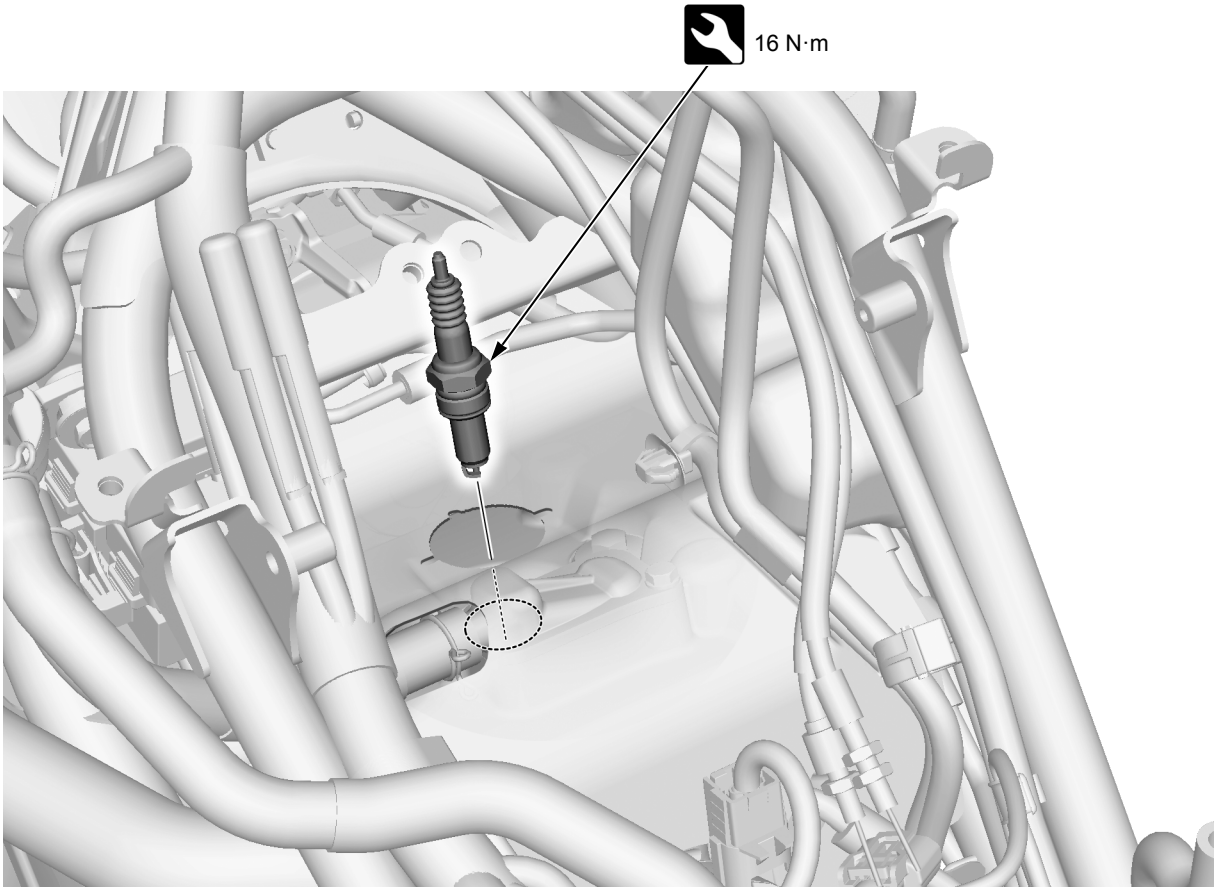
IGNITION SYSTEM LOCATION



IGNITION SYSTEM DIAGRAM



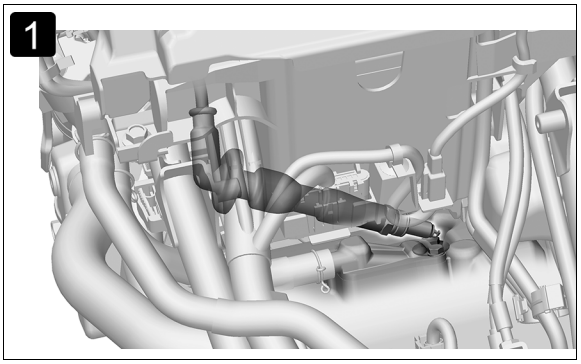
SPARK PLUG REPLACEMENT



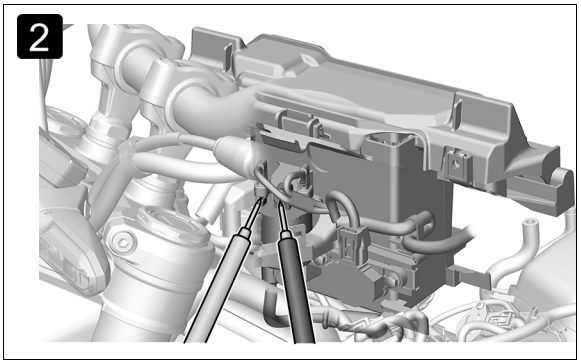
- Battery box ➔4-53
- Spark plug inspection

INSPECTION

IGNITION COIL PRIMARY PEAK VOLTAGE

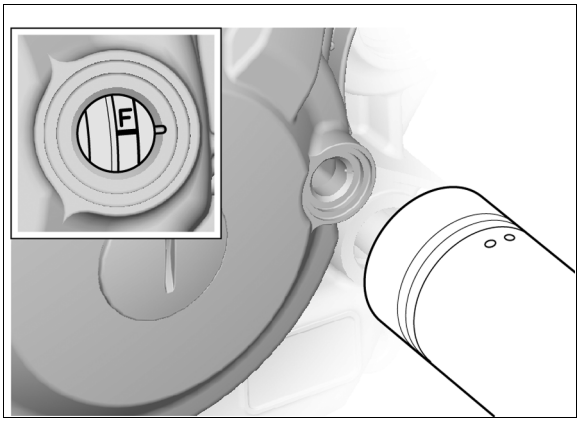


- Refer to "Basic Shop Manual" for the detail information of ignition coil primary peak voltage inspection.
- Battery box ➔4-53
- Temporarily install the wire harness by connecting battery and each connector.
- 1 Connect a known-good spark plug to the spark plug cap and ground it to the cylinder head bolt as done in a spark test.
- 2 With the ignition coil primary wires connected, connect the peak voltage adaptor probes to the ignition coil primary terminal and ground.
  CONNECTION: P/Bu (+) – Ground (–)



- Check the initial voltage at this time.
  STANDARD VOLTAGE: Battery voltage
- Shift the transmission into neutral.
- Crank the engine with the starter and measure the ignition coil primary peak voltage.
  PEAK VOLTAGE: 100 V minimum

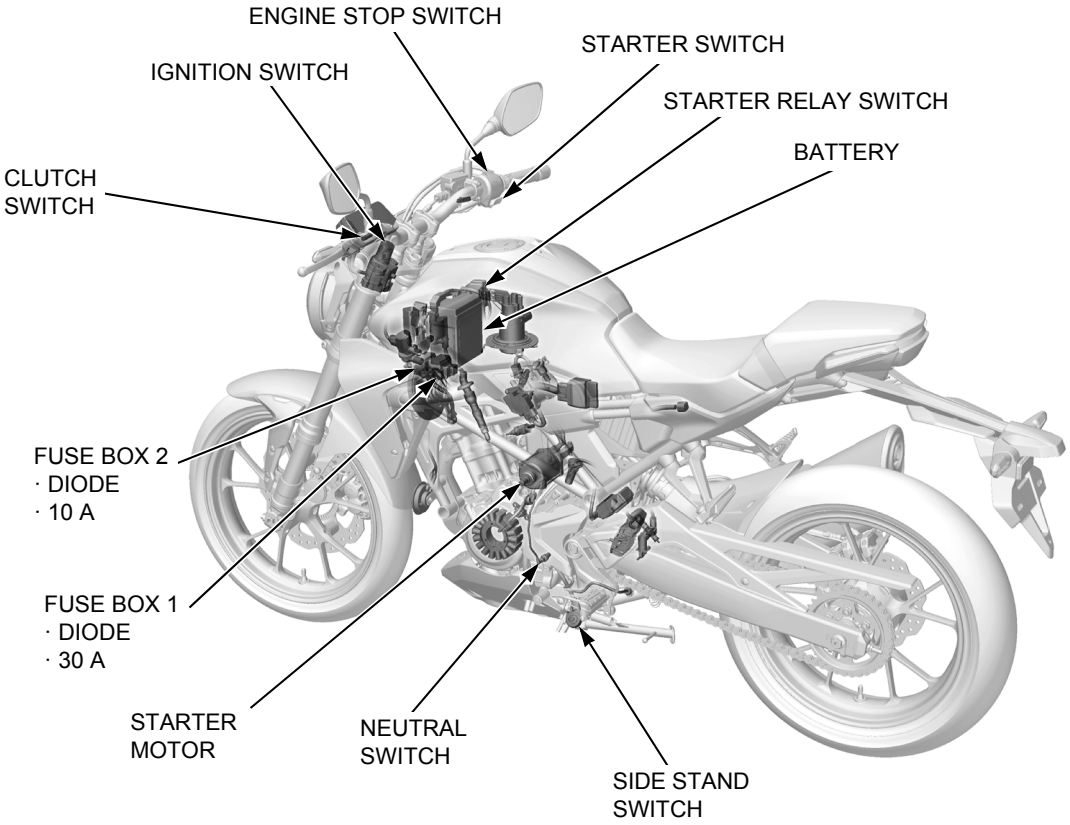
IGNITION TIMING



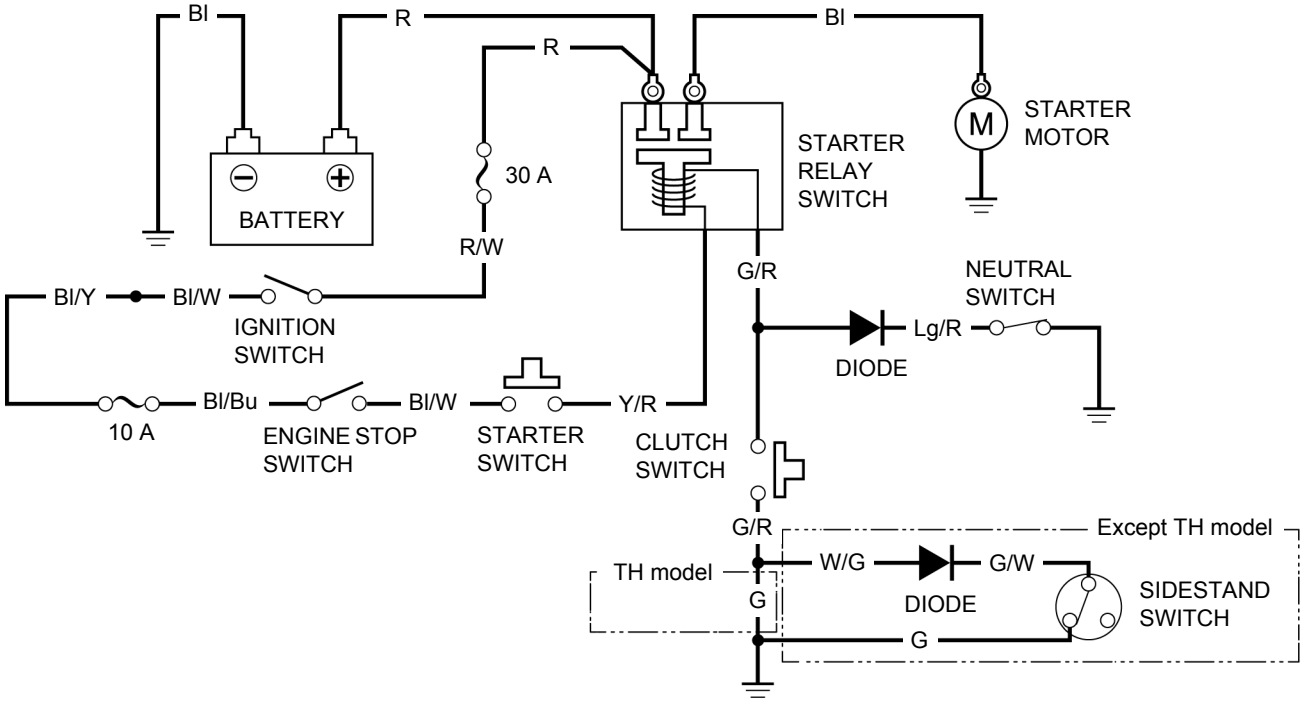
- Warm up the engine normal operating temperature.
- Timing hole cap ➔2-22
- Connect the timing light to the spark plug wire.
- Start the engine and let it idle
  IDLE SPEED: 1,400 ± 100 rpm
- The ignition timing is correct if the "F" mark on the flywheel aligns with the index notch on the left crankcase cover.

ELECTRICAL STARTER

ELECTRICAL STARTER SYSTEM LOCATION



ELECTRICAL STARTER SYSTEM DIAGRAM



ELECTRICAL STARTER TROUBLESHOOTING

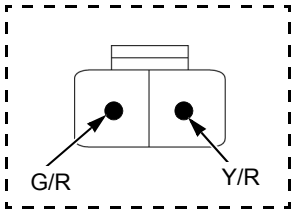
STARTER MOTOR DOES NOT TURN

- Fuel tank lifting ➔4-52

- Loose or poor contacts of related terminal/connector
- Battery condition
- Burned fuse

Connector Diagram

(1) Starter relay 2P (Black) connector



1. Starter Relay Coil Input Circuit Inspection

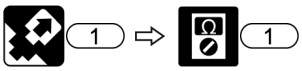
- Connection: Y/R (+) – Ground (–)
- Push and hold the starter switch.
- Does the battery voltage exist?

No ►

- Inspect the following.
  – Ignition switch
  – Starter switch
  – Engine stop switch
  – Starter relay coil input circuit related circuit

Yes ▼

2. Starter Relay Coil Ground Circuit Inspection



- Connection: G/R – Ground
- Squeeze the clutch lever or transmission in neutral position (TH model).
- Squeeze the clutch lever and retract the sidestand or shift the transmission in neutral position (Except TH model).
- Is there continuity?

No ►

- Inspect the following.
  – Diode
  – Clutch switch
  – Neutral switch
  – Sidestand switch (Except TH model)
  – Starter relay coil ground circuit related circuit

Yes ▼

3. Starter Relay Inspection

- Replace the starter relay with a new one, and recheck.
- Does the starter motor turn?

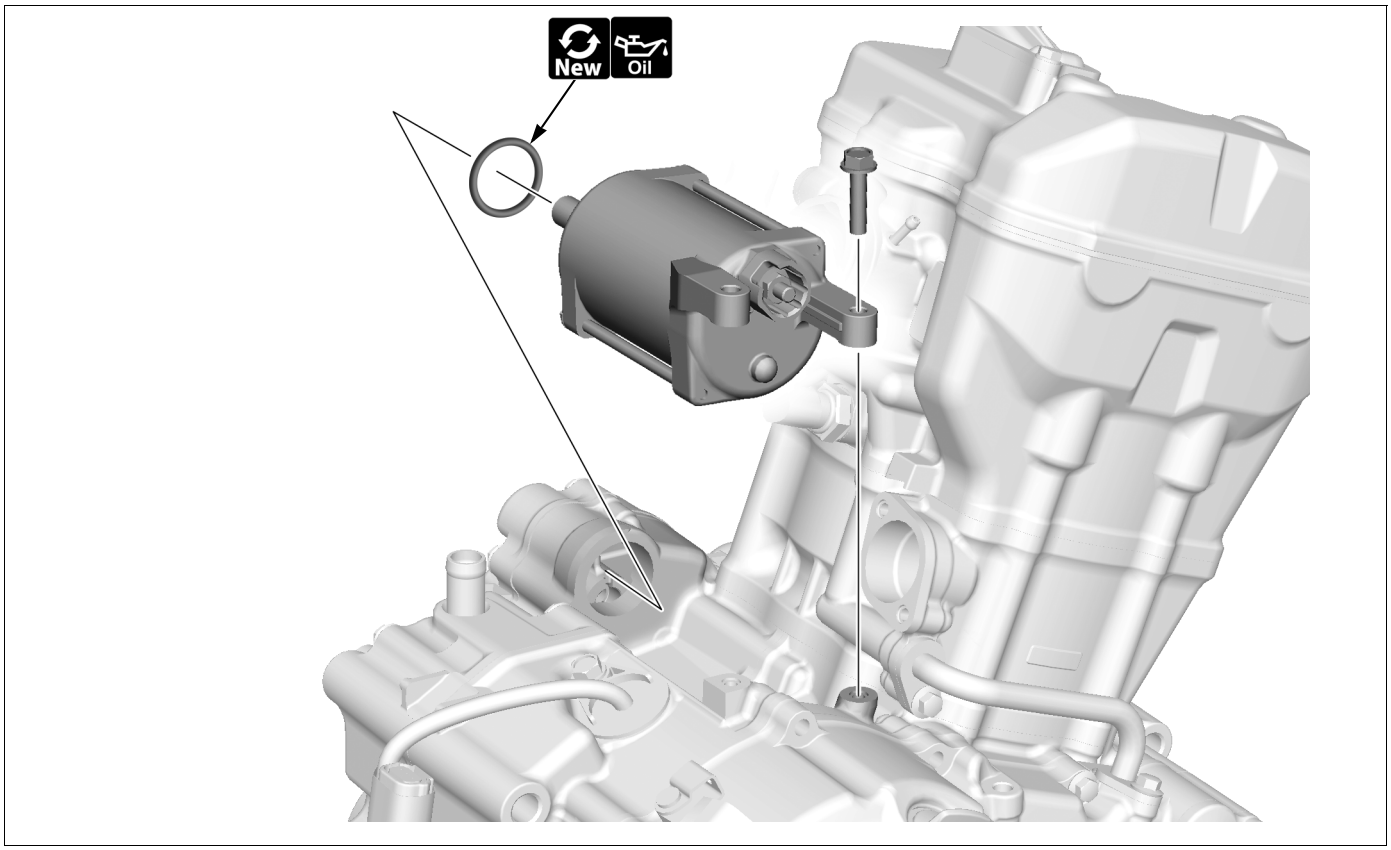
Yes ►

- Faulty original starter relay

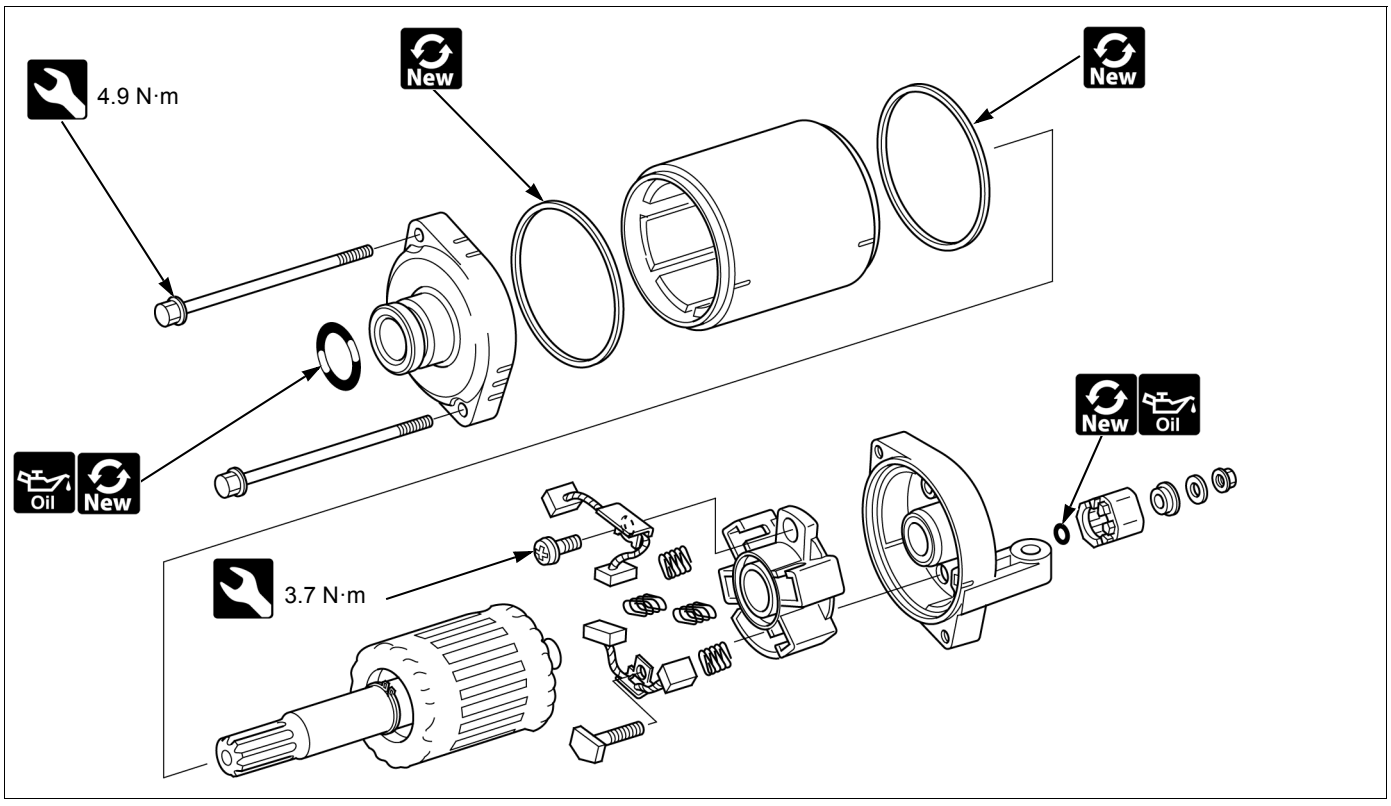
No ▼

- Check a short or open circuit in starter motor cable.
- If there is no faulty circuit, replace the Starter motor with a new one, and recheck.

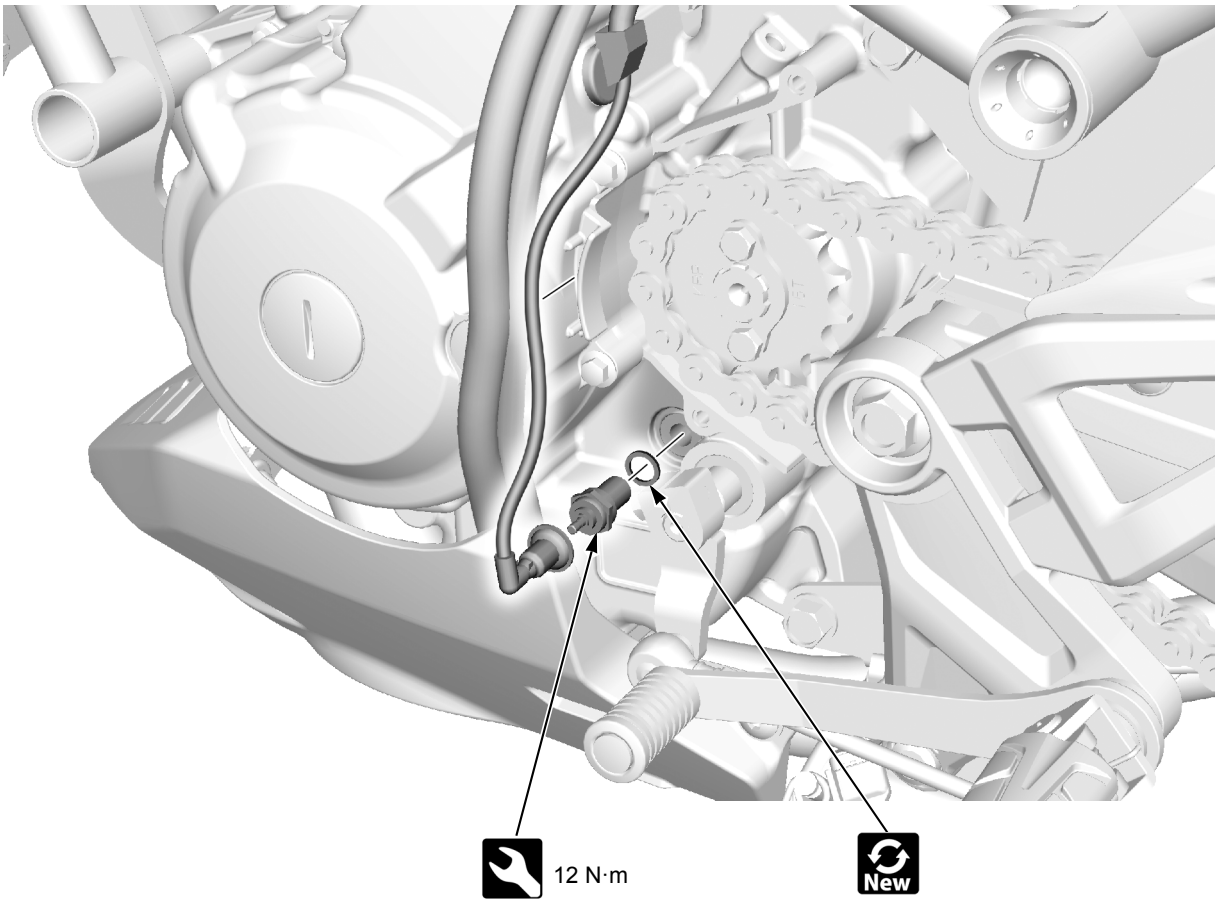
STARTER MOTOR



- Engine ➔2-40
- Cam chain tensioner ➔2-28



NEUTRAL SWITCH



- Engine oil ➔2-15
- Drive sprocket cover ➔3-10

ABS

- Refer to "Basic Shop manual" for the following information.
  – ABS technical feature and each function.
  – Troubleshooting for the ABS.
  – MCS (Motorcycle Communication System) information.

DTC CODE INDEX

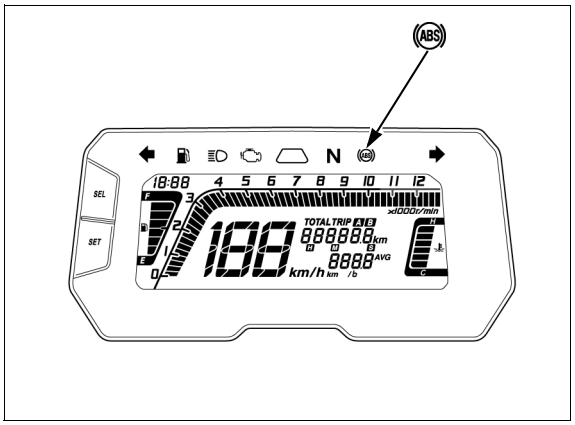
DTC	Function Failure	Detection		Symptom/Fail-safe function	Page
		*A	*B		
–	ABS indicator malfunction • ABS modulator voltage input line • Indicator related wires • Combination meter • ABS modulator • ABS ECU fuse (7.5A)			• ABS indicator never come ON at all	➔4-38
				• ABS indicator stays ON	➔4-38
1-1	Front wheel speed sensor circuit inspection • Wheel speed sensor or related wires	○	○	• Stops ABS operation	➔4-40
1-2	Front wheel speed sensor malfunction • Wheel speed sensor, pulser ring or related wires • Electromagnetic interference		○	• Stops ABS operation	➔4-40
1-3	Rear wheel speed sensor circuit malfunction • Wheel speed sensor or related wires	○	○	• Stops ABS operation	➔4-41
1-4	Rear wheel speed sensor malfunction • Wheel speed sensor, pulser ring or related wires • Electromagnetic interference		○	• Stops ABS operation	➔4-41
2-1	Front pulser ring • Pulser ring or related wires		○	• Stops ABS operation	➔4-40
2-3	Rear pulser ring • Pulser ring or related wires		○	• Stops ABS operation	➔4-41
3-1 3-2 3-3 3-4	Solenoid valve malfunction (ABS modulator)	○	○	• Stops ABS operation	➔4-42
4-1	Front wheel lock • Riding condition		○	• Stops ABS operation	➔4-40
4-2	Front wheel lock (Wheelie) • Riding condition		○		
4-3	Rear wheel lock • Riding condition		○	• Stops ABS operation	➔4-41
5-1	Pump motor lock • Pump motor (ABS modulator) or related wires • ABS MOTOR fuse (30A)	○	○	• Stops ABS operation	➔4-43
5-2	Pump motor stuck off • Pump motor (ABS modulator) or related wires • ABS MOTOR fuse (30A)	○	○	• Stops ABS operation	➔4-43
5-3	Pump motor stuck on • Pump motor (ABS modulator) or related wires • ABS MOTOR fuse (30A)	○	○	• Stops ABS operation	➔4-43
5-4	Power supply relay malfunction • Power supply relay (ABS modulator) or related wires • ABS SOL fuse (20A)	○	○	• Stops ABS operation	➔4-44

DTC	Function Failure	Detection		Symptom/Fail-safe function	Page
		*A	*B		
6-1	Power circuit under voltage • Input footage (too low) • ABS ECU fuse (7.5A)	○	○	• Stops ABS operation	➔4-45
6-2	Power circuit over voltage • Input voltage (too high)	○	○	• Stops ABS operation	➔4-45
7-1	Tire malfunction • Tire size • Incorrect sprocket gear ratio (Sprockets not recommended for the vehicle are installed.)		○	• Stops ABS operation	➔4-46
8-1	ABS control unit • ABS control unit malfunction (ABS modulator)	○	○	• Stops ABS operation	➔4-46
8-3	IMU acceleration malfunction • IMU or related wires • ABS ECU fuse (7.5 A)	○	○	• Stops ABS operation	➔4-47
8-4	IMU angle rate malfunction • IMU or related wires • ABS ECU fuse (7.5 A)	○	○	• Stops ABS operation	➔4-47
8-5	IMU circuit malfunction • IMU or related wires • ABS ECU fuse (7.5 A)	○	○	• Stops ABS operation	➔4-47

*A: Pre-start self-diagnosis

*B: Ordinary self-diagnosis: diagnoses while the vehicle is running (after pre-start self-diagnosis)

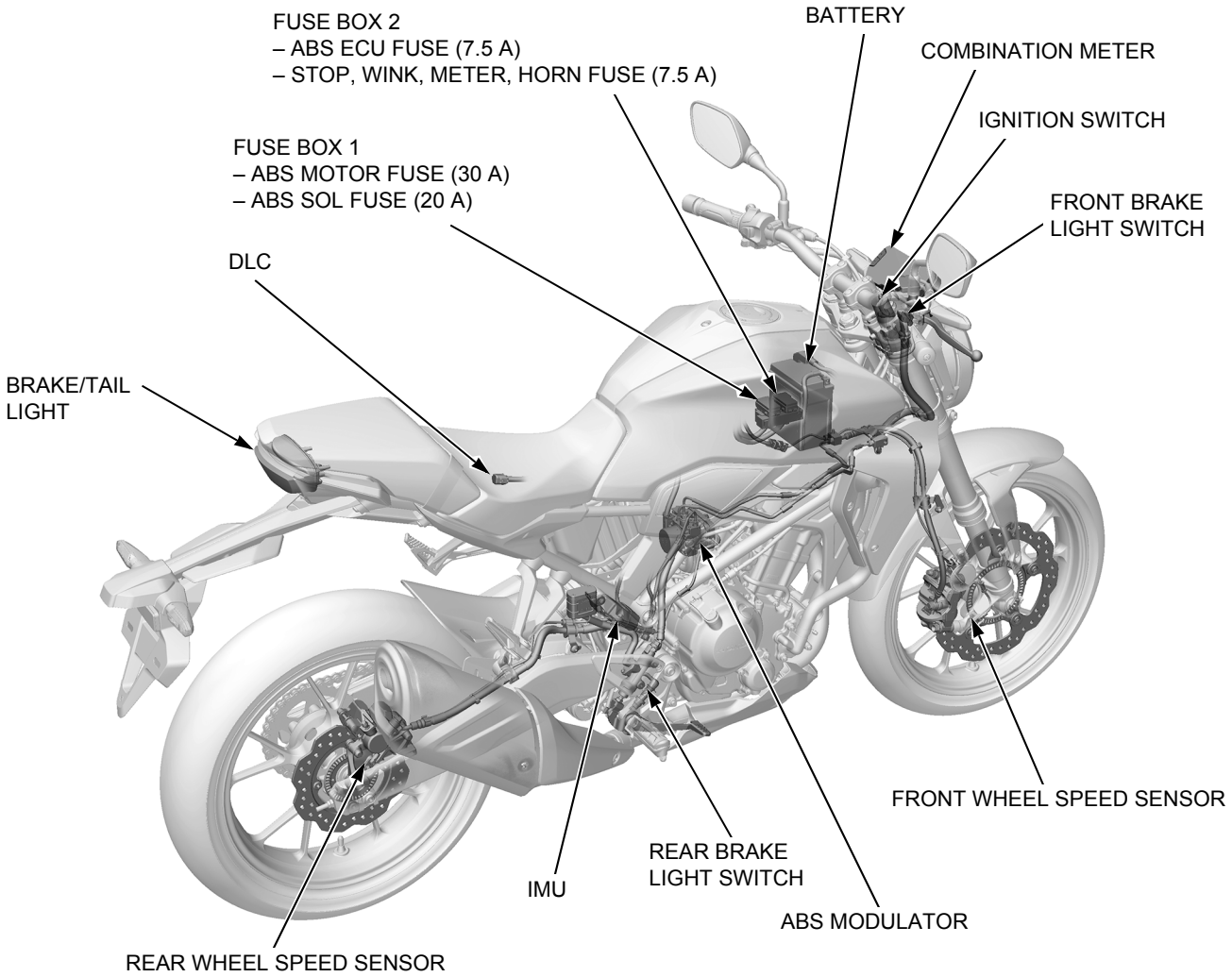
How To Erase the DTC Without MCS



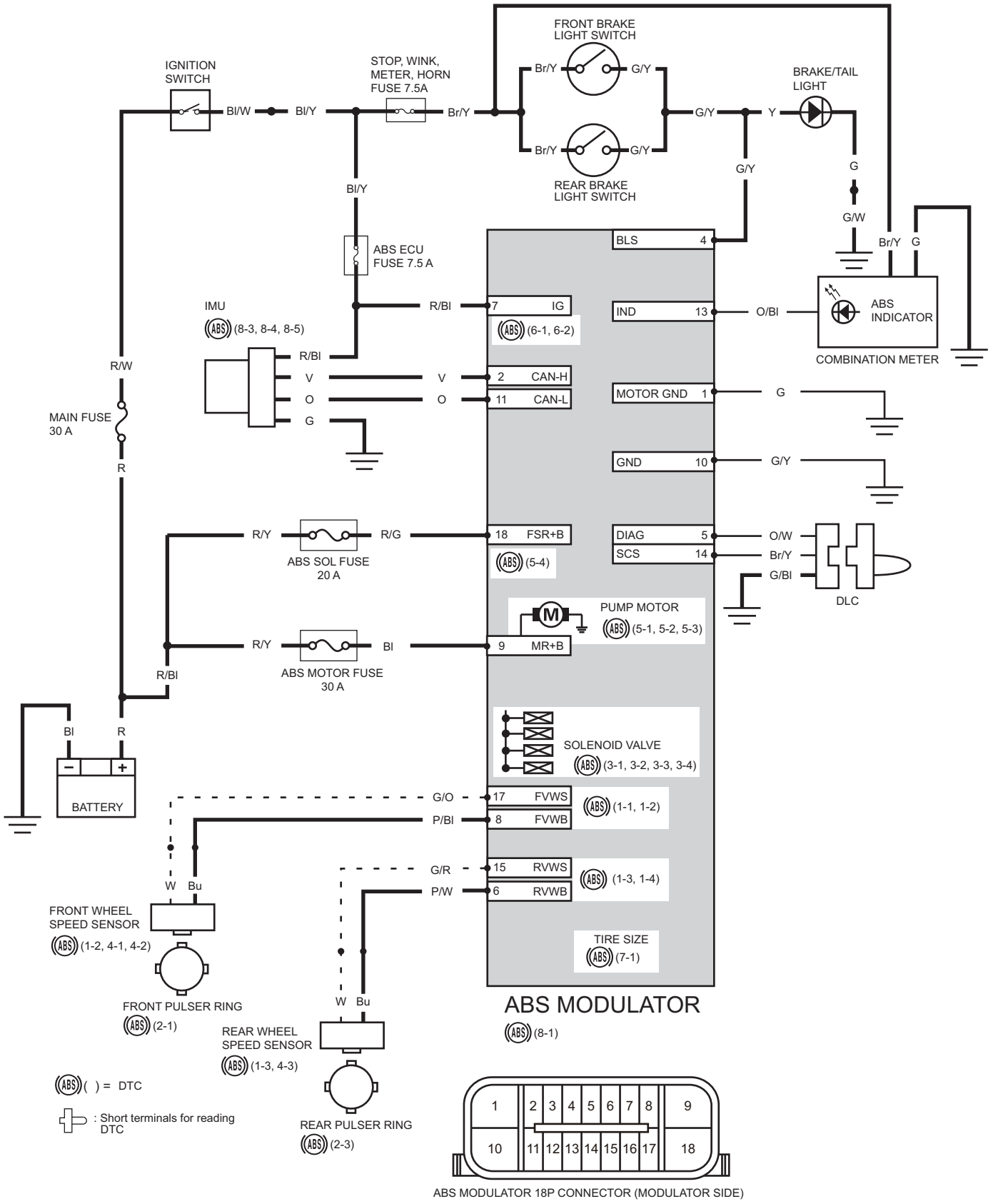
- Connect the DLC.
- Squeeze the brake lever.

- The ABS indicator should come on 2 seconds and go off.
- After the ABS indicator is off, release the brake lever immediately.
- After the ABS indicator is on, squeeze the brake lever immediately.
- After the ABS indicator is off, release the brake lever immediately.
  - When code erasure is complete, the ABS indicator blinks 2 times and stay on.
  - If the ABS indicator does not blink, the data has not been erased, so try again.

ABS LOCATION



ABS DIAGRAM


FRONT BRAKE LIGHT SWITCH
IGNITION SWITCH
STOP, WINK, METER, HORN FUSE 7.5A
BRAKE/TAIL LIGHT
Br/Y
G/Y
Bl/W
Bl/Y
Br/Y
G/Y
Y
REAR BRAKE LIGHT SWITCH
G/Y
G
G/W
Br/Y
G
ABS ECU FUSE 7.5 A
BLS 4
IMU
(8-3, 8-4, 8-5)
R/Bl
7 IG
(6-1, 6-2)
IND 13
O/Bl
ABS INDICATOR
COMBINATION METER
R/Bl
V
O
G
2 CAN-H
11 CAN-L
MOTOR GND 1
G
R/W
MAIN FUSE 30 A
R
GND 10
G/Y
R/Y
R/G
ABS SOL FUSE 20 A
18 FSR+B
(5-4)
DIAG 5
SCS 14
O/W
Br/Y
G/Bl
DLC
PUMP MOTOR
(5-1, 5-2, 5-3)
R/Y
Bl
ABS MOTOR FUSE 30 A
9 MR+B
R/Bl
Bl
R
BATTERY
SOLENOID VALVE
(3-1, 3-2, 3-3, 3-4)
G/O
17 FVWS
(1-1, 1-2)
P/Bl
8 FVWB
G/R
15 RVWS
(1-3, 1-4)
P/W
6 RVWB
W
Bu
FRONT WHEEL SPEED SENSOR
(1-2, 4-1, 4-2)
TIRE SIZE
(7-1)
FRONT PULSER RING
(2-1)
ABS MODULATOR
(8-1)
W
Bu
REAR WHEEL SPEED SENSOR
(1-3, 4-3)
( ) = DTC
: Short terminals for reading DTC
REAR PULSER RING
(2-3)
1 2 3 4 5 6 7 8 9
10 11 12 13 14 15 16 17 18
ABS MODULATOR 18P CONNECTOR (MODULATOR SIDE)

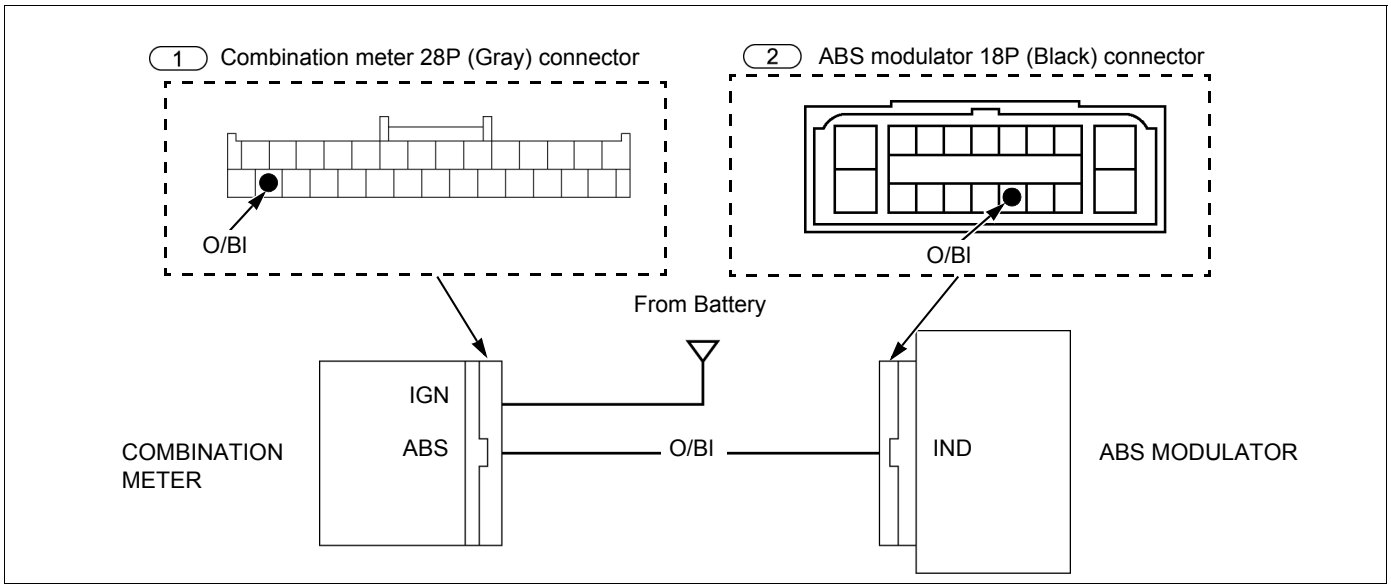
DTC TROUBLESHOOTING

- Before starting this troubleshooting, check the burned fuse and initial function of the meter.
- Use a fully charged battery. Do not diagnose with a charger connected to the battery.
- Perform inspection with the ignition switch OFF, unless otherwise specified.
- All connector diagrams in the troubleshooting are viewed from the terminal side.
- When the ABS modulator assembly is detected to be faulty, recheck the wire harness and connector connections closely before replacing it.
- After diagnostic troubleshooting, erase the DTC and test-ride the vehicle to check that the ABS indicator operates normally during pre-start self-diagnosis.

ABS indicator malfunction

- Meter cover ➔4-54

ABS indicator does not come ON (When the ignition switch ON)



1. ABS Indicator Inspection

2 ⇨

- Check the ABS indicator.
- Does not the ABS indicator come on?

Yes ►

- Faulty ABS modulator

No ▼

2. ABS indicator Line Inspection

- Check a short circuit in O/Bl wire.
- Is there short circuit?

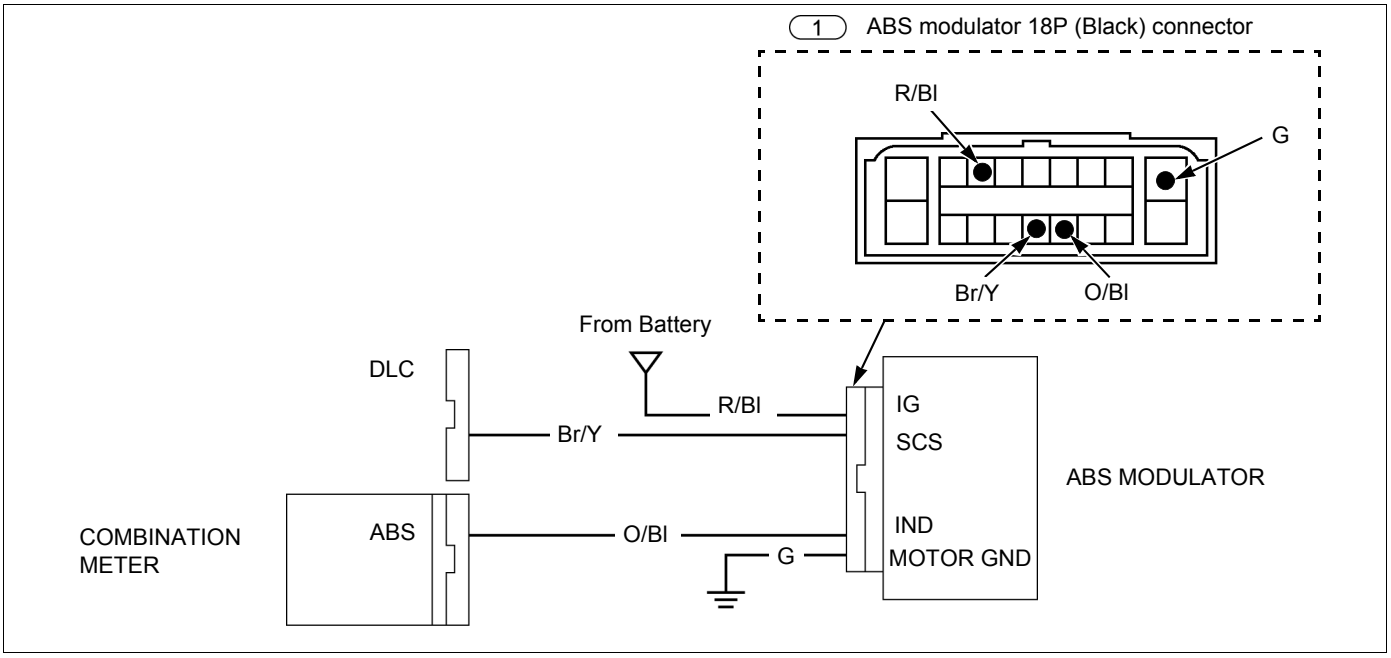
No ►

- Faulty combination meter

Yes ▼

- Faulty O/Bl wire

ABS indicator stays ON (Indicator does not go off when the motorcycle is running, but DTC is not stored)



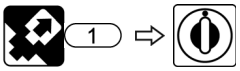
1. Service Check Line Inspection

- Check a short circuit in Br/Y wire.
- Is there short circuit?

Yes ► • Faulty Br/Y wire

No ▼

2. ABS Indicator Line Inspection



- Install a jumper wire between the terminal and ground.
  Jumper terminal: O/Bl
- Does the ABS indicator go off?

No ► • Faulty O/Bl wire
• If wire is ok, faulty combination meter.

Yes ▼

3. ABS Modulator Ground Line Inspection

- Check an open circuit in G wire.
- Is there open circuit?

Yes ► • Faulty G wire

No ▼

4. ABS Modulator Power Line Inspection

- Connection: R/Bl (+) – Ground (–)
- Does the battery voltage exist?

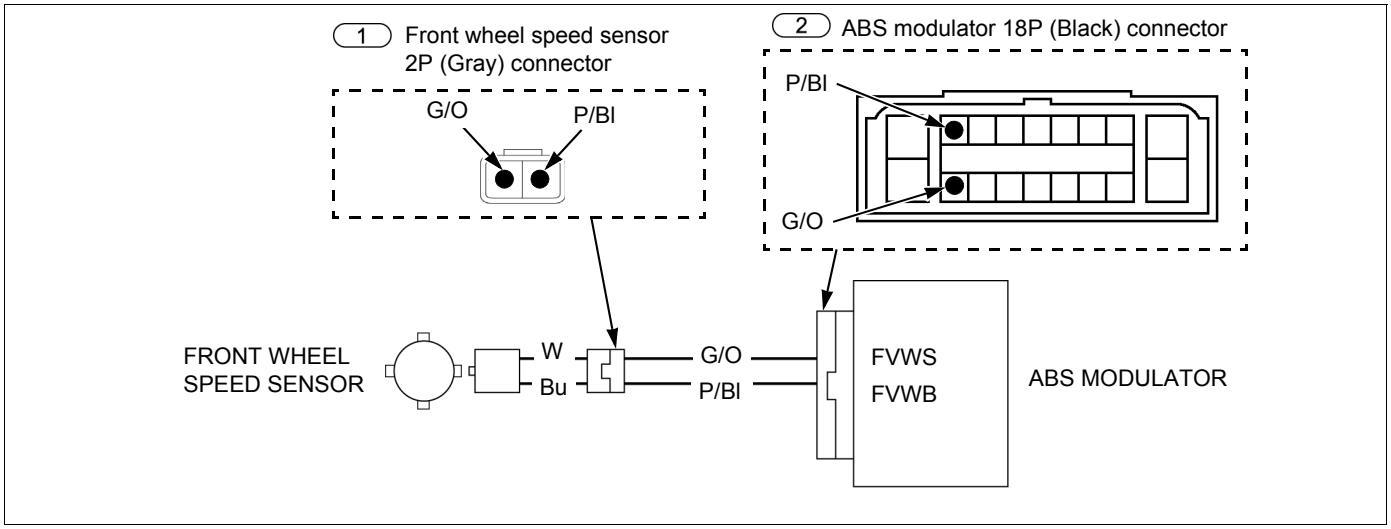
No ► • Faulty R/Bl wire

Yes ▼

- Faulty ABS modulator

DTC 1-1, 1-2, 2-1, 4-1, 4-2

(Front wheel speed sensor circuit / Front wheel speed sensor / Front pulser ring / Front wheel lock)



1. Air Gap Inspection

• Measure the air gap. • Is the air gap correct?	No ►	• Check each part for deformation, looseness and correct accordingly. Recheck the air gap.

Yes ▼

2. Speed Sensor and Pulser Ring Inspection

• Check the speed sensor and pulser ring. • Are the sensor and pulser ring in good condition and properly installed?	No ►	• Remove any deposits. • Install properly or replace faulty part.

Yes ▼

3. Speed Sensor Line Inspection 1

1 2 • Install a jumper wire between the terminals. Jumper terminal: G/O and P/Bl • Check the continuity between the above wires. • Is there continuity?	No ►	• Faulty G/O or P/Bl wire

Yes ▼

4. Speed Sensor Line Inspection 2

• Check a short circuit in Bu, P/Bl, W, G/O wire. • Is there short circuit?	Yes ►	• Faulty Bu or P/Bl or W or G/O wire

No ▼

5. Failure Reproduction

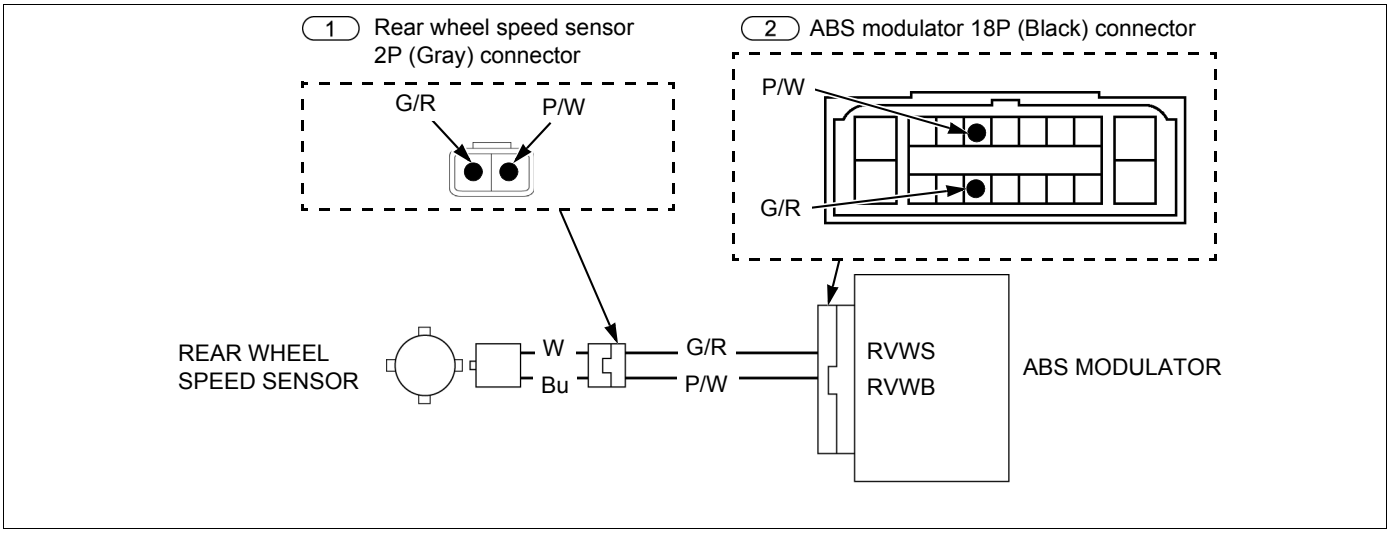
• Replace the speed sensor with a new one. ➔4-49 • Erase the DTC and test-ride the vehicle above 30 km/h, then recheck the DTC. • Is the DTC 1-1, 1-2, 2-1, 4-1, 4-2 indicated?	No ►	• Faulty original speed sensor

Yes ▼

• Faulty ABS modulator

DTC 1-3, 1-4, 2-3, 4-3

(Rear wheel speed sensor circuit / Rear wheel speed sensor / Rear pulser ring/ Rear wheel lock)



1. Air Gap Inspection

• Measure the air gap. • Is the air gap correct?	No ►	• Check each part for deformation, looseness and correct accordingly. Recheck the air gap.

Yes ▼

2. Speed Sensor and Pulser Ring Inspection

• Check the speed sensor and pulser ring. • Are the sensor and pulser ring in good condition and properly installed?	No ►	• Remove any deposits. • Install properly or replace faulty part.

Yes ▼

3. Speed Sensor Line Inspection 1

 • Install a jumper wire between the terminals. Jumper terminal: G/R and P/W • Check the continuity between the above wires. • Is there continuity?	No ►	• Faulty G/R or P/W wire

Yes ▼

4. Speed Sensor Line Inspection 2

• Check a short circuit in Bu, P/W, W, G/R wire. • Is there short circuit?	Yes ►	• Faulty Bu or P/W or W or G/R wire

No ▼

5. Failure Reproduction

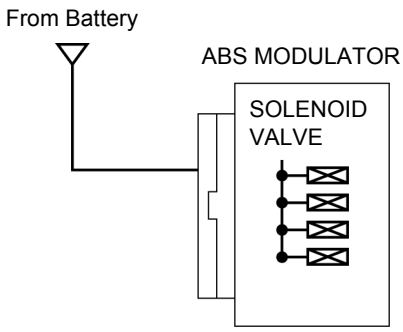
• Replace the speed sensor with a new one. ➔4-49 • Erase the DTC and test-ride the vehicle above 30 km/h, then recheck the DTC. • Is the DTC 1-3, 1-4, 2-3, 4-3 indicated?	No ►	• Faulty original speed sensor

Yes ▼

• Faulty ABS modulator

DTC 3-1, 3-2, 3-3, 3-4

(Solenoid Valve malfunction)



1. Failure Reproduction

- Erase the DTC and test-ride the vehicle above 30 km/h, then recheck the DTC.
- Is the DTC 3-1, 3-2, 3-3, 3-4 indicated?

No ►

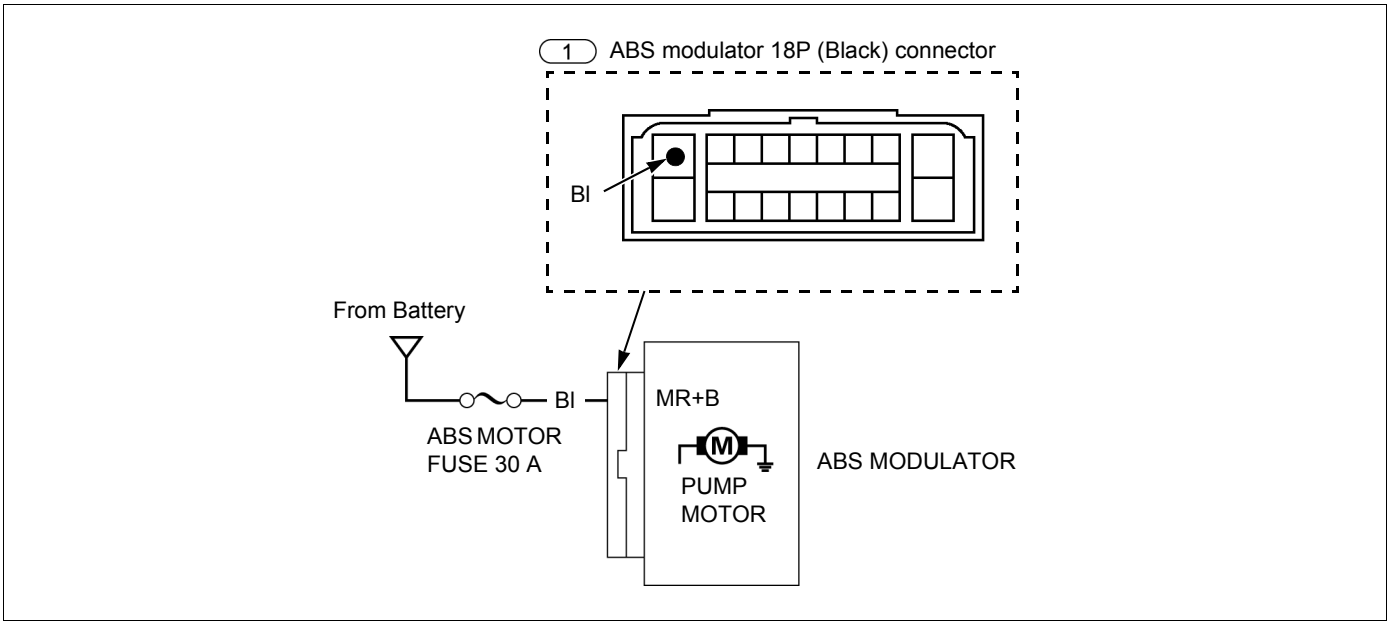
- Intermittent failure

Yes ▼

- Faulty ABS modulator

DTC 5-1, 5-2, 5-3

(Pump Motor Lock / Pump motor stuck off / Pump motor stuck on)



1. ABS Modulator Power Line Inspection 1

- Connection: BI (+) – Ground
- Does the battery voltage exist?

No ►

- Faulty BI wire

Yes ▼

2. ABS Modulator Power Line Inspection 2

- Check a short circuit in BI wire.
- Is there short circuit?

Yes ►

- Faulty BI wire

No ▼

3. Failure Reproduction

- Erase the DTC and test-ride the vehicle above 30 km/h, then recheck the DTC.
- Is the DTC 5-1, 5-2, 5-3 indicated?

No ►

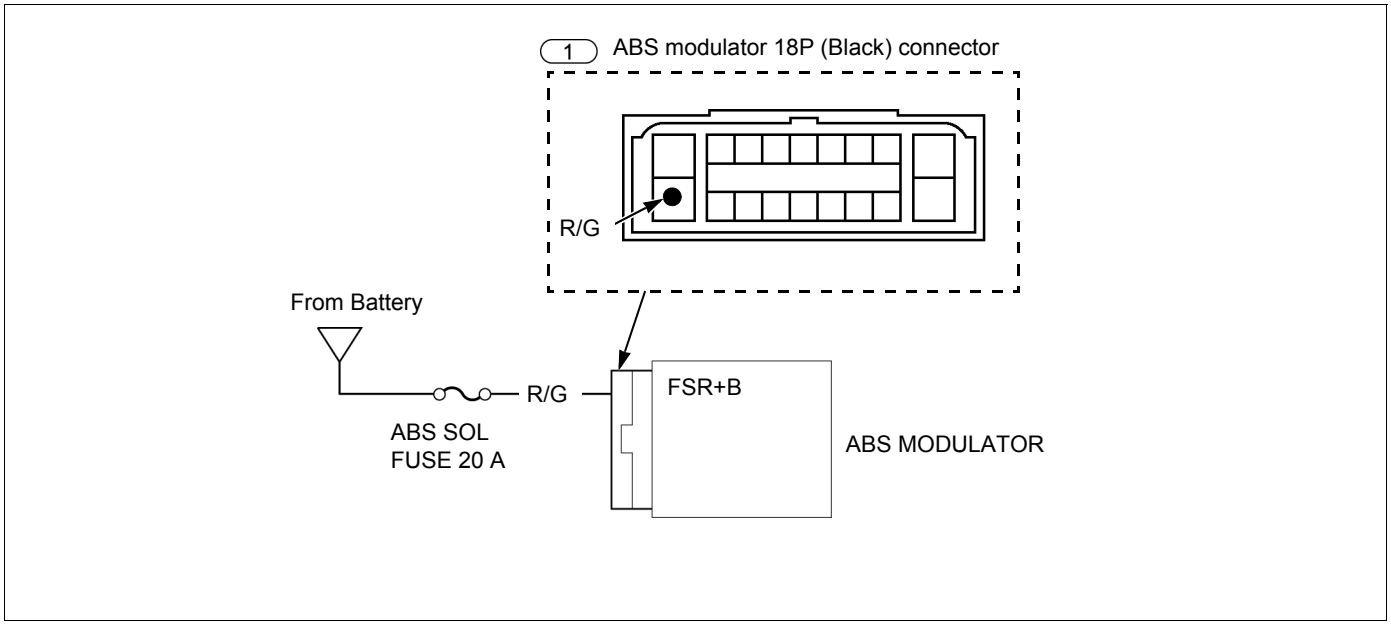
- Intermittent failure

Yes ▼

- Faulty ABS modulator

DTC 5-4

(Power Supply Relay malfunction)



1. ABS Modulator Power Line Inspection 1

- Connection: R/G (+) – Ground
- Does the battery voltage exist?

No ►

- Faulty R/G wire

Yes ▼

2. ABS Modulator Power Line Inspection 2

- Check a short circuit in R/G wire.
- Is there short circuit?

Yes ►

- Faulty R/G wire

No ▼

3. Failure Reproduction

- Erase the DTC and test-ride the vehicle above 30 km/h, then recheck the DTC.
- Is the DTC 5-4 indicated?

No ►

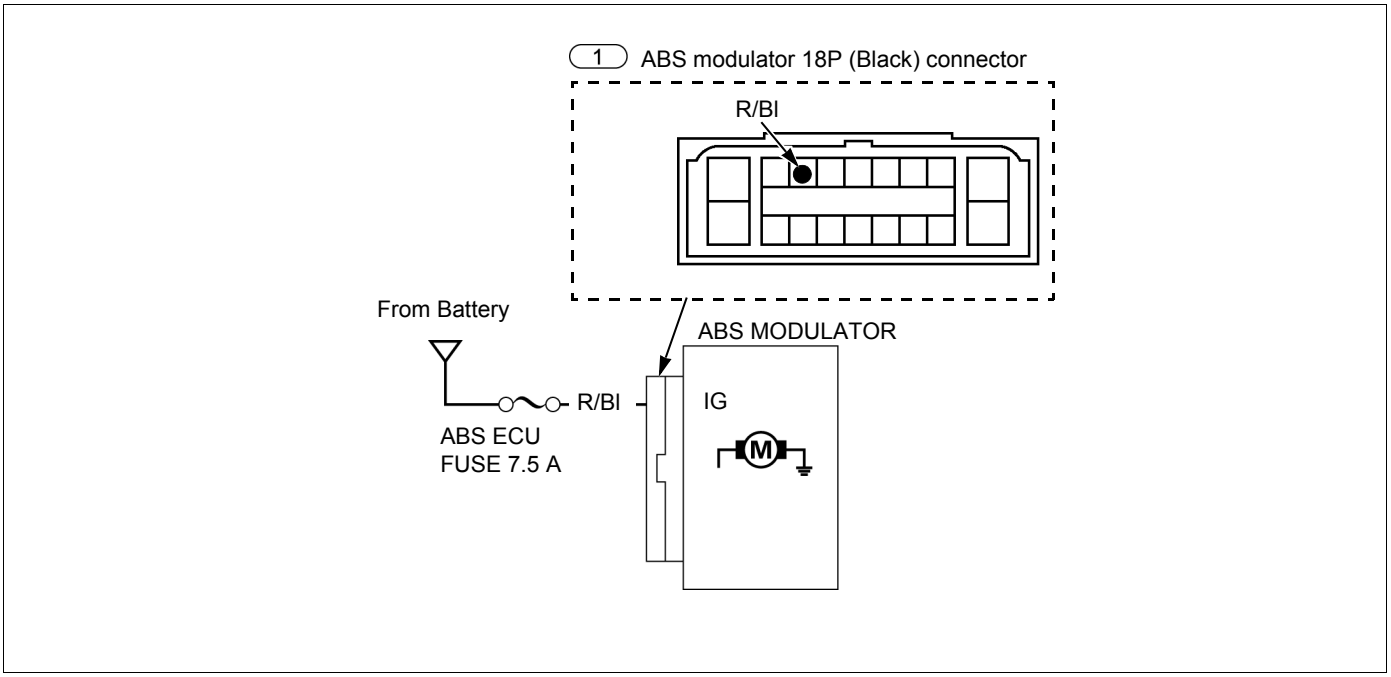
- Intermittent failure

Yes ▼

- Faulty ABS modulator

DTC 6-1, 6-2

(Power Circuit)



1. ABS Modulator Power Line Inspection 1

- Connection: R/BI (+) – Ground
- Does the battery voltage exist?

No ►

- Faulty R/BI wire

Yes ▼

2. ABS Modulator Power Line Inspection 2

- Check a short circuit in R/BI wire.
- Is there short circuit?

Yes ►

- Faulty R/BI wire

No ▼

3. Failure Reproduction

- Erase the DTC and test-ride the vehicle above 30 km/h, then recheck the DTC.
- Is the DTC 6-1, 6-2 indicated?

No ►

- Intermittent failure

Yes ▼

- Faulty ABS modulator

DTC 7-1

(Tire Size)

- Check the following and correct the faulty part.
- Incorrect tire pressure
- Tires not recommended for the vehicle were installed (incorrect tire size).
- Sprockets not recommended for the vehicle were installed (incorrect sprocket gear ratio).
- Deformation of the wheel or tire.

1. Failure Reproduction

- Erase the DTC and test-ride the vehicle above 30 km/h, then recheck the DTC.
- Is the DTC 7-1 indicated?

No ►

- Intermittent failure

Yes ▼

- Faulty ABS modulator

DTC 8-1

(ABS Control Unit)

1. Failure Reproduction

- Erase the DTC and test-ride the vehicle above 30 km/h, then recheck the DTC.
- Is the DTC 8-1 indicated?

No ►

- Intermittent failure

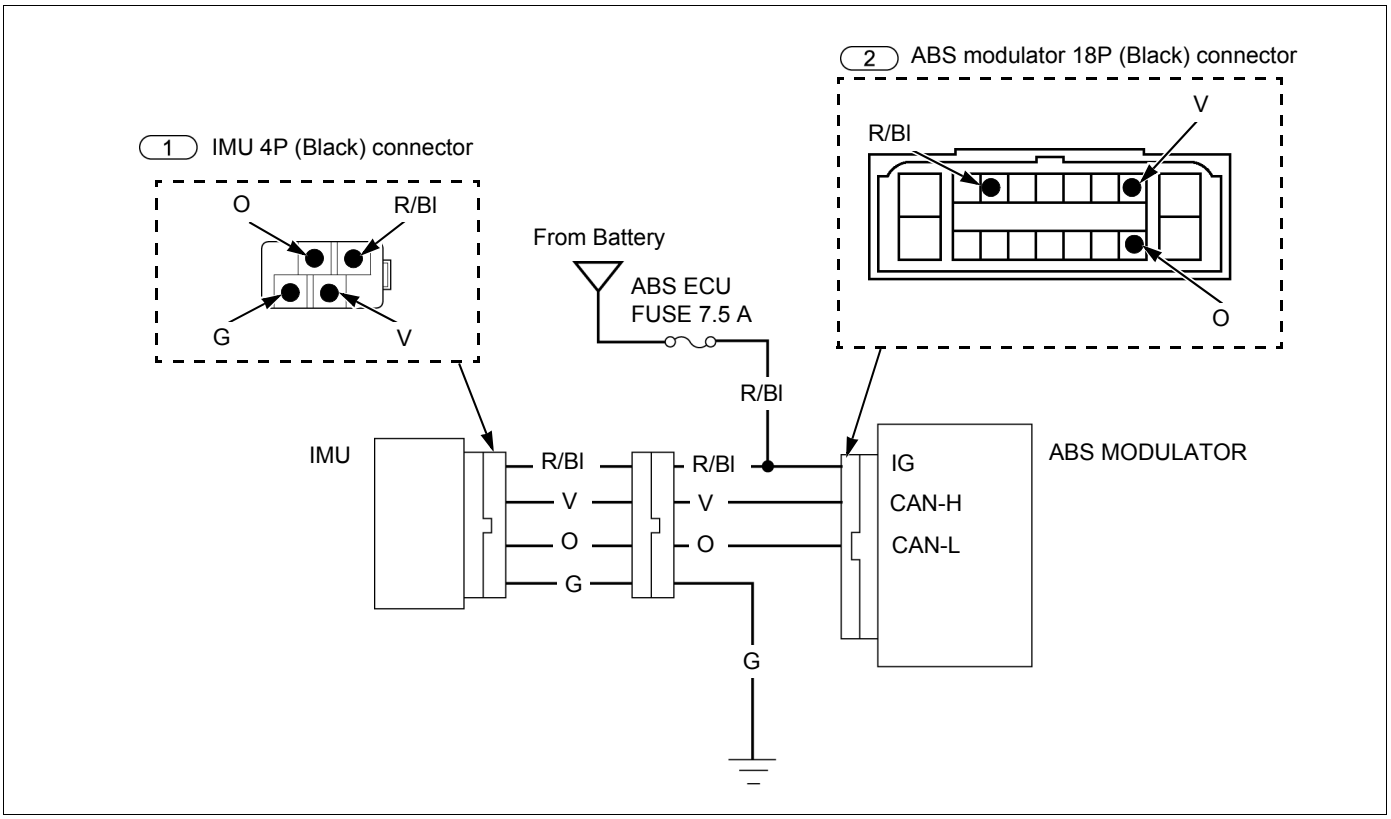
Yes ▼

- Faulty ABS modulator

DTC 8-3, 8-4, 8-5

- Drive chain case ➔3-11

(IMU)



1. IMU Installation Condition Inspection

• Check IMU stay, mounting rubber and fasteners. • Is the installation condition normal?	No ►	• Install properly or replace faulty part.

Yes ▼

2. IMU Line Inspection 1

1 2 • Check a short circuit in R/Bl wire. • Is there short circuit?	Yes ►	• Faulty R/Bl wire

No ▼

3. IMU Line Inspection 2

⇨ 1 • Connection: R/Bl (+) – G (–) • Does the battery voltage exist?	No ►	• Faulty R/Bl wire • Faulty G wire

Yes ▼

4. IMU Line Inspection 3

• Install a jumper wire between the terminals. Jumper terminal: V and O • Check the continuity between the above wires. • Is there continuity?	No ►	• Faulty V or O wire

Yes ▼

5. IMU Line Inspection 4

• Check a short circuit in V, O wire. • Is there short circuit?	Yes ►	• Faulty V or O wire

No ▼

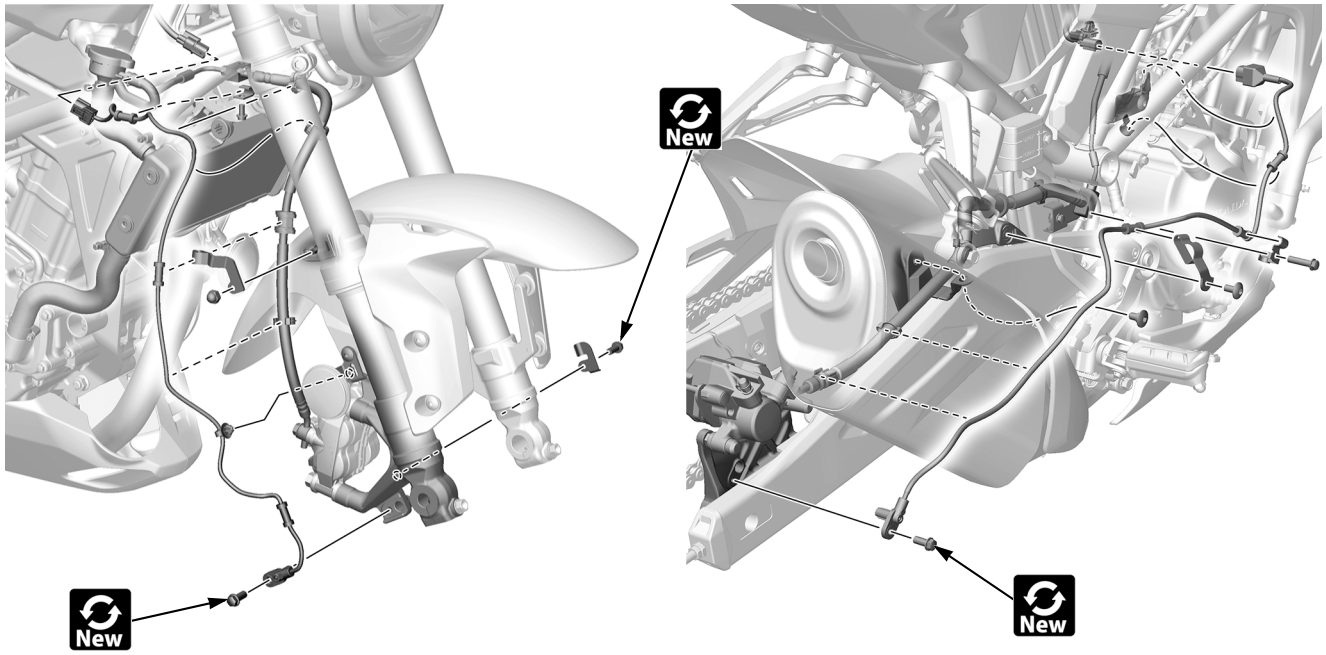
6. Failure Reproduction

• Replace the IMU with a new one. ➔4-49 • Erase the DTC and test-ride the vehicle above 30 km/h, then recheck the DTC. • Is the DTC 8-3, 8-4, 8-5 indicated?	No ►	• Faulty original IMU

Yes ▼

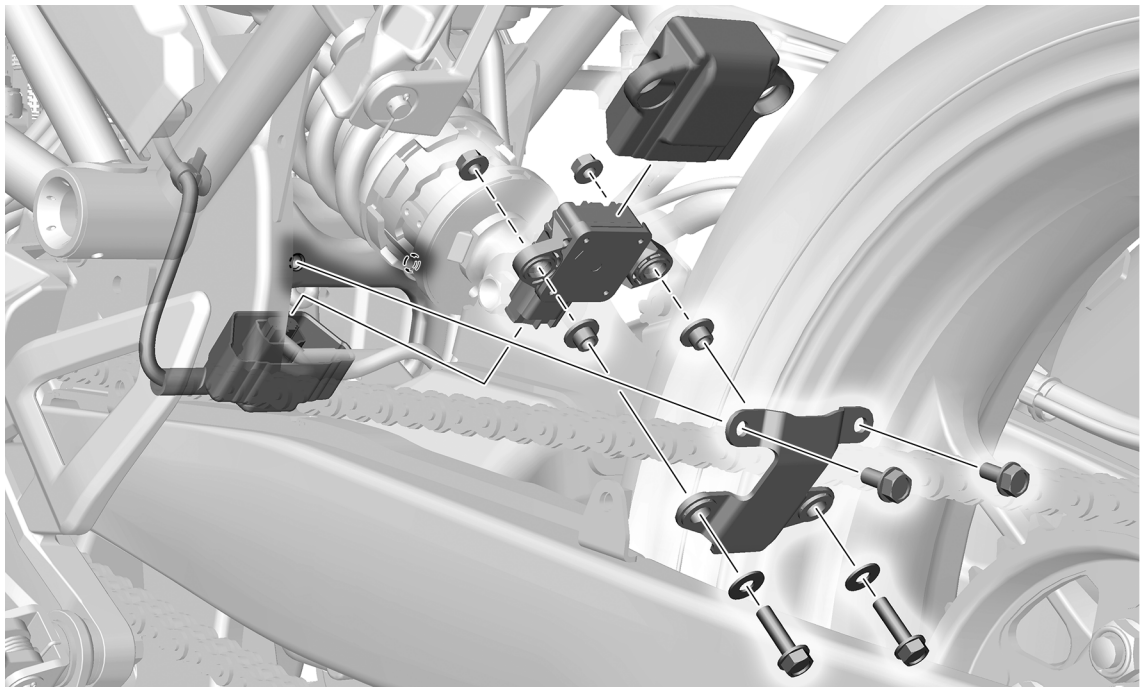
• Faulty ABS modulator

WHEEL SPEED SENSOR



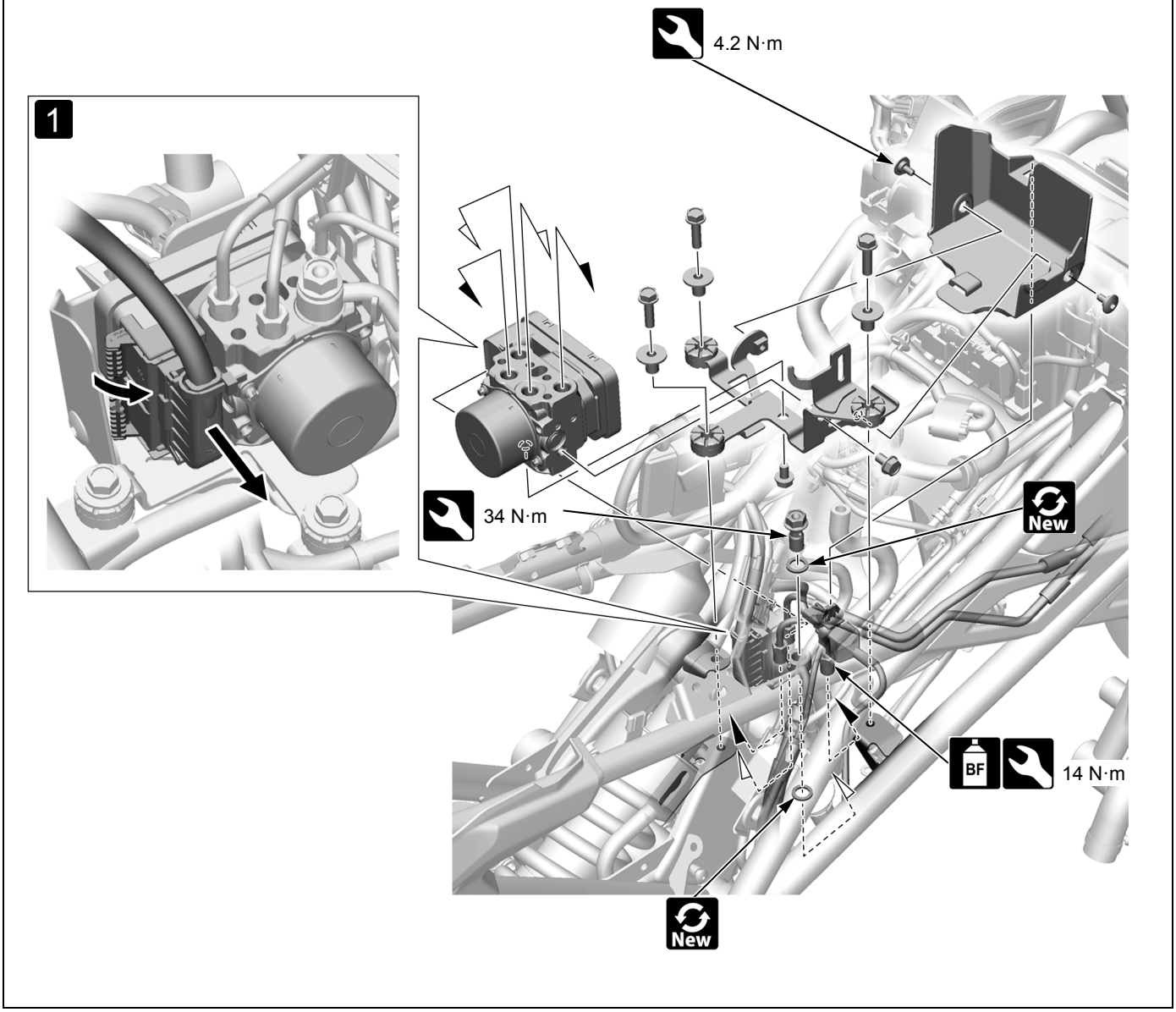
- Front wheel ➔3-16
- Remove the radiator mounting bolt, move the radiator forward. ➔2-12
- Rear wheel ➔3-25
- Wheel speed sensor inspection

IMU



- Drive chain case ➔3-11

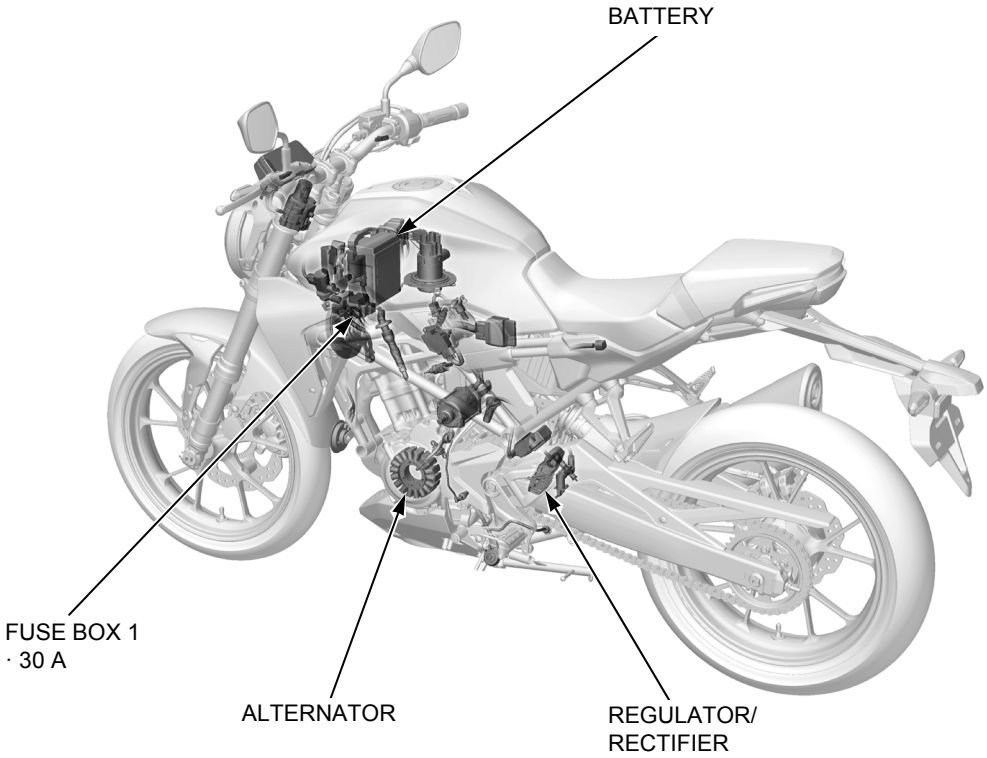
ABS MODULATOR



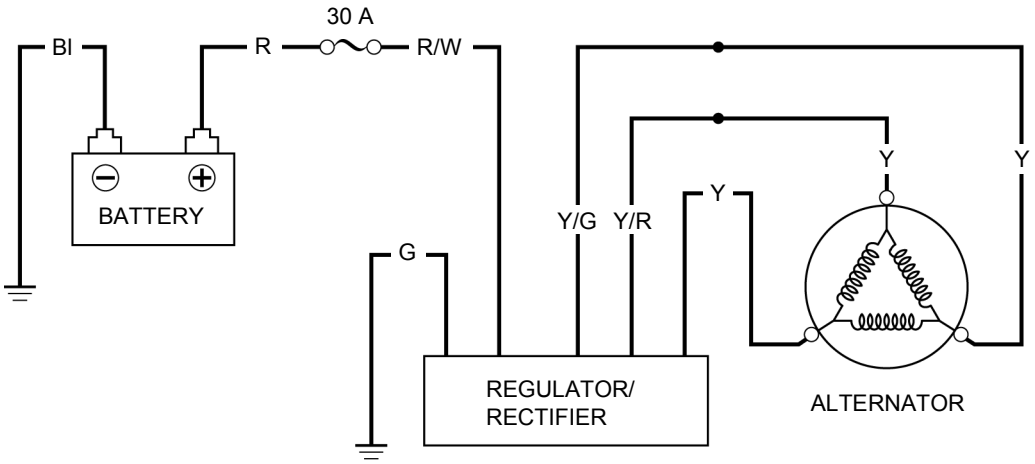
- Engine ➔2-40
- 1 Pull up the lock lever and disconnect the ABS modulator 18P connector.

BATTERY/CHARGING SYSTEM

BATTERY/CHARGING SYSTEM LOCATION

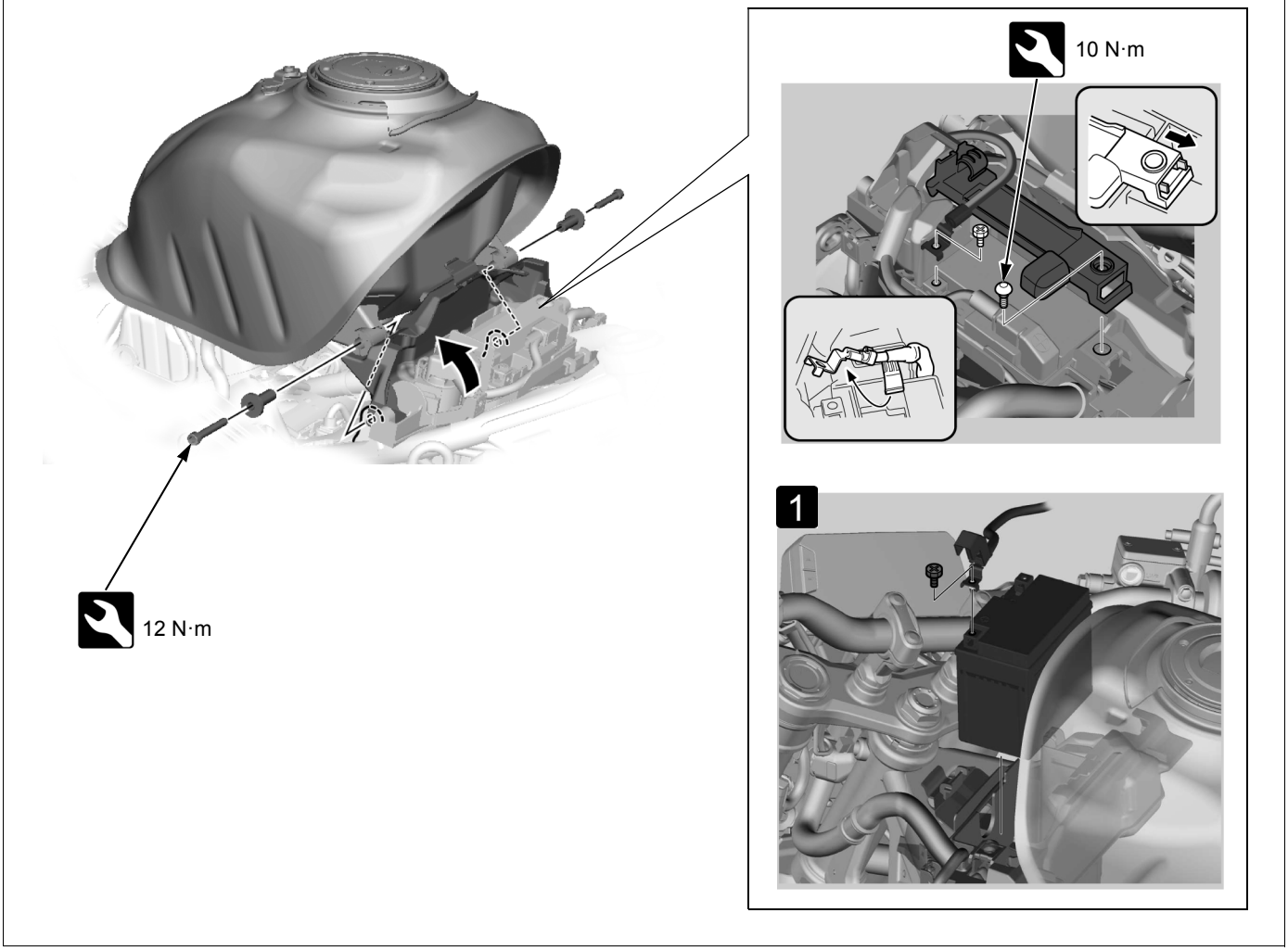


BATTERY/CHARGING SYSTEM DIAGRAM



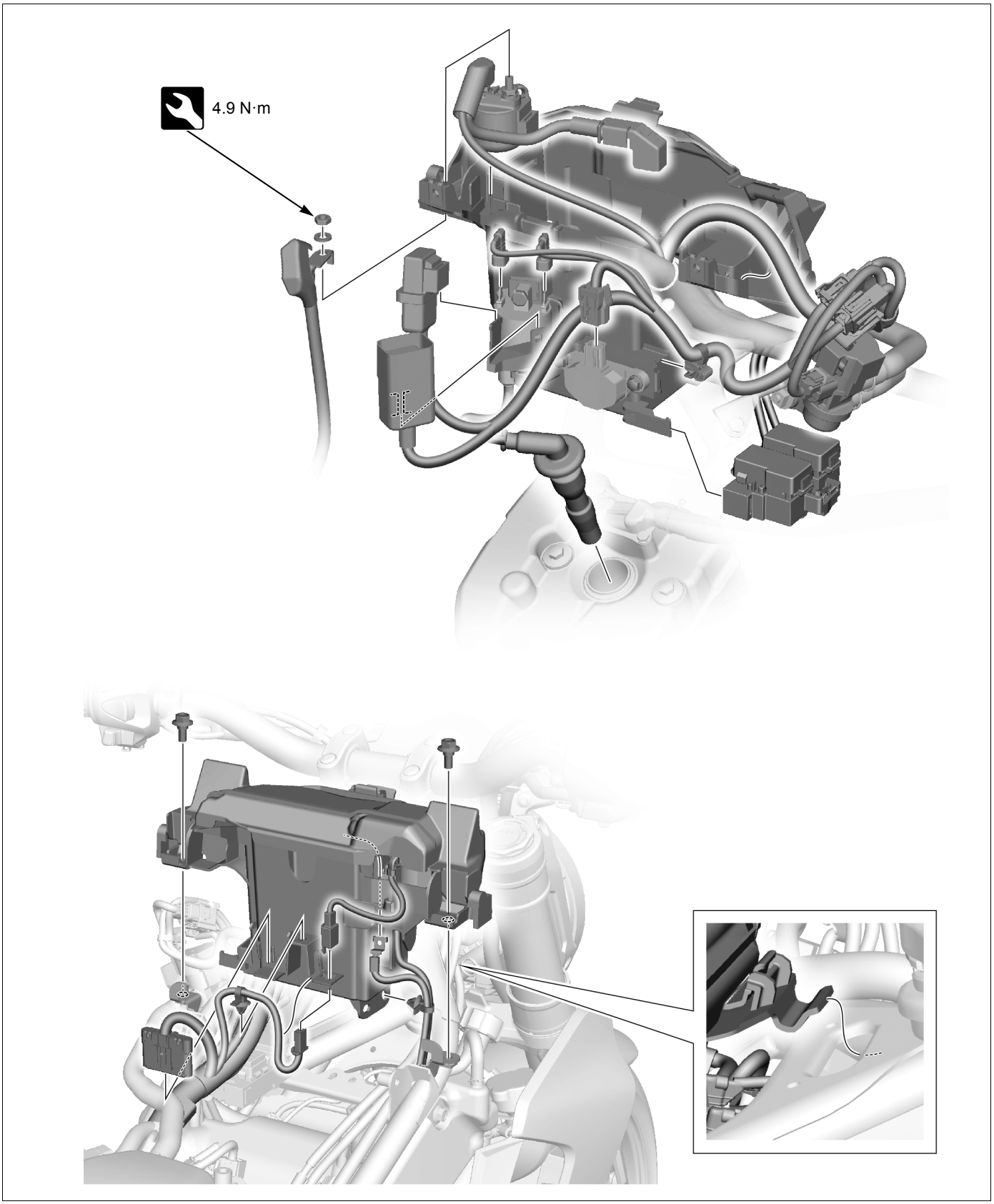
- Battery/charging system information, troubleshooting and inspection

BATTERY



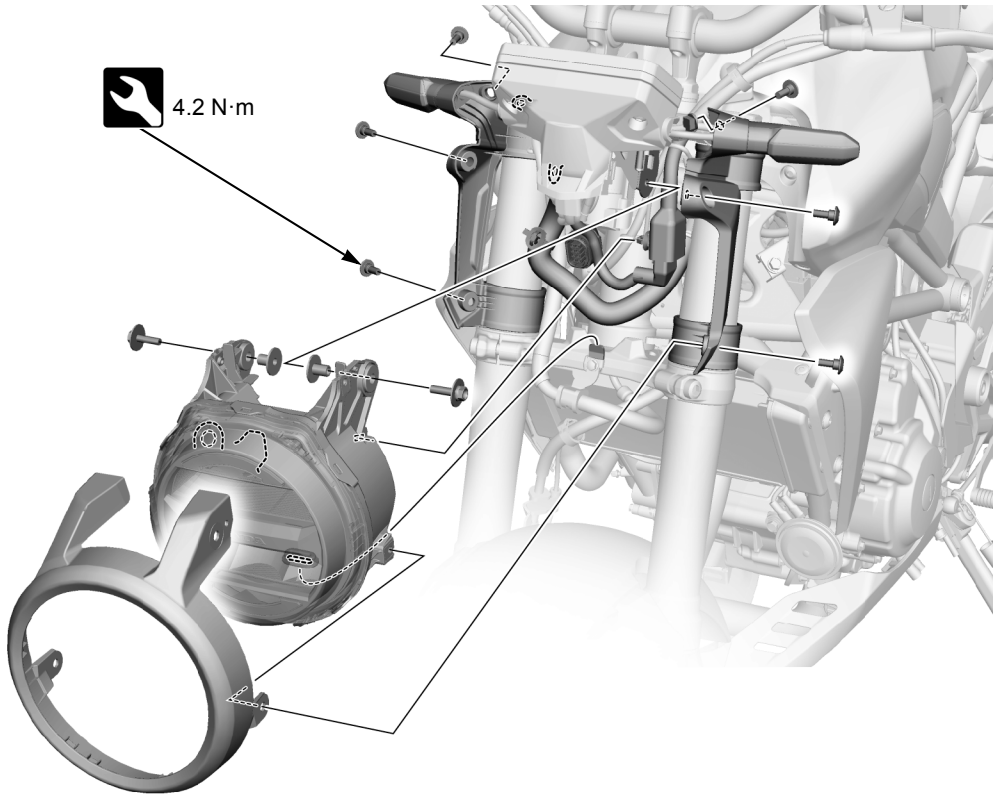
- Fuel tank cover ➔3-9
- 1 Cover the handlebar holders with a protective cloth to prevent the battery terminals from scratching them.

BATTERY BOX

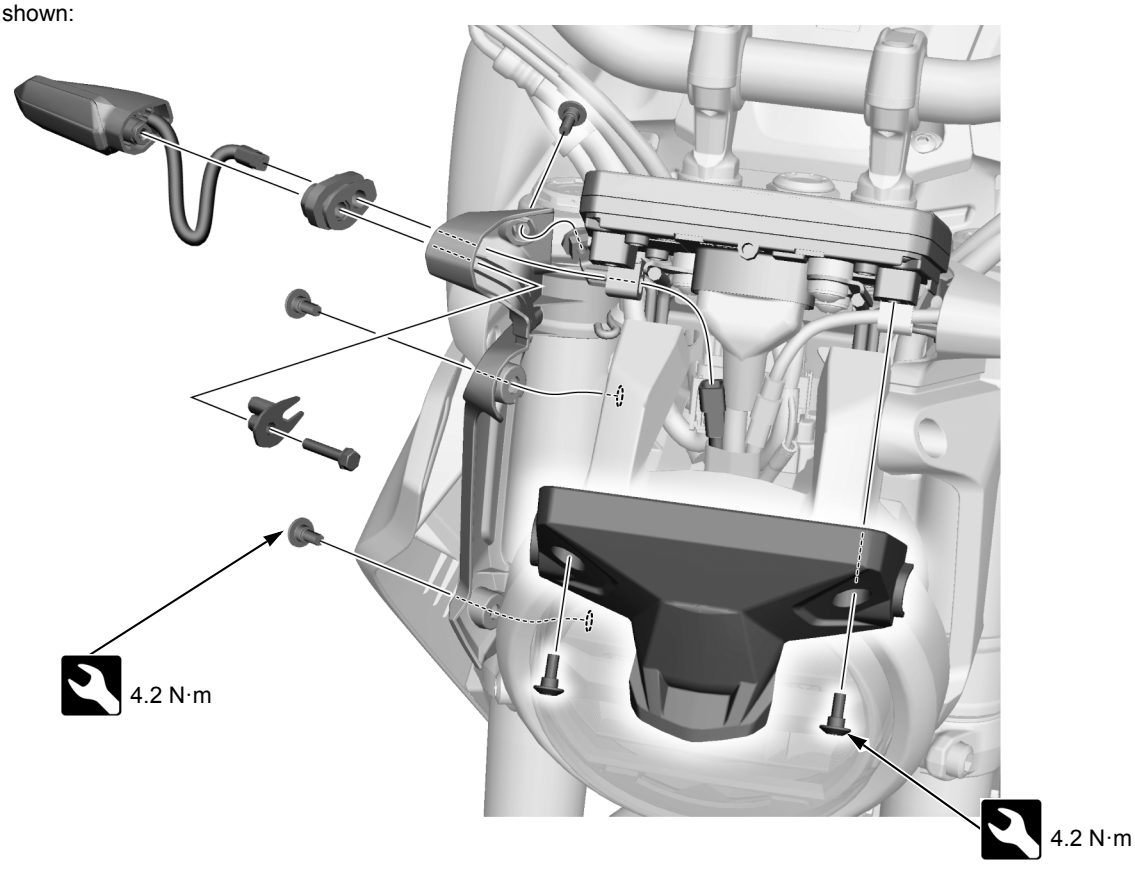


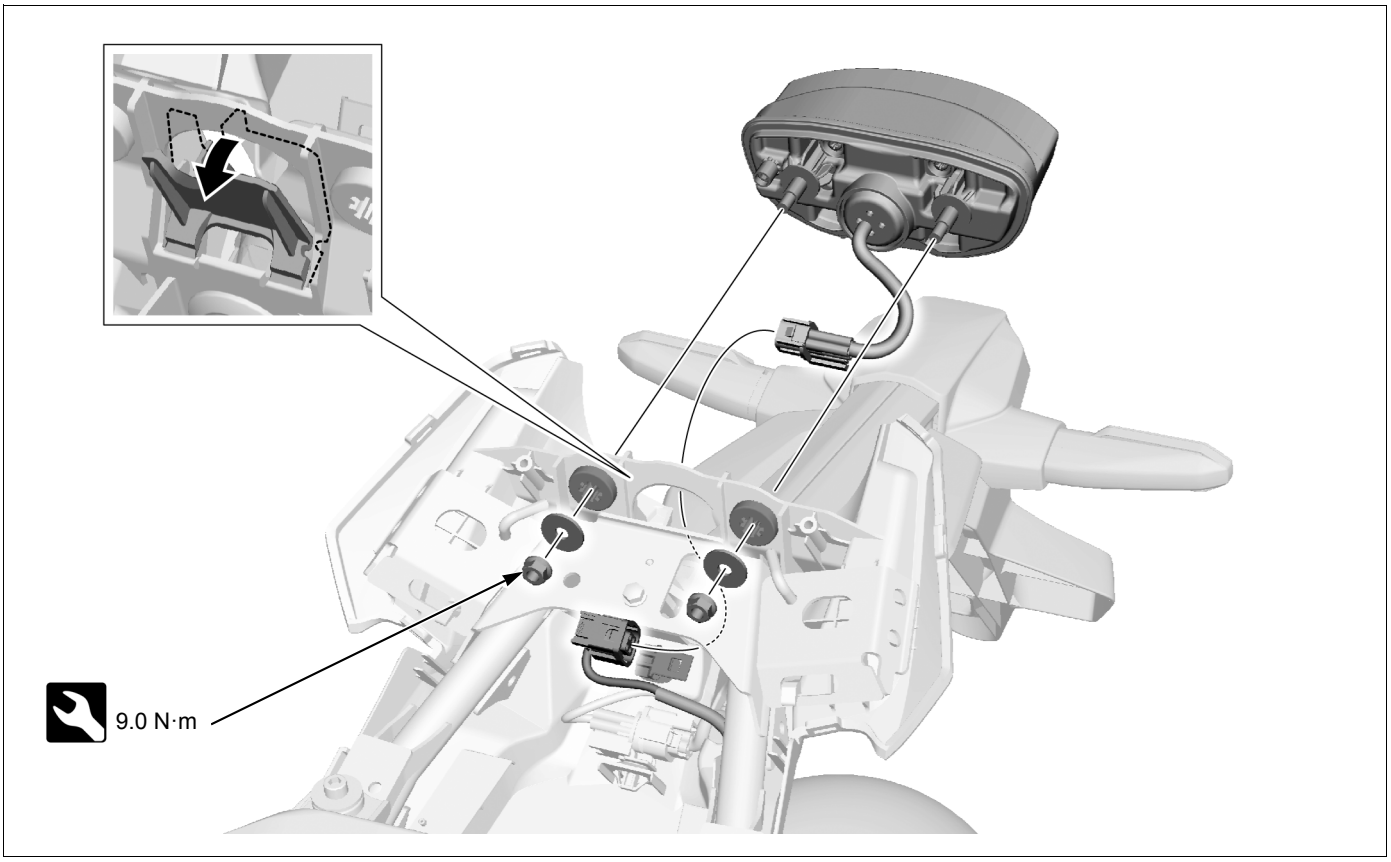
- Battery ➔4-52
- Fuel tank ➔2-6
- Left radiator cover ➔3-8

LIGHTING SYSTEM



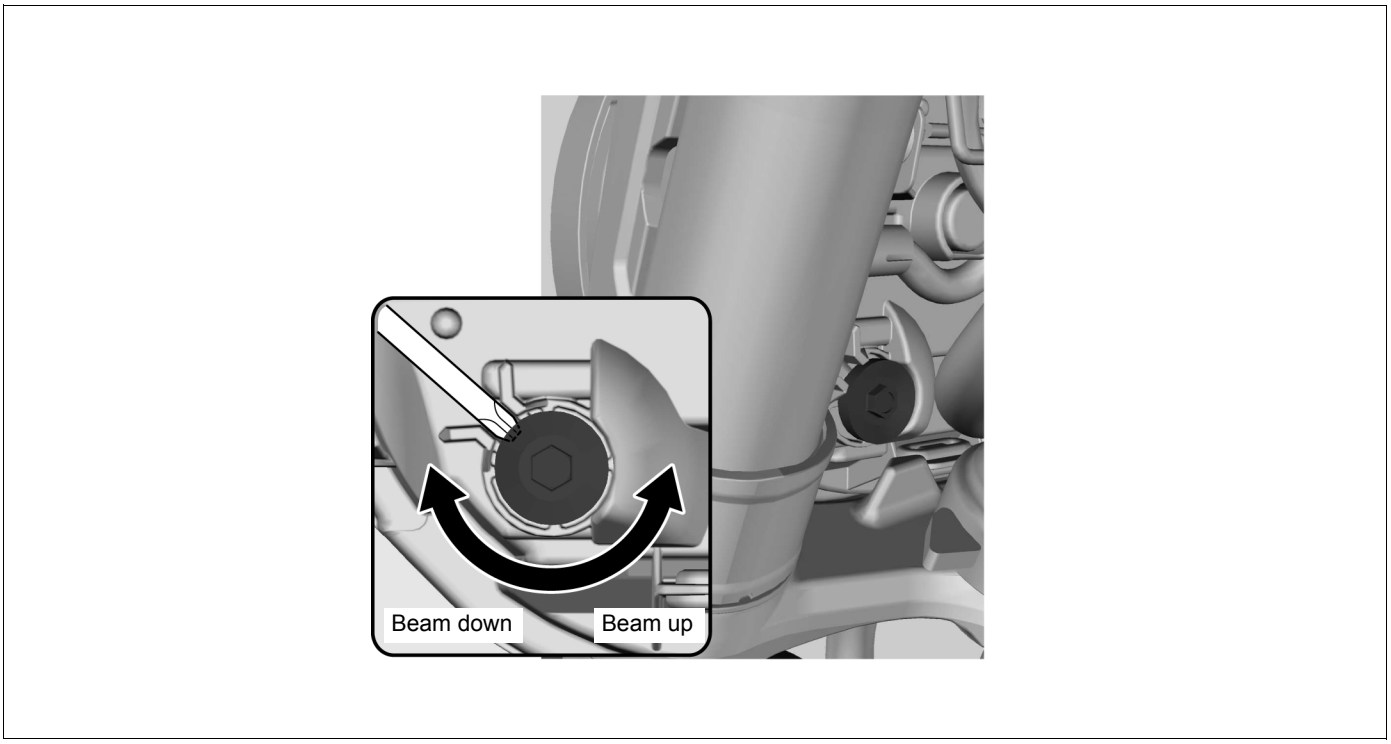
KO, U model shown:





- Pillion seat ➔3-4

HEADLIGHT AIM



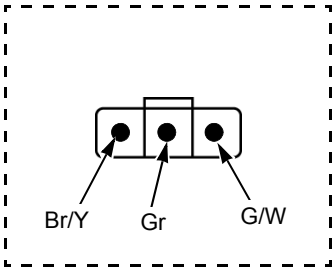
TURN SIGNAL LIGHT TROUBLESHOOTING

- When all turn signal lights blink faster than usual, replace the turn signal light relay with a known good one, and recheck.

ALL TURN SIGNAL LIGHTS DO NOT LIGHT

- Loose or poor contacts of related terminal/connector
- Battery condition
- Burned fuse

(1) Turn signal light relay 3P (Black) connector



1. Turn Signal Light Relay Input Voltage Inspection

(1) ⇨ ⇨ (1)

- Connection: Br/Y (+) – G/W (–)
- Does the battery voltage exist?

No ► • Faulty Br/Y or G/W wire

Yes ▼

2. Turn Signal Light Relay Inspection

⇨ (1) (With peak voltage adapter)

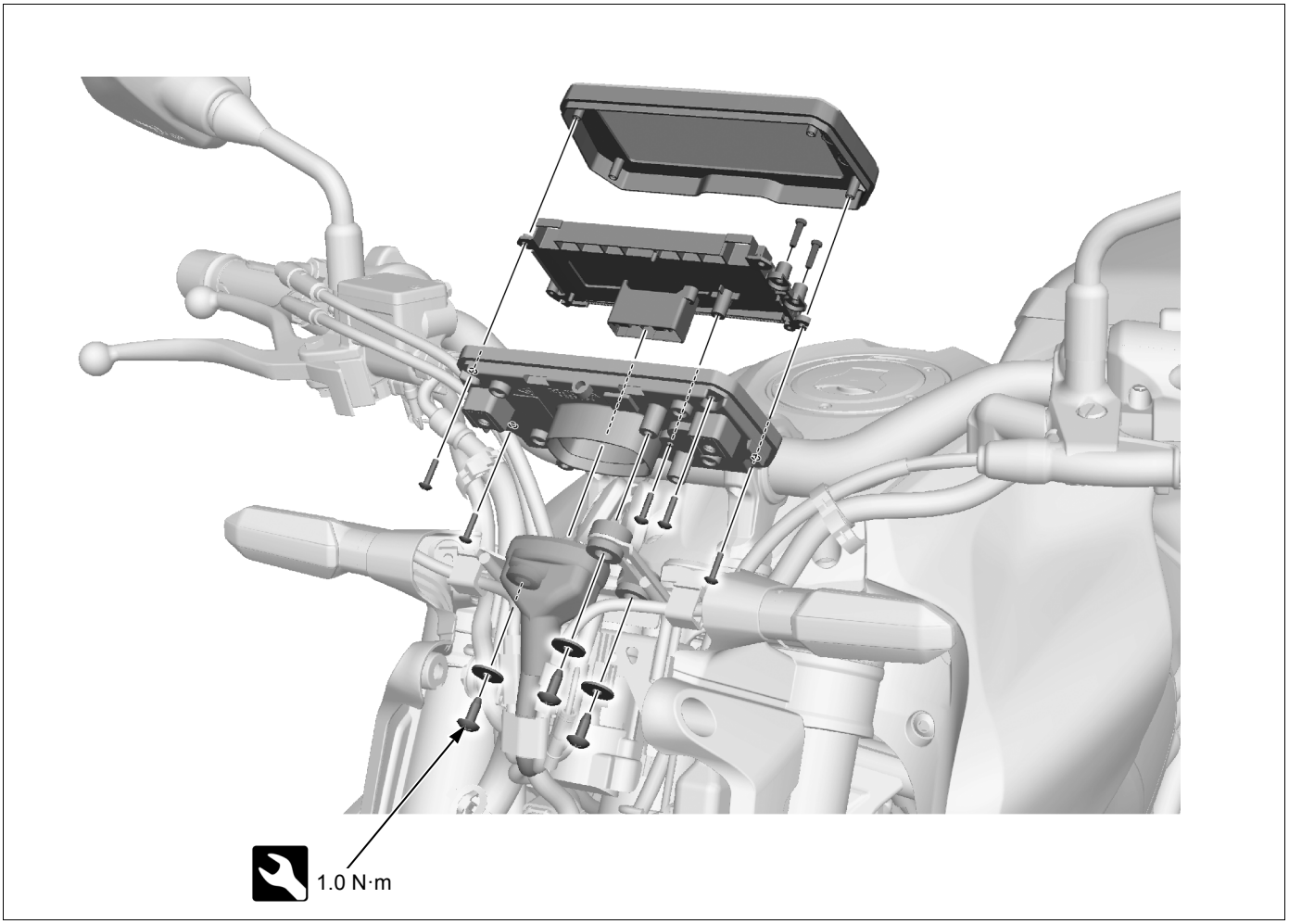
- Connection: Gr (+) – G/W (–)
  (Connector connected)
  Peak voltage adapter: 07HGJ-0020100
- Battery voltage – Measured voltage = 1.5 V max.?

No ► • Replace the turn signal light relay with a new one, and recheck.

Yes ▼

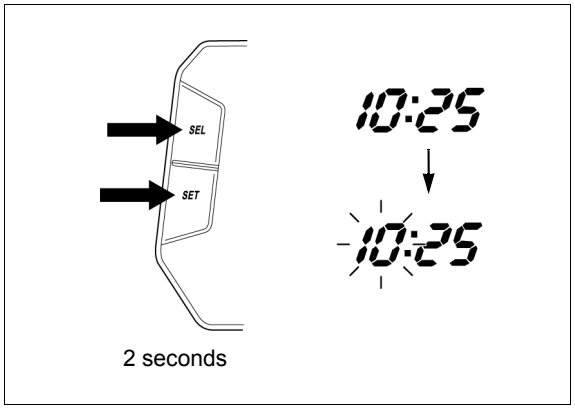
- Check an open or short circuit in Gr, O or Lb wire.
- If there is no faulty circuit, replace the left handlebar switch with a new one ➔3-21, and recheck.

COMBINATION METER

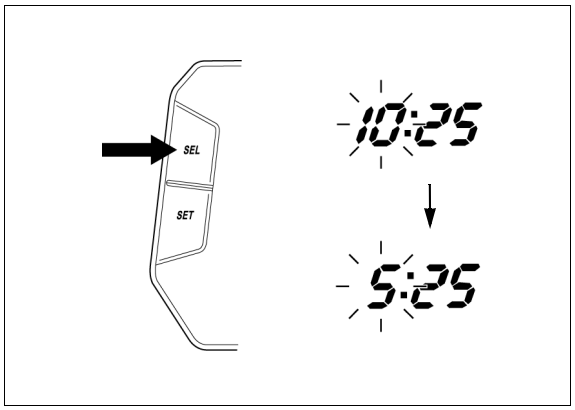


- Meter cover ➔4-54
- Headlight ➔4-54

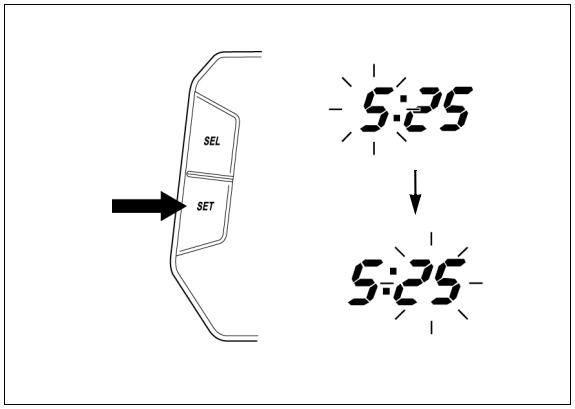
CLOCK ADJUST



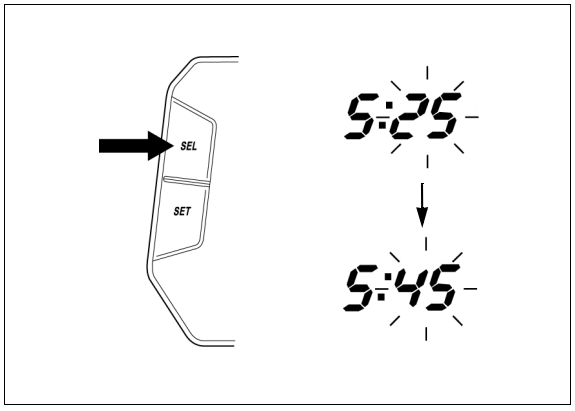
- Push and hold both the SEL button and SET button for more than 2 seconds.
- The clock will be set in the adjust mode with the hour display flashing.



- The time is advanced by one hour, each time the button is pushed.
- The time advances fast when the button is pushed and held.

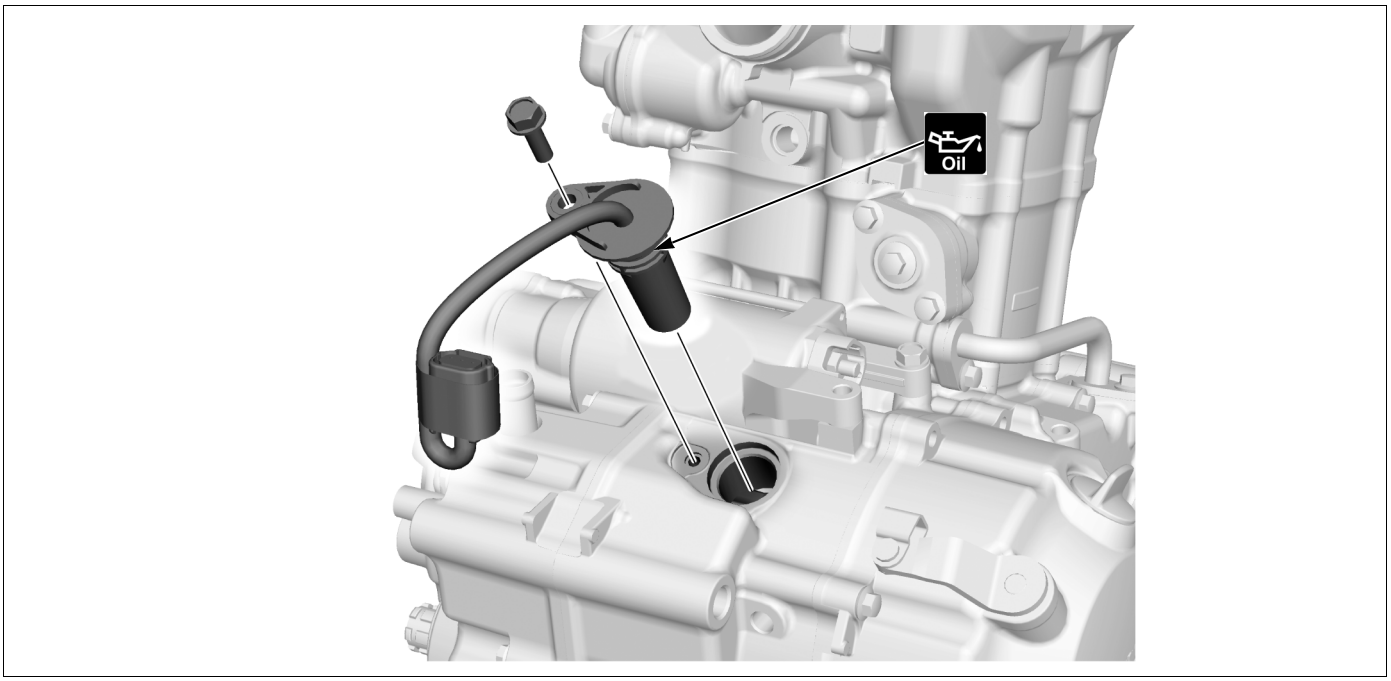


- Push the SET button.
- The minute display will start flashing.



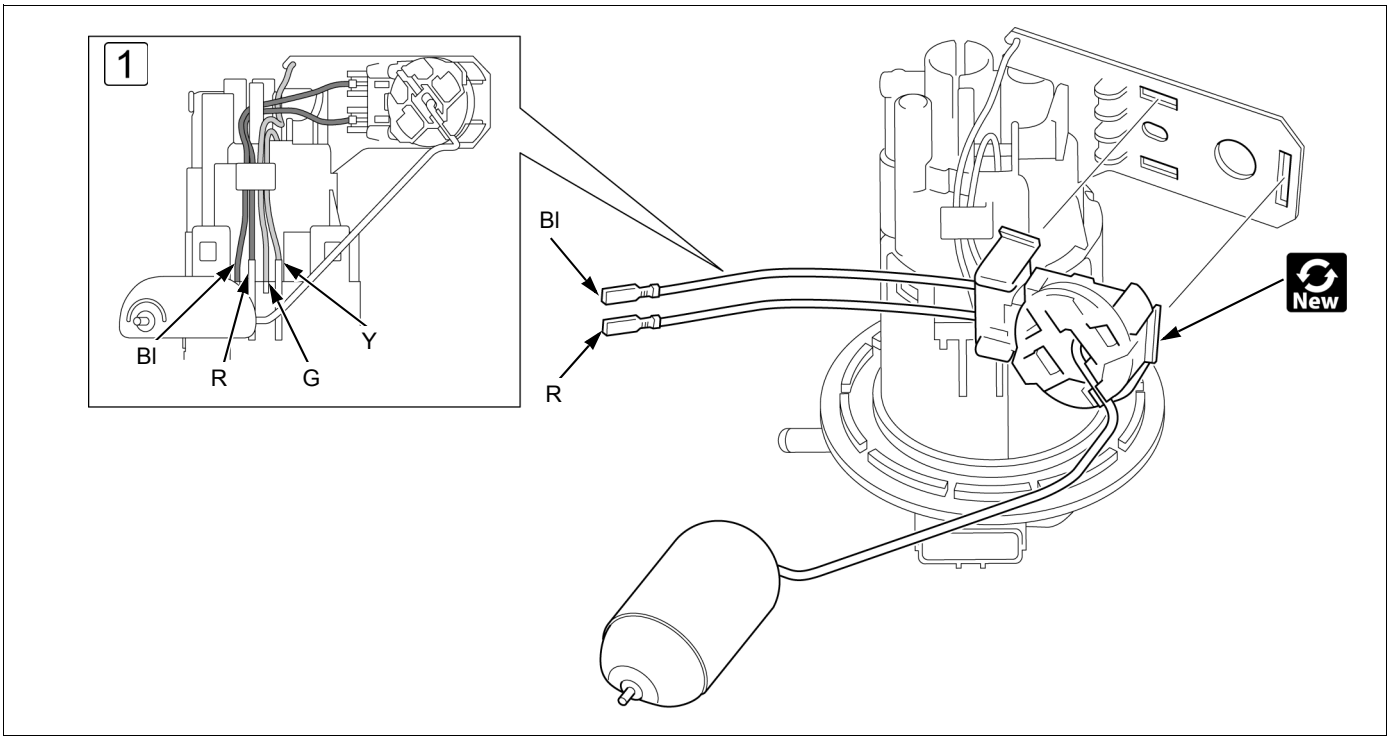
- The time advances by one minute, each time the button is pushed.
- The time advances fast when the button is pushed and held.
- To end the adjustment, push the SET button or turn the ignition switch to OFF.
- The display will stop flashing automatically and the adjustment will be cancelled if the button is not pushed for about 30 seconds.

VS SENSOR



- Engine ➔2-40
- VS sensor inspection

FUEL LEVEL SENSOR

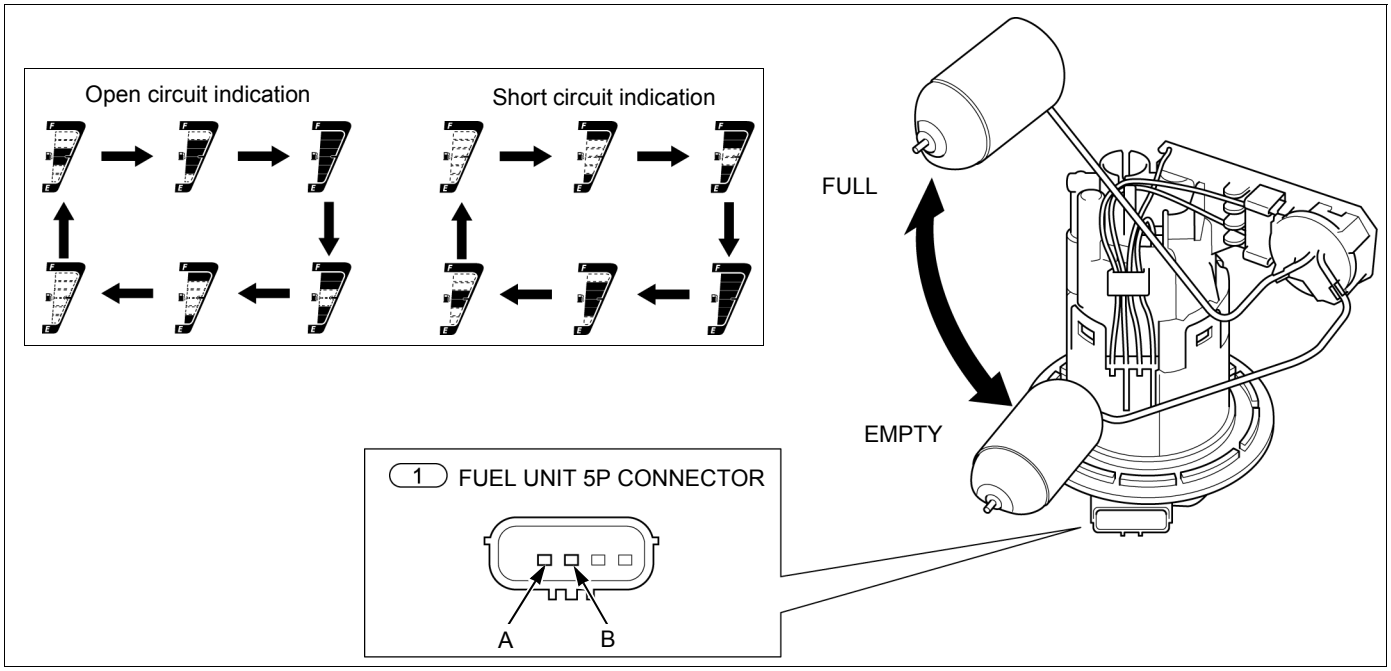


- Fuel pump unit ➔2-4
- 1 Route the fuel level sensor wires to the guide and terminals properly.

FUEL METER TROUBLESHOOTING

FUEL GAUGE FAILURE INDICATION

- Fuel pump unit ➔2-4
- Loose or poor contacts of related terminal/connector



1. Fuel Level Sensor Circuit Inspection

• Check the Y/W, G wire. • Is there no open or short circuit?	No ►	• Faulty Y/W or G wire

Yes ▼

2. Fuel Level Sensor Inspection

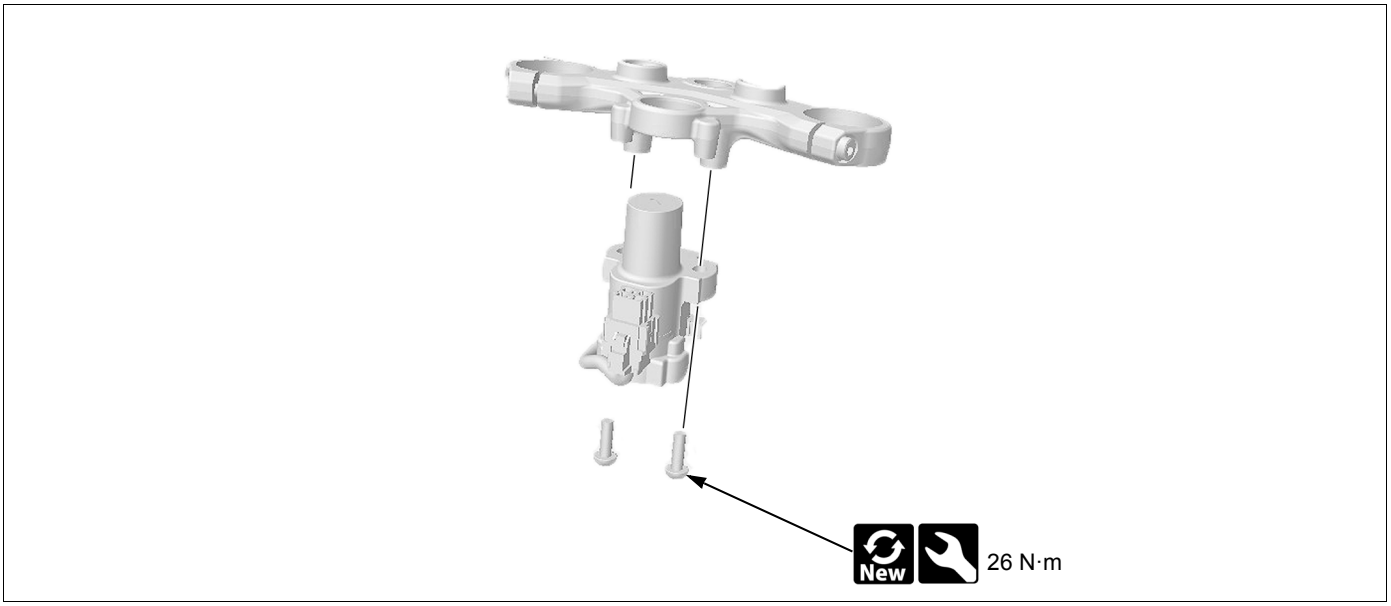
1 ⇨ Ω • Connection: A – B • Standard: FULL 5.5 – 8.5 Ω, EMPTY 385 – 395 Ω • Does the Standard resistance exist?	No ►	• Replace the fuel level sensor with a new one ➔4-59, and recheck.

Yes ▼

Replace the meter with a new one ➔4-57, and re-check.

ELECTRICAL COMPONENT

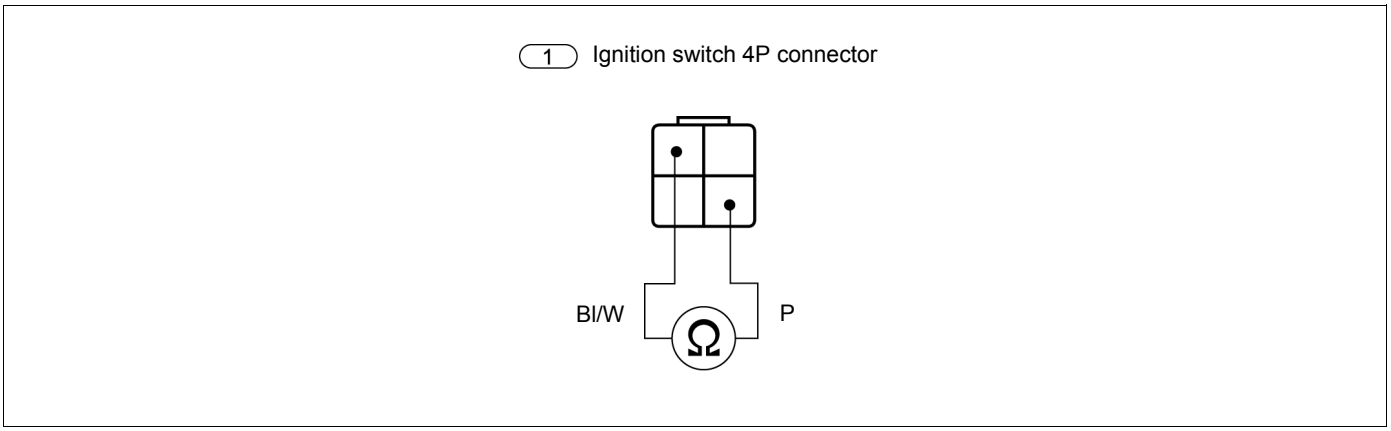
IGNITION SWITCH



- Top bridge ➔3-23

IGNITION SWITCH INSPECTION

- Headlight ➔4-54

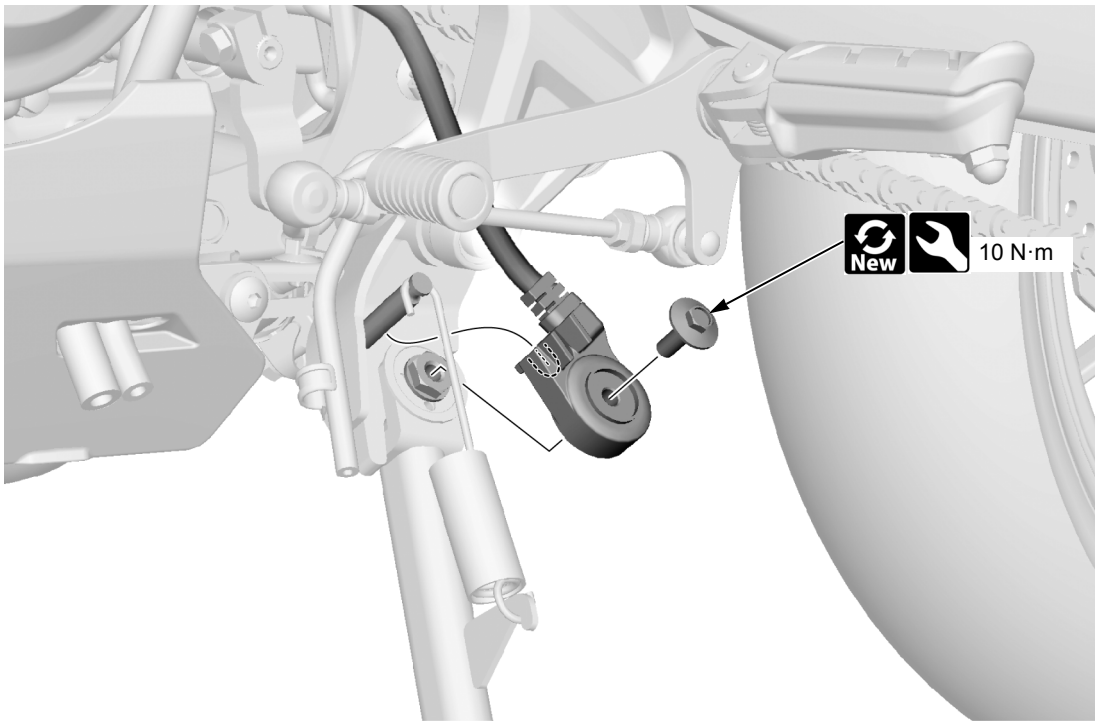


Check for continuity the ignition switch 4P connector of the ignition switch side.

Connection: Black/white (+) – Pink (–)
Black/white (–) – Pink (+)

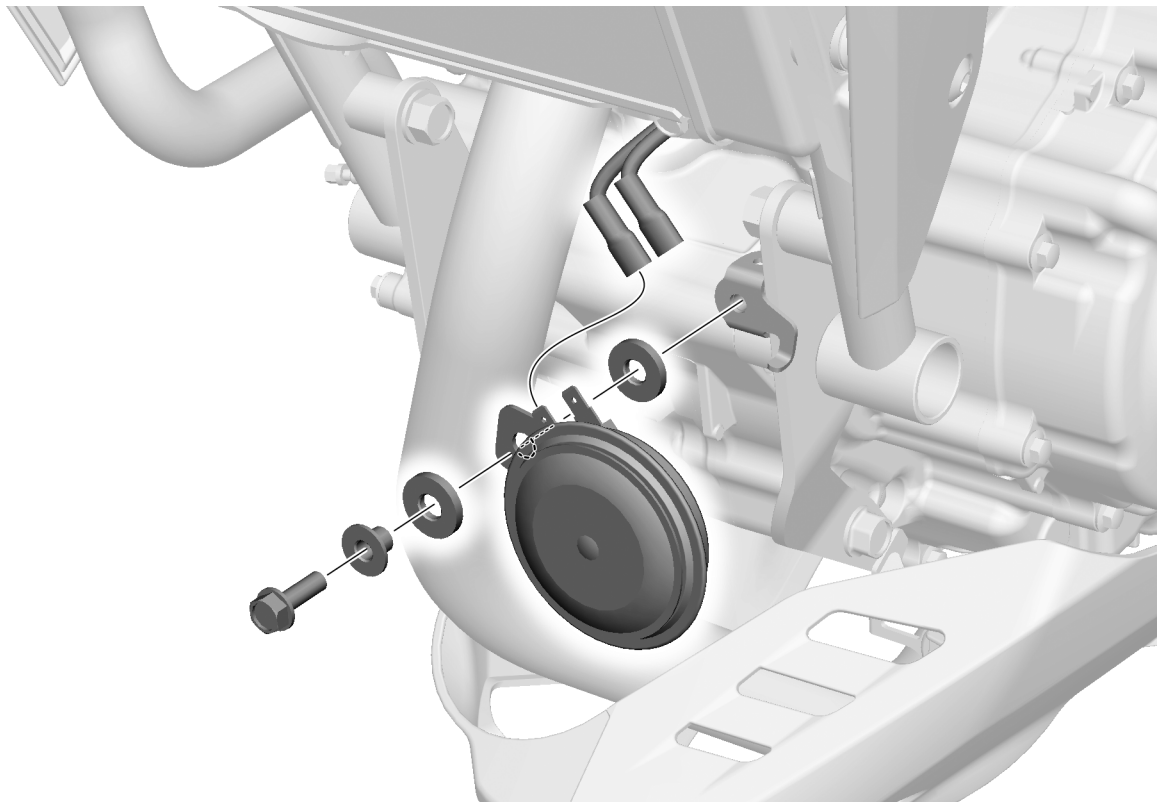
It is normal if there is continuity in one direction.
- It is faulty of the ignition switch if there is continuity in both directions.

SIDESTAND SWITCH (EXCEPT TH MODEL)



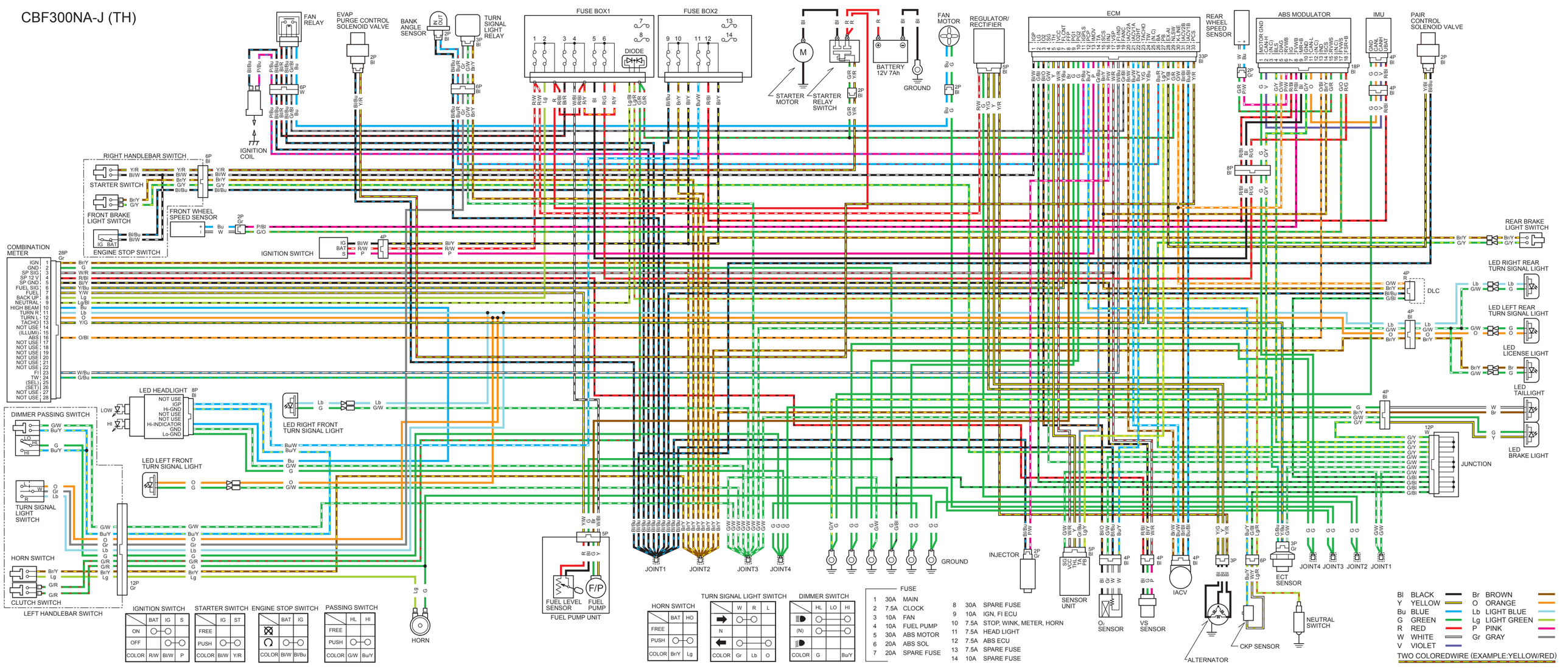
- Drive sprocket cover ➔3-10

HORN

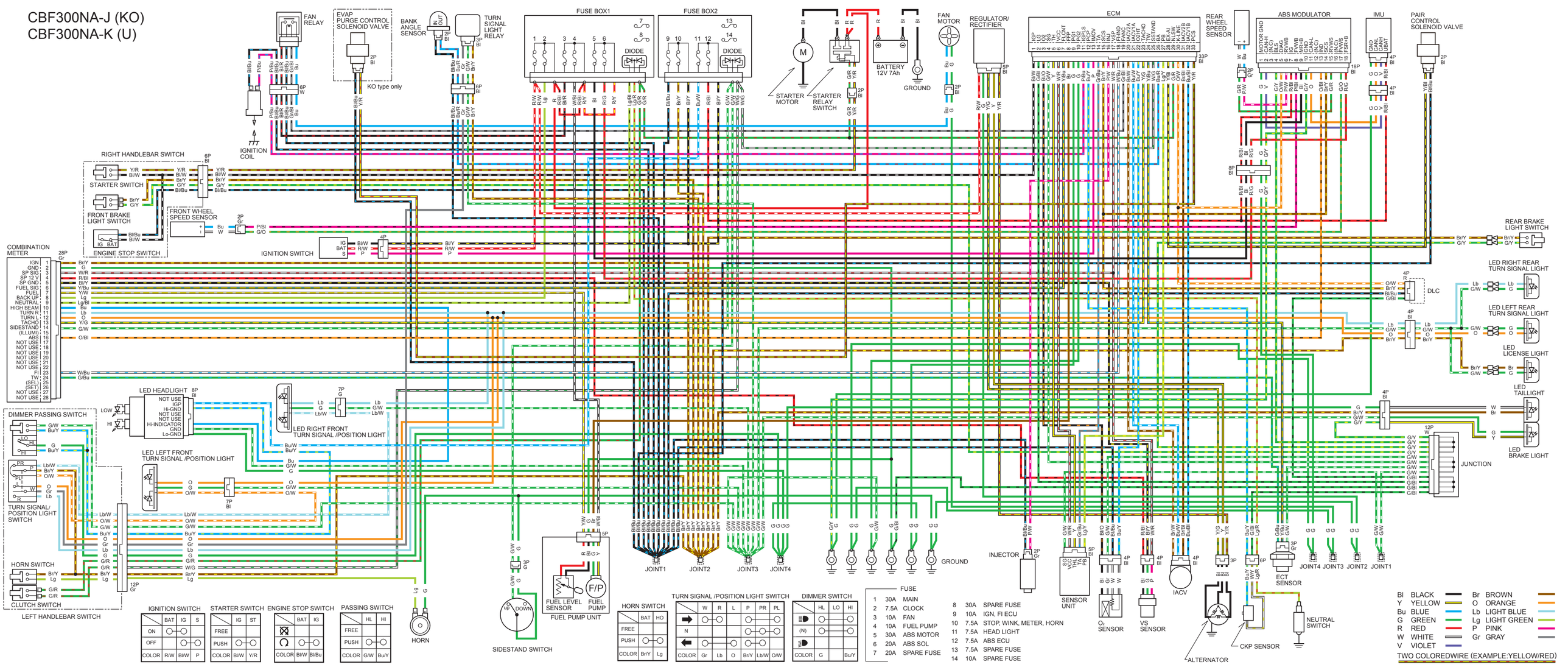


INDEX

CBF300NA-J (TH)



CBF300NA-J (KO)
CBF300NA-K (U)



IGNITION SWITCH

	BAT	IG	S
ON		○	○
OFF			
COLOR	R/W	Bl/W	P

STARTER SWITCH

	IG	ST
FREE		
PUSH	○	○
COLOR	Bl/W	Y/R

ENGINE STOP SWITCH

	BAT	IG
	⊠	
	○	○
COLOR	Bl/W	Bl/Bu

PASSING SWITCH

	HL	HI
FREE		
PUSH	○	○
COLOR	G/W	Bu/Y

HORN SWITCH

	BAT	HO
FREE		
PUSH	○	○
COLOR	Br/Y	Lg

TURN SIGNAL /POSITION LIGHT SWITCH

	W	R	L	P	PR	PL
➡		○				
N						
⬅	○		○			
COLOR	Gr	Lb	O	Br/Y	Lb/W	O/W

DIMMER SWITCH

	HL	LO	HI
≡D			○
(N)			
≡D	○	○	
COLOR	G		Bu/Y

FUSE

1	30A	MAIN	
2	7.5A	CLOCK	
3	10A	FAN	
4	10A	FUEL PUMP	
5	30A	ABS MOTOR	
6	20A	ABS SOL	
7	20A	SPARE FUSE	
8	30A	SPARE FUSE	
9	10A	IGN, FI ECU	
10	7.5A	STOP, WINK, METER, HORN	
11	7.5A	HEAD LIGHT	
12	7.5A	ABS ECU	
13	7.5A	SPARE FUSE	
14	10A	SPARE FUSE	

Bl	BLACK	Br	BROWN
Y	YELLOW	O	ORANGE
Bu	BLUE	Lb	LIGHT BLUE
G	GREEN	Lg	LIGHT GREEN
R	RED	P	PINK
W	WHITE	Gr	GRAY
V	VIOLET		

TWO COLOREDWIRE (EXAMPLE:YELLOW/RED)

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