26. NC700XD/SD-E, NC750X/XA/XD/S/SA/SD-E ADDENDUM

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 or others 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 recommend 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.

INTRODUCTION

This addendum contains information for the NC700XD/SD-E, NC750X/XA/XD/S/SA/SD-E.

Refer to NC700X/XA/XD/S/SA/SD-C SHOP MANUAL (No. 62MGS01, 62MGS0EZ) for service procedures and data not included in this addendum.

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.

SERVICE PUBLICATION OFFICE

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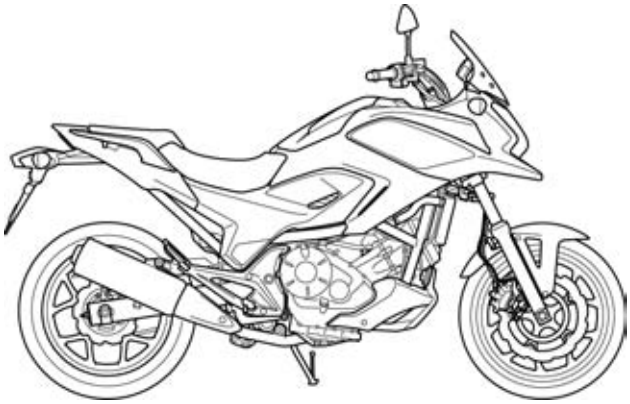
MODEL IDENTIFICATION

DESTINATION CODE

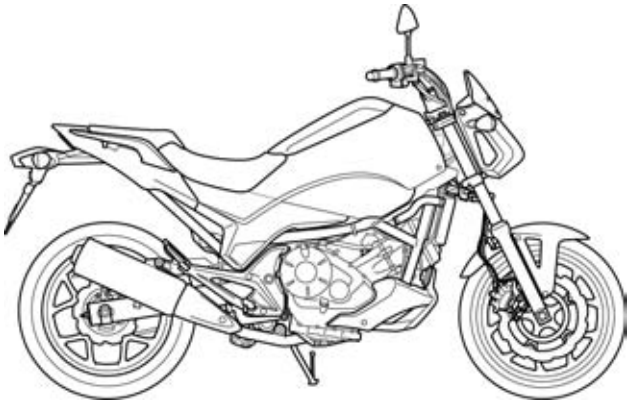
Throughout this manual, the following codes are used to identify individual types for each region.

DESTINATION CODE	REGION
ED	EUROPEAN DIRECT SALES
II ED	EUROPEAN DIRECT SALES type II
III ED	EUROPEAN DIRECT SALES type III
KO	Korea
RU	Russia
TH	Thailand
U	Australia, New Zealand

NC750XA shown:



NC750SA shown:



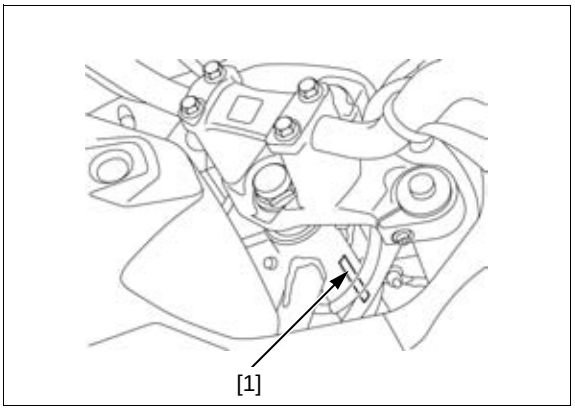
This manual covers following types:

TYPE	NC700	NC750		
	XD/SD	X/S	XA/SA	XD/SD
Standard brake	–	○	–	–
ABS	○	–	○	○
DCT	○	–	–	○

Be sure to refer to the procedure for the appropriate version.

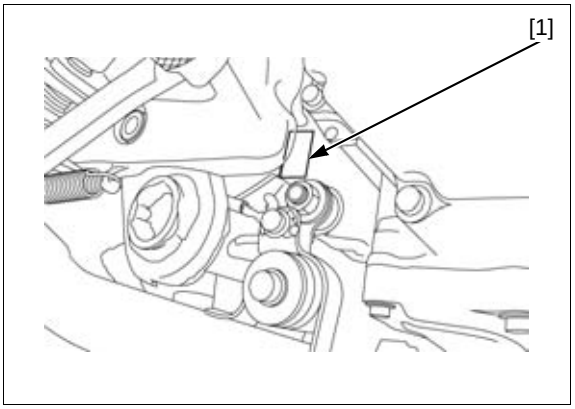
SERIAL NUMBERS

The Vehicle Identification Number (V.I.N) [1] is stamped on the right side of the steering head.

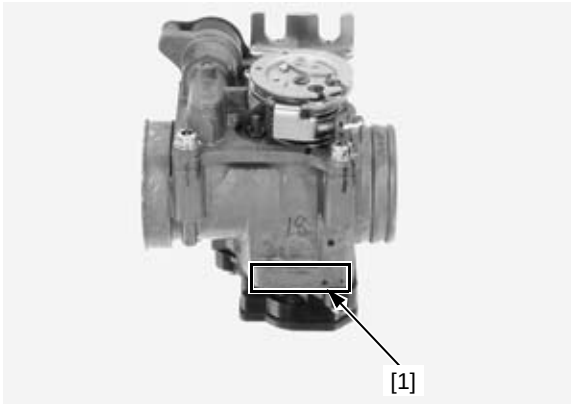


The registered number plate (ED, RU types) [1] and compliance plate (U type only) is attached on the left side of the steering head.

The engine serial number [1] is stamped on the lower right side of the crankcase.

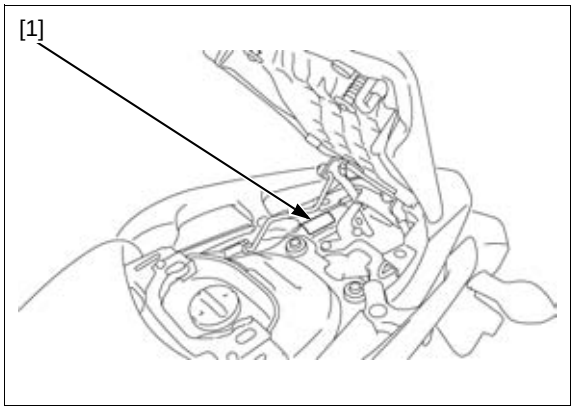


The throttle body identification number [1] is stamped on the lower left side of the throttle body as shown.

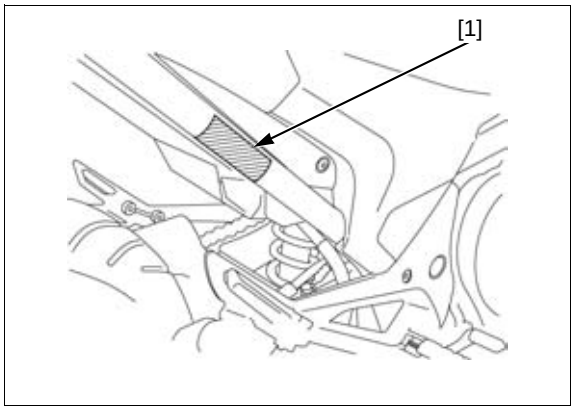


LABELS

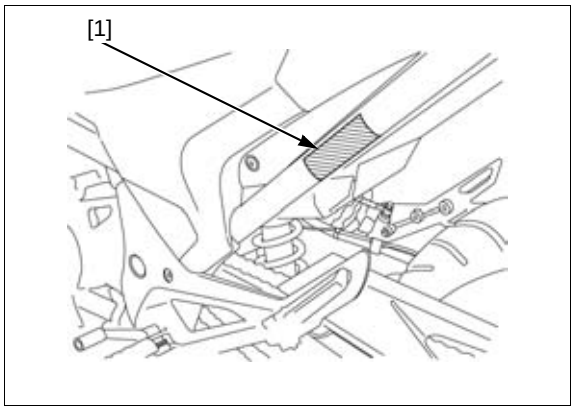
The color label [1] is attached on the right side of the rear frame. When ordering color-coded parts, always specify the designated color code.



The Safety Certification Label (KO type) [1] is located on the right side of the rear frame.



The Emission Control Information Label (KO type) [2] is located on the left side of the rear frame.



SPECIFICATIONS

GENERAL SPECIFICATIONS

ITEM				SPECIFICATIONS
DIMENSIONS	Overall length		X/XA/XD	2,210 mm (87.0 in)
			S/SA/SD	2,195 mm (86.4 in)
	Overall width	ED, RU, U type	X/XA/XD	840 mm (33.1 in)
			S/SA/SD	780 mm (30.7 in)
		KO type	XA	825 mm (32.5 in)
	Overall height		X/XA/XD	1,285 mm (50.6 in)
			S/SA/SD	1,130 mm (44.5 in)
	Wheelbase		X/XA/XD	1,540 mm (60.6 in)
			S/SA/SD	1,525 mm (60.0 in)
	Seat height		X/XA/XD	830 mm (32.7 in)
			S/SA/SD	790 mm (31.1 in)
	Footpeg height		X/XA/XD	341 mm (13.4 in)
			S/SA/SD	310 mm (12.2 in)
	Ground clearance		X/XA/XD	165 mm (6.5 in)
			S/SA/SD	140 mm (5.5 in)
	Curb weight	ED, RU, U type	NC750X	217 kg (478 lbs)
			NC750XA	219 kg (483 lbs)
			NC750XD	229 kg (505 lbs)
			NC700XD	226 kg (498 lbs)
			NC750S	214 kg (472 lbs)
			NC750SA	216 kg (476 lbs)
			NC750SD	226 kg (498 lbs)
			NC700SD	223 kg (492 lbs)
		TH type	NC750XD	227 kg (500 lbs)
		KO type	NC750XA	220 kg (485 lbs)
	Maximum weight capacity	ED, RU, U type		209 kg (461 lbs)
		KO type	NC750XA	209 kg (461 lbs)
FRAME	Frame type			Diamond
	Front suspension			Telescopic fork
	Front axle travel		X/XA/XD	137 mm (5.4 in)
			S/SA/SD	107 mm (4.2 in)
	Rear suspension			Swingarm
	Rear axle travel		X/XA/XD	150 mm (5.9 in)
			S/SA/SD	120 mm (4.7 in)
	Front tire size			120/70ZR17M/C (58W)
	Rear tire size			160/60ZR17M/C (69W)
	Front tire brand		PIRELLI	SCORPION TRAIL E
			DUNLOP	D609F
	Rear tire brand		PIRELLI	SCORPION TRAIL
			DUNLOP	D609
	Front brake			Hydraulic single disc
	Rear brake			Hydraulic single disc
	Caster angle			27°
	Trail length			110 mm (4.3 in)
	Fuel tank capacity			14.1 liters (3.73 US gal, 3.1 Imp gal)

ITEM				SPECIFICATIONS
ENGINE	Cylinder arrangement			2 cylinders in-line, slant angle 55°
	Bore and stroke		NC700XD/SD	73.0 x 80.0 mm (2.87 x 3.15 in)
			NC750X/XA/XD NC750S/SA/SD	77.0 x 80.0 mm (3.03 x 3.15 in)
	Displacement		NC700XD/SD	670 cm^3 (40.9 cu-in)
			NC750X/XA/XD NC750S/SA/SD	745 cm^3 (45.4 cu-in)
	Compression ratio			10.7:1
	Valve train			Chain driven, OHC with rocker arm
	Intake valve	opens	at 1 mm (0.04 in) lift	No.1: – 20° BTDC
				No.2: – 25° BTDC
		closes	at 1 mm (0.04 in) lift	27° ABDC
	Exhaust valve	opens	at 1 mm (0.04 in) lift	30° BBDC
		closes	at 1 mm (0.04 in) lift	No.1: – 15° ATDC
				No.2: – 20° ATDC
	Lubrication system			Forced pressure and wet sump
	Oil pump type			Trochoid
	Cooling system			Liquid cooled
	Air filtration			Paper element
	Engine dry weight		NC700XD/SD	67.3 kg (148.4 lbs)
			NC750X/XA/S/SA	62.6 kg (138.0 lbs)
			NC750XD/SD	69.2 kg (152.6 lbs)
	Firing order			1 - 2
FUEL DELIVERY SYSTEM	Type			PGM-FI (Programmed Fuel Injection)
	Throttle bore			36 mm (1.4 in)

ITEM				SPECIFICATIONS
DRIVE TRAIN	Clutch system	X/XA/S/SA		Multi-plate, wet
		XD/SD		2 Multi-plate wet clutches
	Clutch operation system	X/XA/S/SA		Cable operating
		XD/SD		Automatic
	Transmission			Constant mesh, 6-speeds
	Primary reduction	X/XA/S/SA		1.731 (71/41)
		XD/SD		1.921 (73/38)
	Final reduction	NC750X/XA/S/SA		2.529 (43/17)
		NC700XD/SD		2.437 (39/16)
		NC750XD/SD		2.294 (39/17)
	Gear ratio	NC750X/XA/S/SA	1st	2.812 (45/16)
			2nd	1.894 (36/19)
			3rd	1.454 (32/22)
			4th	1.200 (30/25)
			5th	1.033 (31/30)
			6th	0.837 (31/37)
		NC700XD/SD	1st	2.666 (40/15)
			2nd	1.904 (40/21)
			3rd	1.454 (32/22)
			4th	1.200 (30/25)
			5th	1.033 (31/30)
			6th	0.837 (31/37)
		NC750XD/SD	1st	2.666 (40/15)
			2nd	1.904 (40/21)
			3rd	1.454 (32/22)
			4th	1.200 (30/25)
			5th	1.033 (31/30)
			6th	0.864 (32/37)
	Gearshift pattern	X/XA/S/SA		Left foot operated return system, 1 - N - 2 - 3 - 4 - 5 - 6
		XD/SD (Except IIIED type)		Automatic and electric shift (left hand operated) return system, N - 1 - 2 - 3 - 4 - 5 - 6
		XD/SD (IIIED type only)		Automatic and electric shift (left hand operated or left foot operated) return system, 1 - N - 2 - 3 - 4 - 5 - 6
ELECTRICAL	Ignition system			Computer-controlled digital transistorized with electric advance
	Starting system			Electric starter motor
	Charging system			Triple phase output alternator
	Regulator/rectifier			FET shorted/triple phase full wave rectification
	Lighting system			Battery

FUEL SYSTEM SPECIFICATIONS

ITEM	SPECIFICATIONS
Throttle body identification number	GQ3UA
Idle speed	1,200 ± 100 min^{-1} (rpm)
Throttle grip freeplay	2 – 6 mm (1/16 – 1/4 in)
Fuel pressure at idle	343 kPa (3.5 kgf/cm^2, 50 psi)
Fuel pump flow (at 12 V)	230 cm^3 (7.8 US oz, 8.1 Imp oz) minimum/10 seconds
EVAP purge control solenoid valve resistance (at 20°C/68°F) (TH type only)	30 – 34 Ω

COOLING SYSTEM SPECIFICATIONS

ITEM		SPECIFICATIONS
Coolant capacity	Radiator and engine	1.69 liters (1.79 US qt, 1.49 Imp qt)
	At draining	1.41 liters (1.49 US qt, 1.24 Imp qt)
	Reserve tank	0.13 liter (0.14 US qt, 0.11 Imp qt)
Radiator cap relief pressure		108 – 137 kPa (1.1 – 1.4 kgf/cm^2, 16 – 20 psi)
Thermostat	Begin to open	80 – 84°C (176 – 183°F)
	Fully open	95°C (203°F)
	Valve lift	8 mm (0.3 in) minimum
Recommended antifreeze	Except TH type	High quality ethylene glycol antifreeze containing silicate-free corrosion inhibitors
	TH type only	Honda PRE-MIX coolant
Standard coolant concentration (Except TH type)		1:1 (mixture with distilled water)

CLUTCH/GEARSHIFT LINKAGE SPECIFICATIONS (X/XA/S/SA)

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Clutch lever freeplay		10 – 20 (3/8 – 13/16)	–
Clutch	Spring free length	43.5 (1.71)	41.9 (1.65)
	Disc thickness	2.62 – 2.78 (0.103 – 0.109)	2.3 (0.09)
	Plate warpage	–	0.30 (0.012)
Clutch outer guide	I.D.	21.991 – 22.016 (0.8658 – 0.8668)	22.03 (0.867)
	O.D.	31.959 – 31.975 (1.2582 – 1.2589)	31.92 (1.257)
Mainshaft O.D. at clutch outer guide		21.967 – 21.980 (0.8648 – 0.8654)	21.95 (0.864)
Clutch outer guide-to-mainshaft clearance		0.011 – 0.049 (0.0004 – 0.0019)	0.08 (0.003)
Primary driven gear I.D.		32.000 – 32.025 (1.2598 – 1.2608)	32.09 (1.263)
Primary driven gear-to-clutch outer guide clearance		0.025 – 0.066 (0.0010 – 0.0026)	0.10 (0.004)

CRANKSHAFT/PISTON/CYLINDER SPECIFICATIONS

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Crankshaft	Connecting rod side clearance		0.15 – 0.35 (0.006 – 0.014)	0.45 (0.018)
	Runout	Right side	–	0.03 (0.001)
		Left side	–	0.03 (0.001)
	Main journal bearing oil clearance		0.019 – 0.037 (0.0007 – 0.0015)	0.05 (0.002)
Cylinder	I.D.	NC700	73.000 – 73.015 (2.8740 – 2.8746)	73.07 (2.877)
		NC750	77.000 – 77.015 (3.0315 – 3.0321)	77.07 (3.034)
	Out-of-round		–	0.10 (0.004)
	Taper		–	0.10 (0.004)
	Warpage		–	0.10 (0.004)
Piston, piston rings	Piston O.D. at 13 mm (0.5 in) from bottom	NC700	72.976 – 72.990 (2.8731 – 2.8736)	72.970 (2.8728)
		NC750	76.976 – 76.990 (3.0305 – 3.0311)	76.970 (3.0303)
	Piston pin bore I.D.		18.010 – 18.013 (0.7091 – 0.7092)	18.023 (0.7096)
	Piston pin O.D.		17.996 – 18.000 (0.7085 – 0.7087)	17.988 (0.7082)
	Piston-to-piston pin clearance		0.010 – 0.017 (0.0004 – 0.0007)	0.035 (0.0014)
	Piston ring end gap	Top	0.15 – 0.30 (0.006 – 0.012)	0.6 (0.02)
		Second	0.30 – 0.42 (0.012 – 0.017)	0.6 (0.02)
		Oil (side rail)	0.20 – 0.70 (0.008 – 0.028)	0.8 (0.03)
	Piston ring-to-ring groove clearance	Top	0.035 – 0.080 (0.0014 – 0.0032)	0.15 (0.006)
		Second	0.030 – 0.055 (0.0012 – 0.0022)	0.13 (0.005)
Cylinder-to-piston clearance			0.010 – 0.039 (0.0004 – 0.0015)	0.05 (0.002)
Connecting rod small end I.D.			17.964 – 17.977 (0.7072 – 0.7078)	17.985 (0.7081)
Crankpin bearing oil clearance			0.026 – 0.044 (0.0010 – 0.0017)	0.05 (0.002)

REAR WHEEL/SUSPENSION SPECIFICATIONS

Unit: mm (in)

ITEM				STANDARD	SERVICE LIMIT
Minimum tire tread depth				–	2.0 (0.08)
Cold tire pressure	Driver only			290 kPa (2.90 kgf/cm^2, 42 psi)	–
	Driver and passenger			290 kPa (2.90 kgf/cm^2, 42 psi)	–
Axle runout				–	0.2 (0.01)
Wheel rim runout	Radial			–	2.0 (0.08)
	Axial			–	2.0 (0.08)
Wheel balance weight				–	60 g (2.1 oz) max.
Drive chain	Size/link	X/XA/S/SA	DID	DID520V0-114LE	–
			RK	RK520KHO-114LE	–
		XD/SD	DID	DID520V0-112LE	–
			RK	RK520KHO-112LE	–
	Slack	X/XA/XD		30 – 40 (1.2 – 1.6)	–
		S/SA/SD		25 – 35 (1.0 – 1.4)	–

HYDRAULIC BRAKE SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Front	Specified brake fluid	DOT 4	–
	Brake disc thickness	4.8 – 5.2 (0.19 – 0.20)	4.0 (0.16)
	Brake disc warpage	–	0.30 (0.012)
	Master cylinder I.D.	11.000 – 11.043 (0.4331 – 0.4348)	11.055 (0.4352)
	Master piston O.D.	10.957 – 10.984 (0.4314 – 0.4324)	10.945 (0.4309)
	Caliper cylinder I.D.	27.000 – 27.050 (1.0630 – 1.0650)	27.060 (1.0654)
	Caliper piston O.D.	26.918 – 26.968 (1.0598 – 1.0617)	26.91 (1.059)
Rear	Specified brake fluid	DOT 4	–
	Brake disc thickness	4.8 – 5.2 (0.19 – 0.20)	4.0 (0.16)
	Brake disc warpage	–	0.30 (0.012)
	Master cylinder I.D.	14.000 – 14.043 (0.5512 – 0.5529)	14.055 (0.5533)
	Master piston O.D.	13.957 – 13.984 (0.5495 – 0.5506)	13.945 (0.5490)
	Caliper cylinder I.D.	38.18 – 38.23 (1.503 – 1.505)	38.24 (1.506)
	Caliper piston O.D.	38.098 – 38.148 (1.4999 – 1.5019)	38.09 (1.500)
	Brake pedal height	85.0 – 87.0 (3.35 – 3.43)	–

BATTERY/CHARGING SYSTEM SPECIFICATIONS

ITEM			SPECIFICATIONS
Battery	Type	NC700	YTZ12S
		NC750	YTZ14S
	Capacity	NC700	12 V – 11 Ah (10 HR)/11.6 Ah (20HR)
		NC750	12 V – 11.2 Ah (10 HR)/11.8 Ah (20HR)
	Current leakage		1.2 mA maximum
	Voltage (20°C/68°F)	Fully charged	13.0 – 13.2 V
		Needs charging	Below 12.4 V
	Charging current	Normal	1.1 A/5 – 10 h
		Quick	5.5 A/1 h
Alternator	Capacity		0.42 kW/5,000 min^{-1} (rpm)
	Charging coil resistance (20°C/68°F)		0.1 – 0.5 Ω

TORQUE VALUES

ENGINE & FRAME TORQUE VALUES

- Torque specifications listed below are for important fasteners. Others should be tightened to standard torque values.

CLUTCH/GEARSHIFT LINKAGE (X/XA/S/SA)

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Clutch center lock nut	1	18	128 (13.1, 94)	Apply engine oil to the threads and seating surface. Lock nut; replace with a new one and stake.
Clutch lifter plate bolt	4	6	12 (1.2, 9)	
Primary drive gear bolt	1	10	93 (9.5, 69)	Apply engine oil to the threads and seating surface.
Shift drum stopper arm pivot bolt	1	6	12 (1.2, 9)	Apply locking agent to the threads. Coating width; 6.5 ± 1.0 mm (0.26 ± 0.04 in) except 2.0 ± 1.0 mm (0.08 ± 0.04 in) from tip
Shift drum center socket bolt	1	8	23 (2.3, 17)	Apply locking agent to the threads. Coating width; 6.5 ± 1.0 mm (0.26 ± 0.04 in) except 2.0 ± 1.0 mm (0.08 ± 0.04 in) from tip
Gearshift pedal adjuster lock nut	2	6	10 (1.0, 7)	
Gearshift pedal pivot bolt	1	8	27 (2.8, 20)	
Gear position sensor holder bolt	3	6	14 (1.4, 10)	

DUAL CLUTCH TRANSMISSION (DCT) (XD/SD)

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Solenoid valve stopper plate bolt	1	6	12 (1.2, 9)	Apply locking agent to the threads. Coating width: 6.5 ± 1.0 mm (0.26 ± 0.04 in) except 2.0 ± 1.0 mm (0.08 ± 0.04 in) from tip
Right crankcase cover wire clamp bolt	2	6	12 (1.2, 9)	Apply locking agent to the threads. Coating width: 6.5 ± 1.0 mm (0.26 ± 0.04 in) except 2.0 ± 1.0 mm (0.08 ± 0.04 in) from tip
Linear solenoid valve body mounting bolt	6	6	–	For tightening sequence (page 12-101)
Shift spindle angle sensor bolt	1	6	12 (1.2, 9)	
Primary drive gear bolt	1	10	93 (9.5, 69)	Apply engine oil to the threads and seating surface.
Reduction gear cover bolt	3	6	14 (1.4, 10)	
TR sensor bolt	1	6	12 (1.2, 9)	
Shift control motor bolt	3	6	14 (1.4, 10)	
Shift drum center bolt	1	8	23 (2.3, 17)	Apply locking agent to the threads. Coating width: 6.5 ± 1.0 mm (0.26 ± 0.04 in) except 2.0 ± 1.0 mm (0.08 ± 0.04 in) from tip
Drum shifter guide plate bolt	2	6	12 (1.2, 9)	Apply locking agent to the threads. Coating width: 6.5 ± 1.0 mm (0.26 ± 0.04 in) except 2.0 ± 1.0 mm (0.08 ± 0.04 in) from tip
Clutch line EOP sensor	3	10	19.6 (2.0, 14)	
EOT sensor	1	10	14 (1.4, 10)	Apply engine oil to the threads and seating surface.
DCT gearshift arm pinch bolt (XD/SD IIIED type only)	1	6	12 (1.2, 9)	
DCT shift pedal pivot bolt (XD/SD IIIED type only)	1	8	27 (2.8, 20)	
DCT gearshift pedal adjuster lock nut (XD/SD IIIED type only)	2	6	10 (1.0, 7)	
Shift pedal angle sensor assembly mounting bolt (XD/SD IIIED type only)	2	8	22 (2.2, 16)	

CRANKCASE/TRANSMISSION/BALANCER

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Mainshaft bearing set plate bolt	3	6	12 (1.2, 9)	Apply locking agent to the threads. Coating width; 6.5 ± 1.0 mm (0.26 ± 0.04 in) except 2.0 ± 1.0 mm (0.08 ± 0.04 in) from tip
Shift drum bearing set plate bolt	2	6	12 (1.2, 9)	Apply locking agent to the threads. Coating width; 6.5 ± 1.0 mm (0.26 ± 0.04 in) except 2.0 ± 1.0 mm (0.08 ± 0.04 in) from tip
Front balancer shaft bearing set plate bolt	3	6	12 (1.2, 9)	Apply locking agent to the threads. Coating width; 6.5 ± 1.0 mm (0.26 ± 0.04 in) except 2.0 ± 1.0 mm (0.08 ± 0.04 in) from tip
Rear balancer shaft bearing set plate bolt (NC750 only)	2	6	12 (1.2, 9)	Apply locking agent to the threads. Coating width; 6.5 ± 1.0 mm (0.26 ± 0.04 in) except 2.0 ± 1.0 mm (0.08 ± 0.04 in) from tip
Crankcase main journal bolt (new)	6	9	20 (2.0, 15) + 150°	See page 14-30 Replace with a new one.
Crankcase 10 mm bolt	1	10	39 (4.0, 29)	
Crankcase 8 mm bolt	3	8	24 (2.4, 18)	
Crankcase 8 x 45 mm bolt	1	8	24 (2.4, 18)	Apply locking agent to the threads. Coating width; 6.5 ± 1.0 mm (0.26 ± 0.04 in) from tip
Crankcase 6 mm bolt	8	6	14 (1.4, 10)	

REAR WHEEL/SUSPENSION

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Driven sprocket nut	5	12	108 (11.0, 80)	U-nut
Rear brake disc mounting bolt	5	8	42 (4.3, 31)	ALOC bolt; replace with a new one.
Rear axle nut	1	18	98 (10.0, 72)	U-nut
Shock absorber mounting nut	2	10	44 (4.5, 32)	U-nut
Shock arm nut	1	10	44 (4.5, 32)	U-nut
Shock link nut	2	10	44 (4.5, 32)	U-nut
Drive chain slider mounting screw	2	5	5.9 (0.6, 4.4)	
Swingarm pivot nut	1	18	98 (10.0, 72)	U-nut
Step holder mounting socket bolt	4	8	32 (3.3, 24)	
Gearshift arm pinch bolt (X/XA/S/SA, XD/SD (IIIED type only))	1	6	12 (1.2, 9)	ALOC bolt; replace with a new one.

HYDRAULIC BRAKE

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Brake caliper bleed valve	2	8	5.4 (0.6, 4.0)	
Master cylinder reservoir cover screw	4	4	1.5 (0.2, 1.1)	
Rear brake reservoir mounting bolt	1	6	10 (1.0, 7)	
Brake pad pin	2	10	17 (1.7, 13)	
Rear brake caliper mounting bolt	1	8	22 (2.2, 16)	ALOC bolt; replace with a new one.
Front master cylinder holder bolt	2	6	12 (1.2, 9)	
Brake hose oil bolt	4	10	34 (3.5, 25)	
Front brake light switch screw	1	4	1.2 (0.1, 0.9)	
Front brake lever pivot bolt	1	6	1.0 (0.1, 0.7)	Apply 0.10 g (0.004 oz) silicone grease to the sliding surface.
Front brake lever pivot nut	1	6	5.9 (0.6, 4.4)	
Rear master cylinder mounting bolt	2	6	12 (1.2, 9)	
Step holder mounting socket bolt	4	8	32 (3.3, 24)	
Rear master cylinder hose joint screw	1	4	1.5 (0.2, 1.1)	Apply locking agent to the threads.
Rear master cylinder push rod lock nut	1	8	17 (1.7, 13)	
Front brake caliper pin	1	8	22 (2.2, 16)	Apply locking agent to the threads. Apply 0.4 g (0.01 oz) silicone grease to the sliding surface.
Front brake caliper bracket pin	1	8	12 (1.2, 9)	Apply locking agent to the threads. Apply 0.4 g (0.01 oz) silicone grease to the sliding surface.
Front brake caliper mounting bolt	2	8	30 (3.1, 22)	ALOC bolt; replace with a new one.
Rear brake caliper pin	1	12	27 (2.8, 20)	Apply 0.4 g (0.01 oz) silicone grease to the sliding surface.
Parking brake caliper mounting bolt (XD/SD)	2	8	31 (3.2, 23)	ALOC bolt; replace with a new one.
Parking brake caliper pin bolt (XD/SD)	1	8	22 (2.2, 16)	Apply locking agent to the threads.
Parking brake pad pin (XD/SD)	2	8	17 (1.7, 13)	ALOC bolt; replace with a new one.
Parking brake adjuster bolt lock nut (XD/SD)	1	8	17 (1.7, 13)	
Parking brake cable mounting nut (XD/SD)	1	10	10 (1.0, 7)	

ANTI-LOCK BRAKE SYSTEM (ABS) (XA/XD/SA/SD)

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Step holder mounting socket bolt	4	8	32 (3.3, 24)	
Brake pipe joint nut	8	10	14 (1.4, 10)	Apply brake fluid to the threads and sliding surface.

LIGHTS/METERS/SWITCHES

ITEM	Q'TY	THREAD DIA. (mm)	TORQUE N·m (kgf·m, lbf·ft)	REMARKS
Turn signal light mounting screw	4	6	2.5 (0.3, 1.8)	
Combination meter mounting screw	3	5	1.0 (0.1, 0.7)	
Combination meter back cover mounting screw (S/SA/SD)	4	3	0.3 (0.03, 0.2)	
EOP switch	1	PT 1/8	18 (1.8, 13)	Apply sealant to the threads.
Ignition switch mounting bolt	2	8	25 (2.5, 18)	One way bolt; replace with a new one.
Neutral switch	1	10	12 (1.2, 9)	
Parking brake switch screw (XD/SD)	1	4	1.2 (0.1, 0.9)	
Gear position sensor bolt	1	6	12 (1.2, 9)	

LUBRICATION & SEAL POINTS

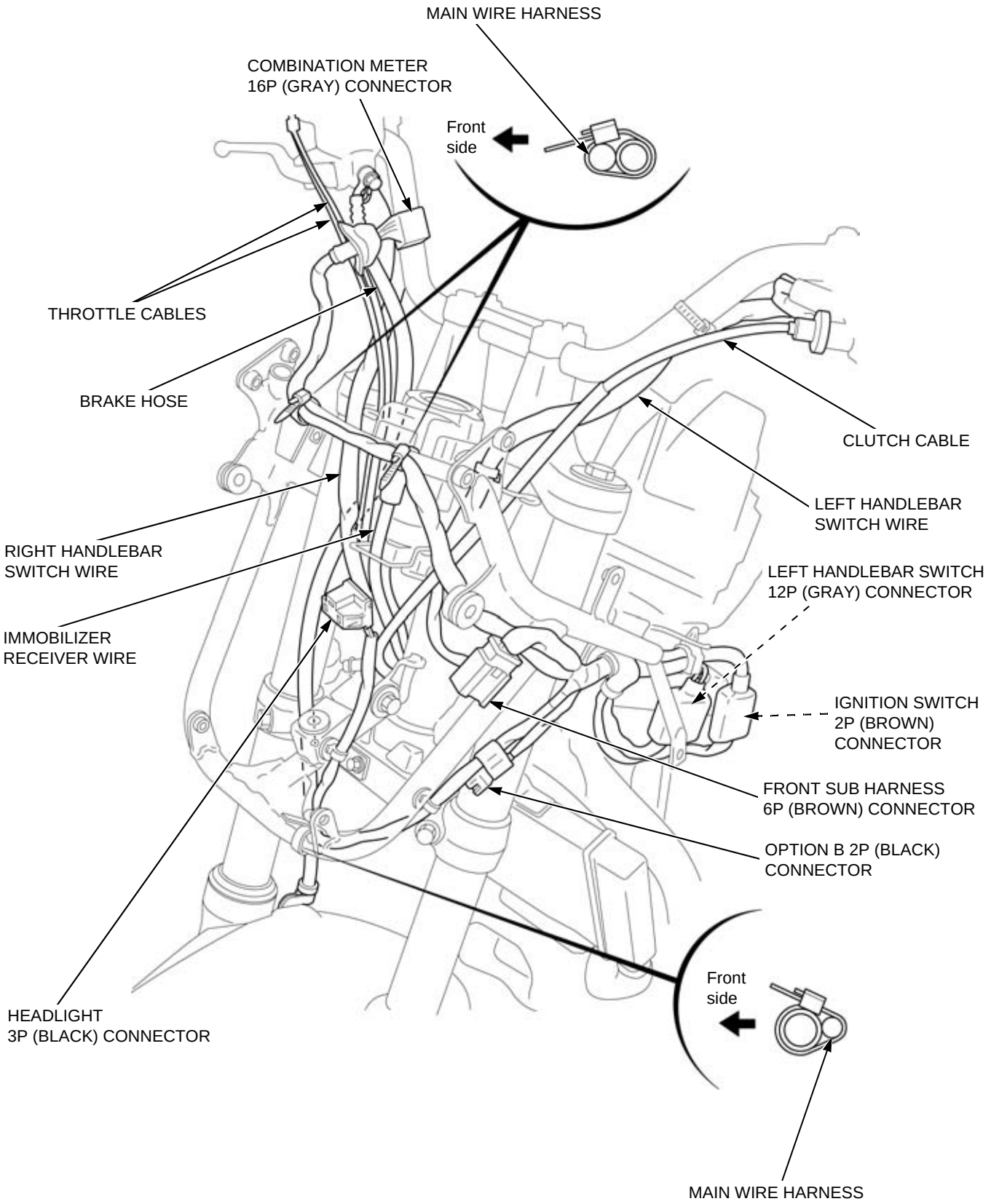
FRAME

MATERIAL	LOCATION	REMARKS
Urea based multi-purpose grease with extreme pressure (example: Kyodo Yushi EXCELITE EP2, Shell Stamina EP2 or equivalent)	Steering head bearing sliding surface	3 – 5 g (0.1 – 0.2 oz)
	Steering head dust seal lips	
Molybdenum disulfide grease	Shock arm needle bearings	
	Rear shock absorber needle bearing	
	Rear shock absorber dust seal lips	
	Swingarm pivot needle bearings	
	Swingarm pivot ball bearing	
	Swingarm pivot dust seal lips	
Multi-purpose grease	Seat catch hook sliding area	
	Luggage box lid catch sliding area	
	Gearshift pedal pivot and dust seal lips (X/XA/S/SA)	
	DCT shift pedal pivot and dust seal lips (XD/SD IIIED type only)	
	Gearshift pedal tie-rod ball joint area (X/XA/S/SA)	
	Throttle cable end and throttle grip pipe flange groove	
	Front wheel dust seal lips	
	Rear wheel hub O-ring	
	Rear wheel dust seal lips	
	Rear axle sliding surface	
	Swingarm pivot sliding surface	
	Rear brake pedal pivot sliding area	
	Parking brake ratchet A, B teeth and sliding surface (XD/SD)	
	Parking brake lever, washer sliding surface (XD/SD)	
	Parking brake switch spring sliding surface (XD/SD)	
	Main step sliding area	
	Pillion step sliding area	
Cable lubricant	Seat lock cable inside	
	Luggage box lid lock cable inside	
	Throttle cable A, B inside	
	Clutch cable inside (X/XA/S/SA)	
	Parking brake cable inside (XD/SD)	
Honda bond A, Cemedine #540 or equivalent	Handlebar grip rubber inside	
	Brake pad retainer mating surface	

MATERIAL	LOCATION	REMARKS
Silicone grease	Front brake lever sliding surface and lever-to-master piston contacting area	0.10 g (0.004 oz)
	Rear brake master cylinder push rod sliding surface and boot fitting area	
	Brake caliper dust seals	
	Rear brake caliper boot inside	0.4 g (0.01 oz)
	Brake pad pin stopper ring	
	Parking brake shaft outer surface (XD/SD)	0.4 g (0.01 oz) minimum
	Parking brake adjuster bolt threads and caliper piston sliding surface (XD/SD)	0.4 g (0.01 oz) minimum
	Parking brake shaft boot lips (XD/SD)	0.4 g (0.01 oz) minimum
	Parking brake caliper bracket pin sliding surface (XD/SD)	0.4 g (0.01 oz) minimum
	Parking brake caliper sleeve sliding surface (XD/SD)	0.4 g (0.01 oz) minimum
DOT 4 brake fluid	Brake caliper piston and piston seals	
	Brake master piston and cups	
	Brake master cylinder inside	
	Rear master cylinder reservoir hose joint O-ring	
Fork fluid	Fork cap O-ring	
	Fork dust seal and oil seal lips	
Drive chain lubricant designed specifically for use with O-ring chains, #80 – 90 gear oil or equivalent	Drive chain whole surface	

CABLE & HARNESS ROUTING

X:



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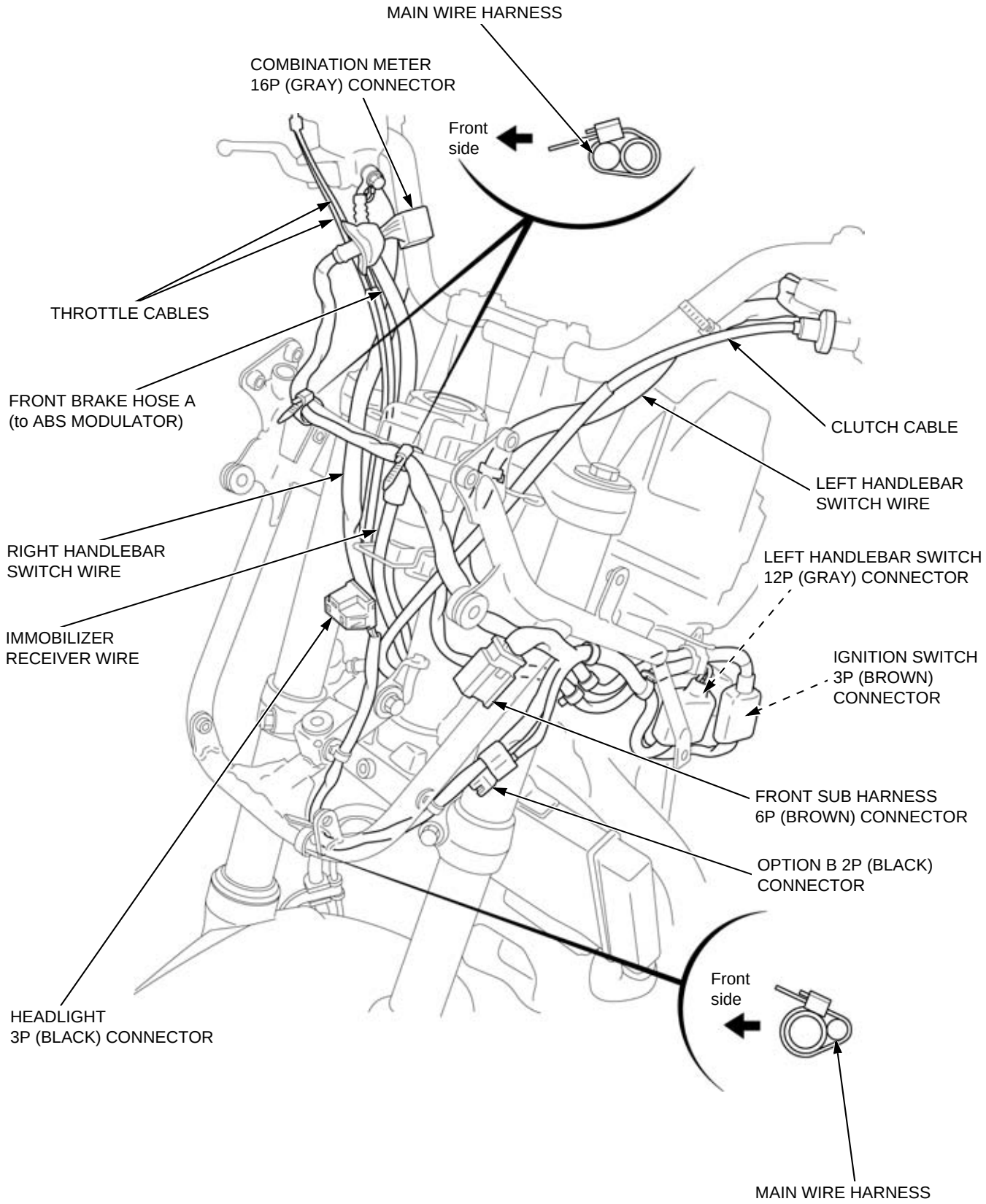
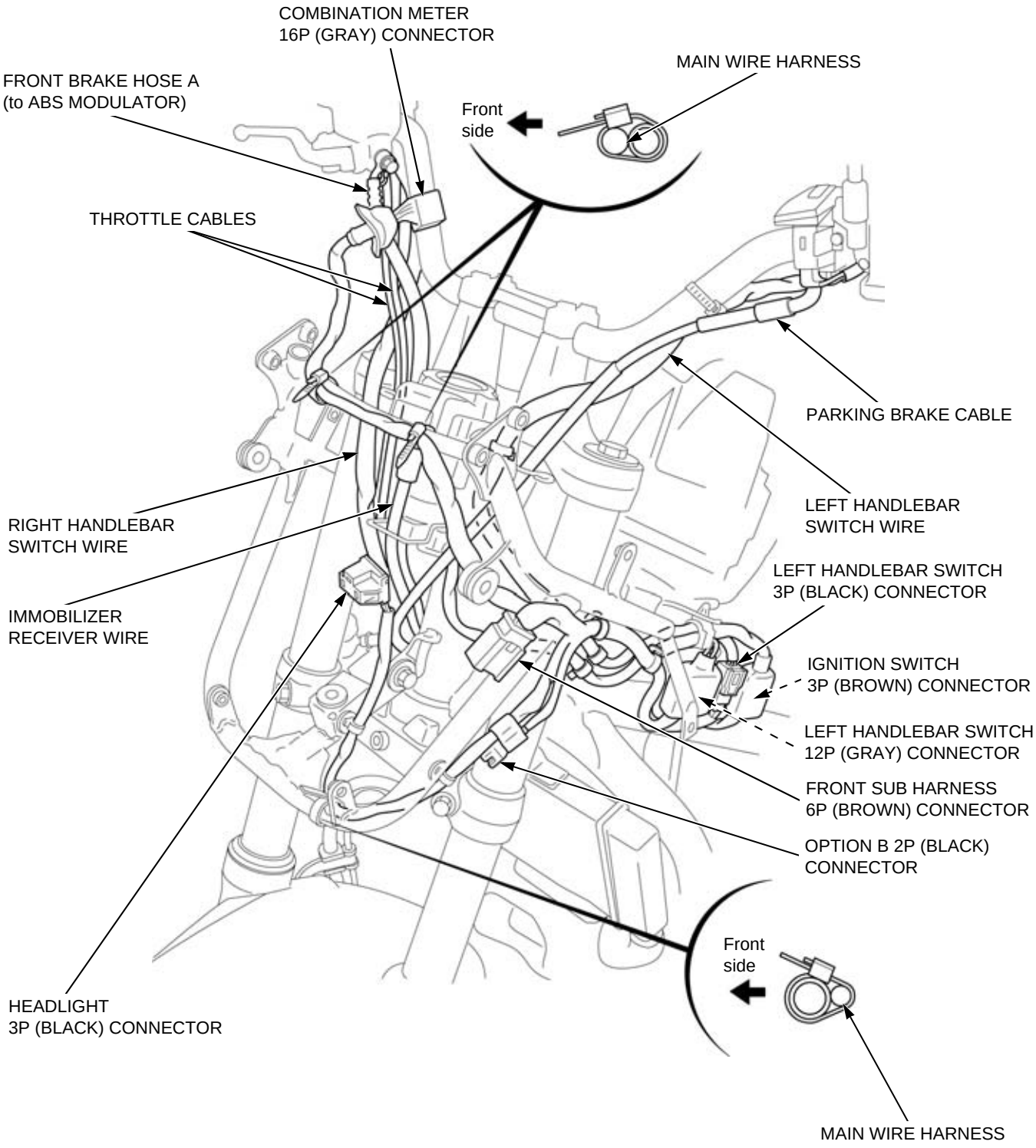
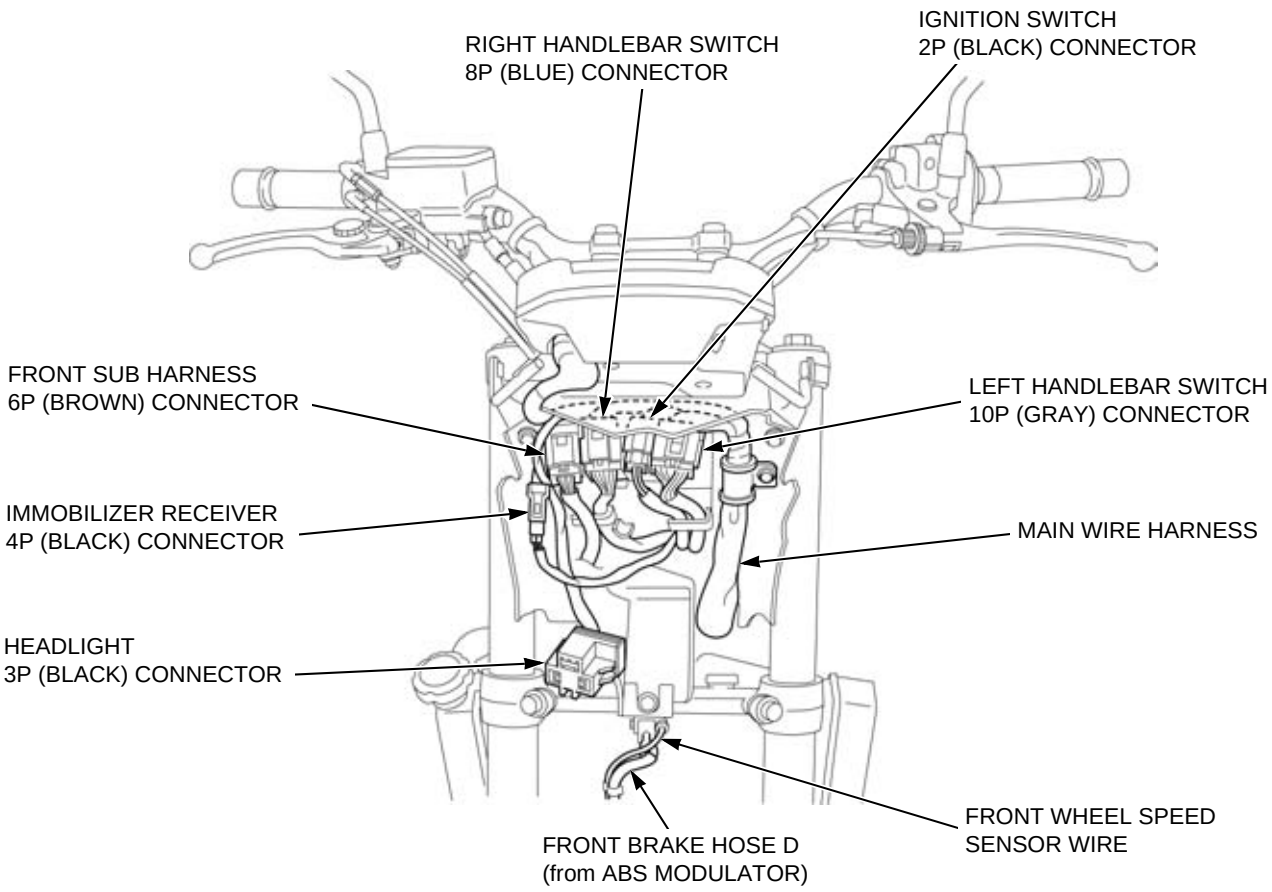

MAIN WIRE HARNESS
COMBINATION METER
16P (GRAY) CONNECTOR
Front
side
THROTTLE CABLES
FRONT BRAKE HOSE A
(to ABS MODULATOR)
CLUTCH CABLE
LEFT HANDLEBAR
SWITCH WIRE
RIGHT HANDLEBAR
SWITCH WIRE
LEFT HANDLEBAR SWITCH
12P (GRAY) CONNECTOR
IMMOBILIZER
RECEIVER WIRE
IGNITION SWITCH
3P (BROWN)
CONNECTOR
FRONT SUB HARNESS
6P (BROWN) CONNECTOR
OPTION B 2P (BLACK)
CONNECTOR
Front
side
HEADLIGHT
3P (BLACK) CONNECTOR
MAIN WIRE HARNESS

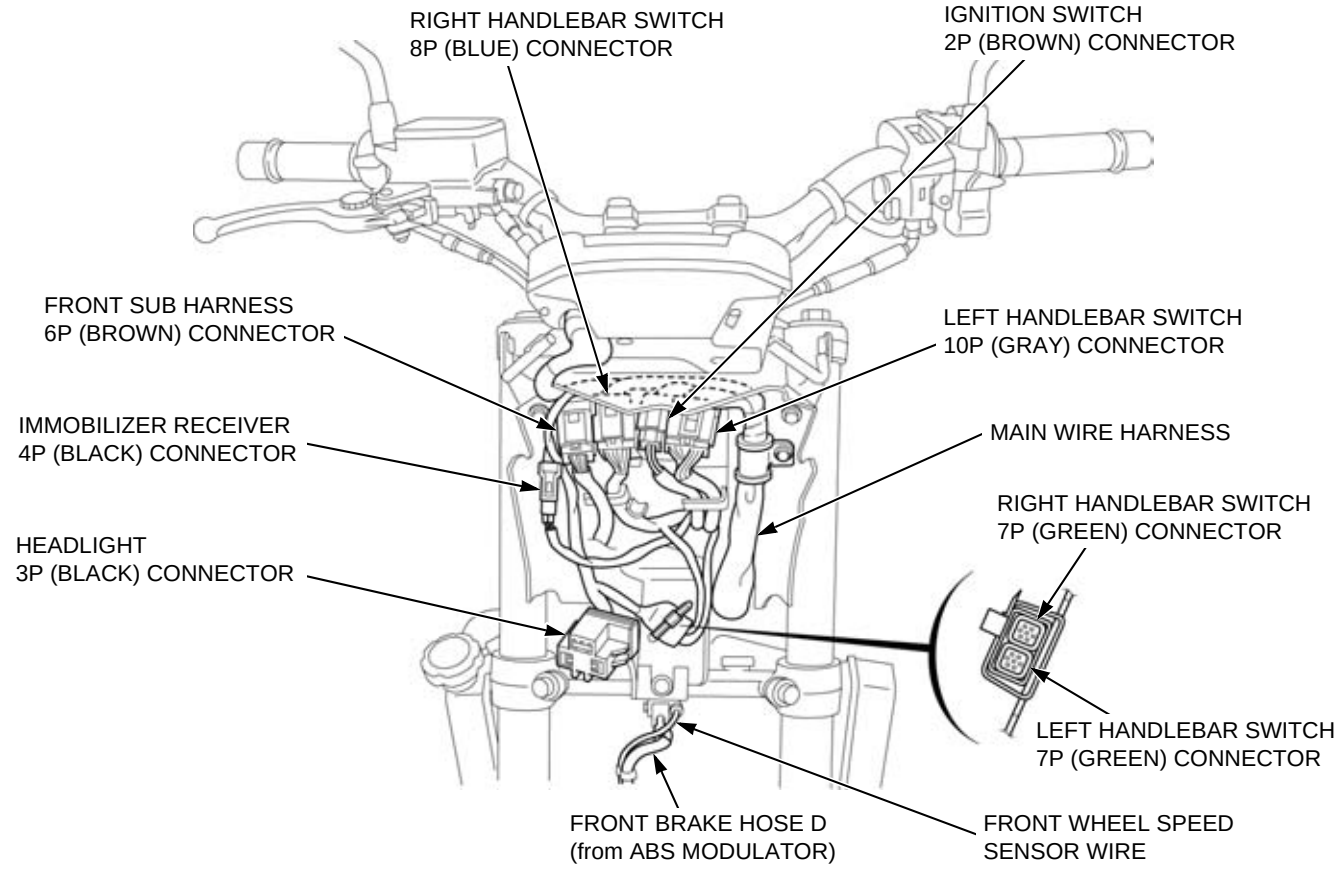
XD:


COMBINATION METER
16P (GRAY) CONNECTOR
MAIN WIRE HARNESS
FRONT BRAKE HOSE A
(to ABS MODULATOR)
Front
side
THROTTLE CABLES
PARKING BRAKE CABLE
LEFT HANDLEBAR
SWITCH WIRE
RIGHT HANDLEBAR
SWITCH WIRE
LEFT HANDLEBAR SWITCH
3P (BLACK) CONNECTOR
IMMOBILIZER
RECEIVER WIRE
IGNITION SWITCH
3P (BROWN) CONNECTOR
LEFT HANDLEBAR SWITCH
12P (GRAY) CONNECTOR
FRONT SUB HARNESS
6P (BROWN) CONNECTOR
OPTION B 2P (BLACK)
CONNECTOR
Front
side
HEADLIGHT
3P (BLACK) CONNECTOR
MAIN WIRE HARNESS

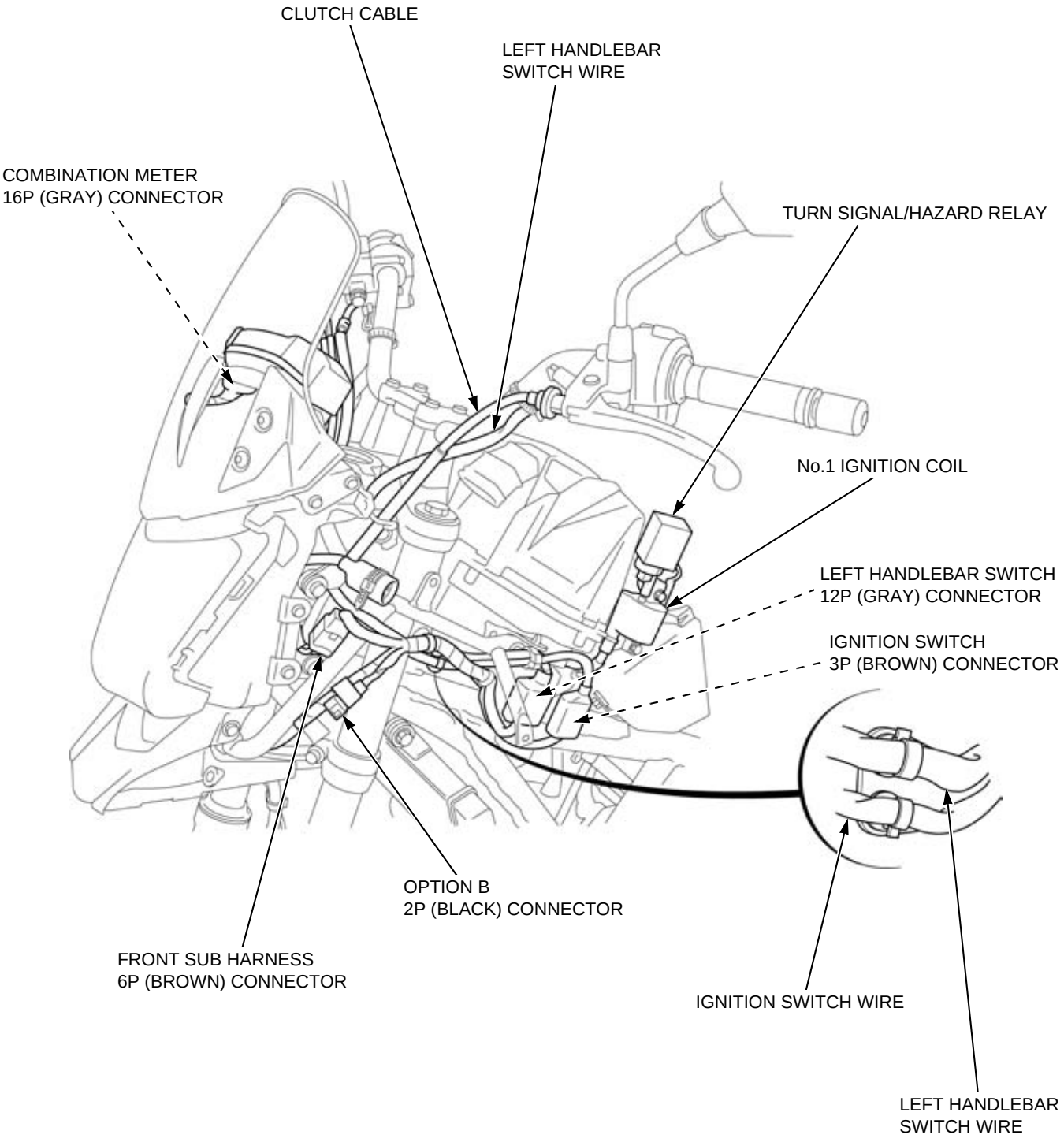
SA:


RIGHT HANDLEBAR SWITCH
8P (BLUE) CONNECTOR
IGNITION SWITCH
2P (BLACK) CONNECTOR
FRONT SUB HARNESS
6P (BROWN) CONNECTOR
LEFT HANDLEBAR SWITCH
10P (GRAY) CONNECTOR
IMMOBILIZER RECEIVER
4P (BLACK) CONNECTOR
MAIN WIRE HARNESS
HEADLIGHT
3P (BLACK) CONNECTOR
FRONT WHEEL SPEED
SENSOR WIRE
FRONT BRAKE HOSE D
(from ABS MODULATOR)

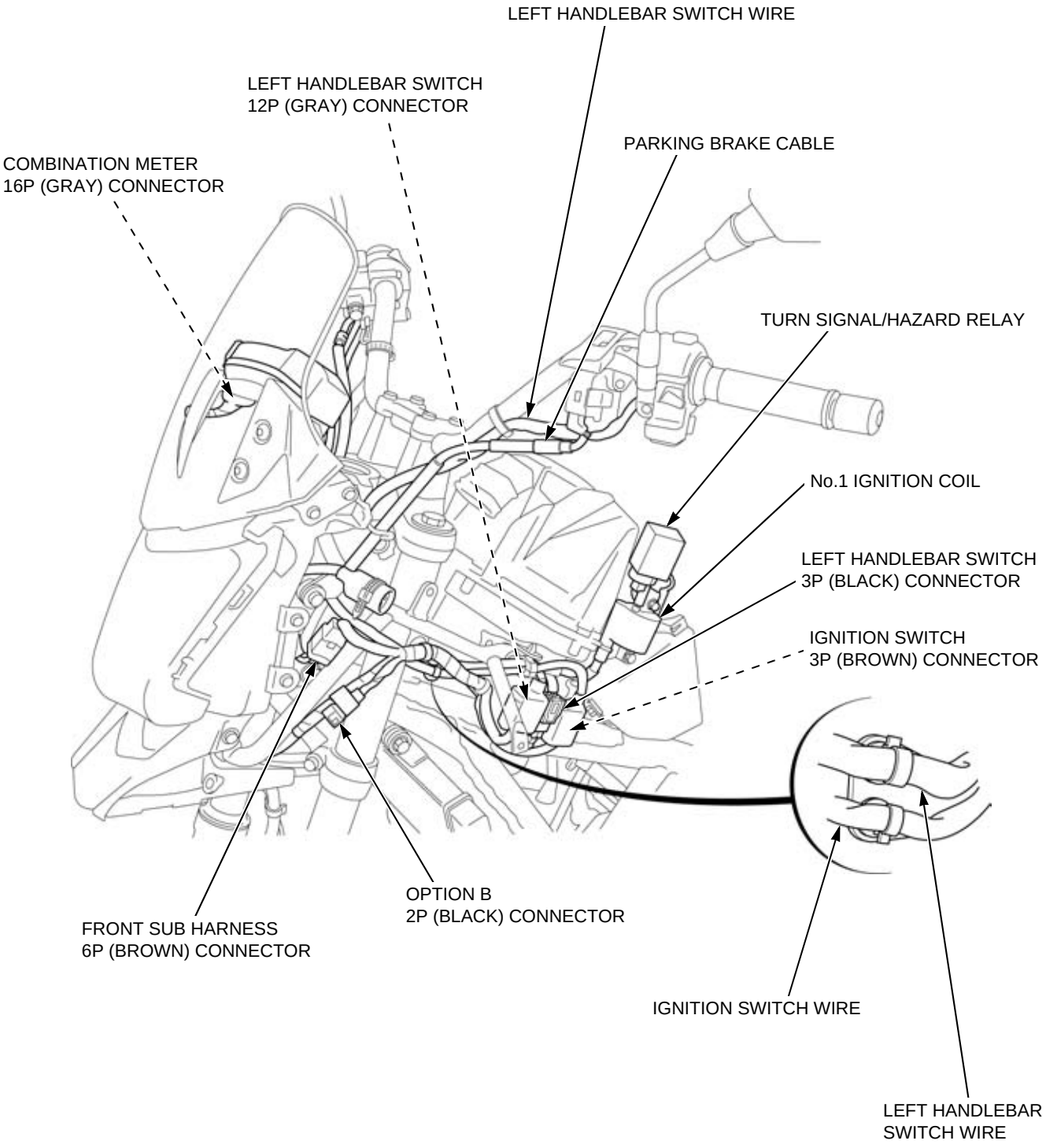
SD:


RIGHT HANDLEBAR SWITCH
8P (BLUE) CONNECTOR
IGNITION SWITCH
2P (BROWN) CONNECTOR
FRONT SUB HARNESS
6P (BROWN) CONNECTOR
LEFT HANDLEBAR SWITCH
10P (GRAY) CONNECTOR
IMMOBILIZER RECEIVER
4P (BLACK) CONNECTOR
MAIN WIRE HARNESS
RIGHT HANDLEBAR SWITCH
7P (GREEN) CONNECTOR
HEADLIGHT
3P (BLACK) CONNECTOR
LEFT HANDLEBAR SWITCH
7P (GREEN) CONNECTOR
FRONT BRAKE HOSE D
(from ABS MODULATOR)
FRONT WHEEL SPEED
SENSOR WIRE

X/XA:


CLUTCH CABLE
LEFT HANDLEBAR SWITCH WIRE
COMBINATION METER 16P (GRAY) CONNECTOR
TURN SIGNAL/HAZARD RELAY
No.1 IGNITION COIL
LEFT HANDLEBAR SWITCH 12P (GRAY) CONNECTOR
IGNITION SWITCH 3P (BROWN) CONNECTOR
OPTION B 2P (BLACK) CONNECTOR
FRONT SUB HARNESS 6P (BROWN) CONNECTOR
IGNITION SWITCH WIRE
LEFT HANDLEBAR SWITCH WIRE

XD:


LEFT HANDLEBAR SWITCH WIRE
LEFT HANDLEBAR SWITCH
12P (GRAY) CONNECTOR
PARKING BRAKE CABLE
COMBINATION METER
16P (GRAY) CONNECTOR
TURN SIGNAL/HAZARD RELAY
No.1 IGNITION COIL
LEFT HANDLEBAR SWITCH
3P (BLACK) CONNECTOR
IGNITION SWITCH
3P (BROWN) CONNECTOR
OPTION B
2P (BLACK) CONNECTOR
FRONT SUB HARNESS
6P (BROWN) CONNECTOR
IGNITION SWITCH WIRE
LEFT HANDLEBAR
SWITCH WIRE

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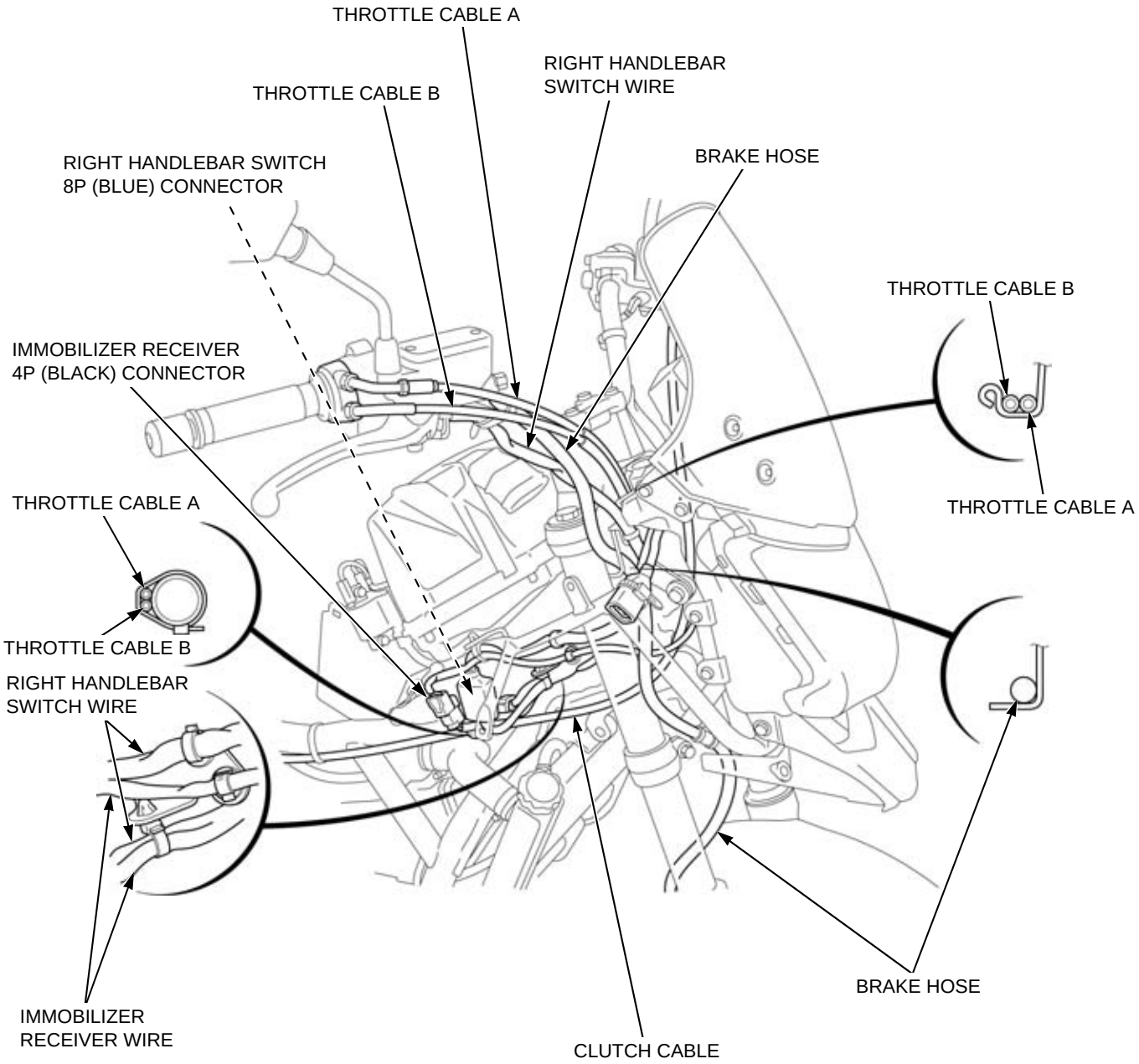
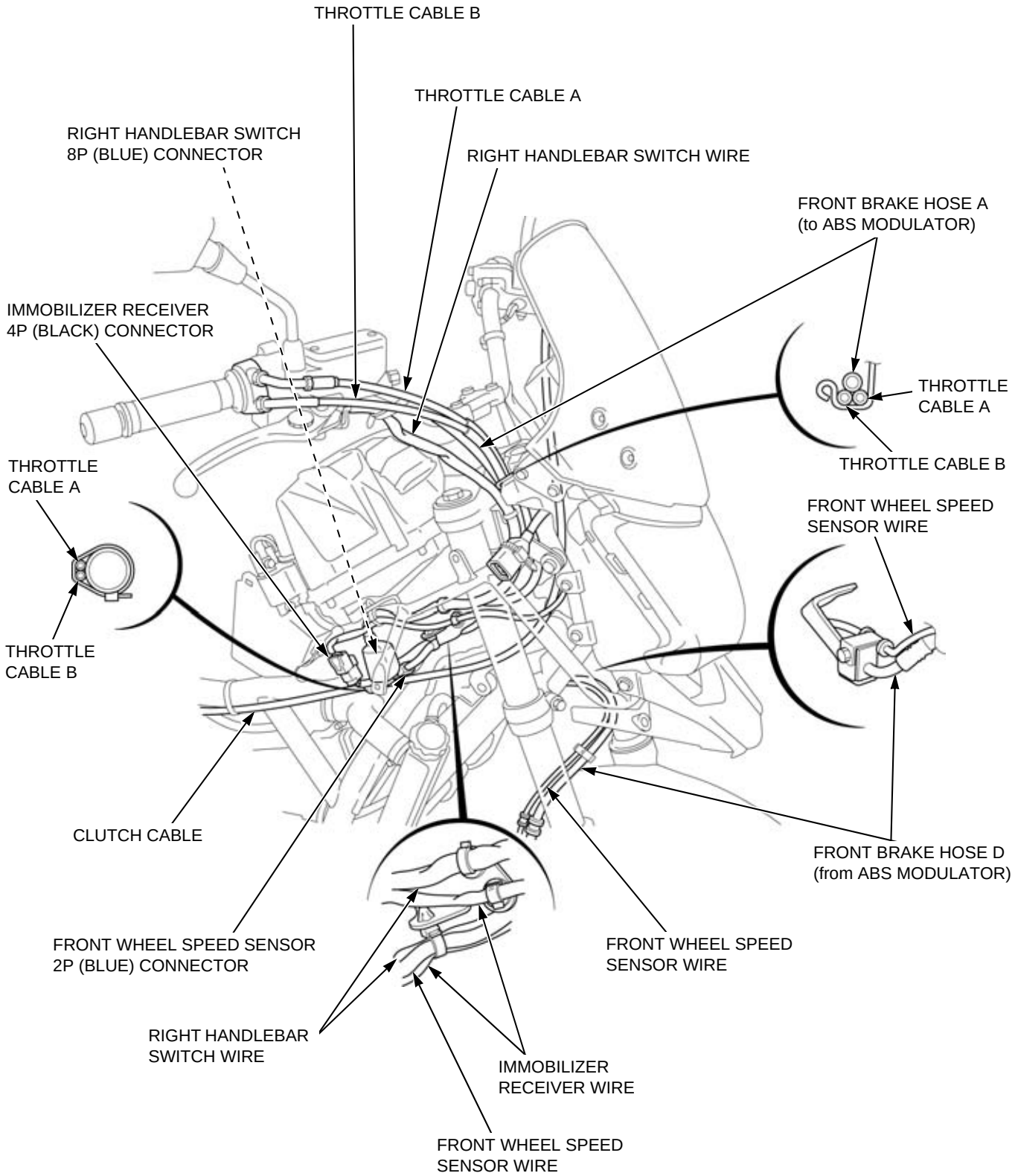

THROTTLE CABLE A
RIGHT HANDLEBAR SWITCH WIRE
THROTTLE CABLE B
BRAKE HOSE
RIGHT HANDLEBAR SWITCH 8P (BLUE) CONNECTOR
THROTTLE CABLE B
IMMOBILIZER RECEIVER 4P (BLACK) CONNECTOR
THROTTLE CABLE A
THROTTLE CABLE A
THROTTLE CABLE B
RIGHT HANDLEBAR SWITCH WIRE
BRAKE HOSE
IMMOBILIZER RECEIVER WIRE
CLUTCH CABLE

XA:


THROTTLE CABLE B
THROTTLE CABLE A
RIGHT HANDLEBAR SWITCH 8P (BLUE) CONNECTOR
RIGHT HANDLEBAR SWITCH WIRE
FRONT BRAKE HOSE A (to ABS MODULATOR)
IMMOBILIZER RECEIVER 4P (BLACK) CONNECTOR
THROTTLE CABLE A
THROTTLE CABLE B
THROTTLE CABLE A
FRONT WHEEL SPEED SENSOR WIRE
THROTTLE CABLE B
CLUTCH CABLE
FRONT BRAKE HOSE D (from ABS MODULATOR)
FRONT WHEEL SPEED SENSOR 2P (BLUE) CONNECTOR
FRONT WHEEL SPEED SENSOR WIRE
RIGHT HANDLEBAR SWITCH WIRE
IMMOBILIZER RECEIVER WIRE
FRONT WHEEL SPEED SENSOR WIRE

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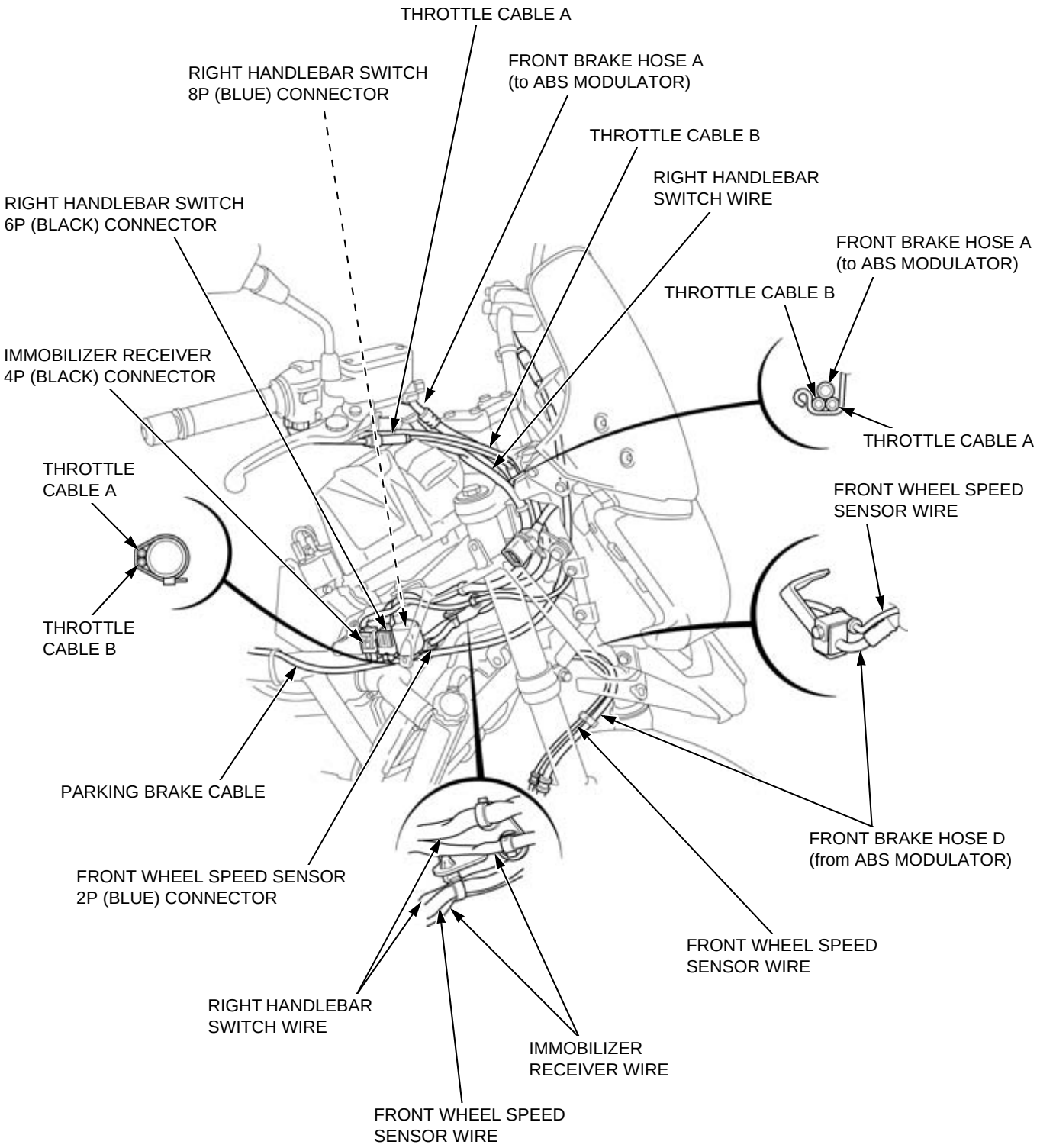
THROTTLE CABLE A
RIGHT HANDLEBAR SWITCH 8P (BLUE) CONNECTOR
FRONT BRAKE HOSE A (to ABS MODULATOR)
THROTTLE CABLE B
RIGHT HANDLEBAR SWITCH WIRE
RIGHT HANDLEBAR SWITCH 6P (BLACK) CONNECTOR
FRONT BRAKE HOSE A (to ABS MODULATOR)
THROTTLE CABLE B
IMMOBILIZER RECEIVER 4P (BLACK) CONNECTOR
THROTTLE CABLE A
THROTTLE CABLE A
FRONT WHEEL SPEED SENSOR WIRE
THROTTLE CABLE B
PARKING BRAKE CABLE
FRONT BRAKE HOSE D (from ABS MODULATOR)
FRONT WHEEL SPEED SENSOR 2P (BLUE) CONNECTOR
FRONT WHEEL SPEED SENSOR WIRE
RIGHT HANDLEBAR SWITCH WIRE
IMMOBILIZER RECEIVER WIRE
FRONT WHEEL SPEED SENSOR WIRE

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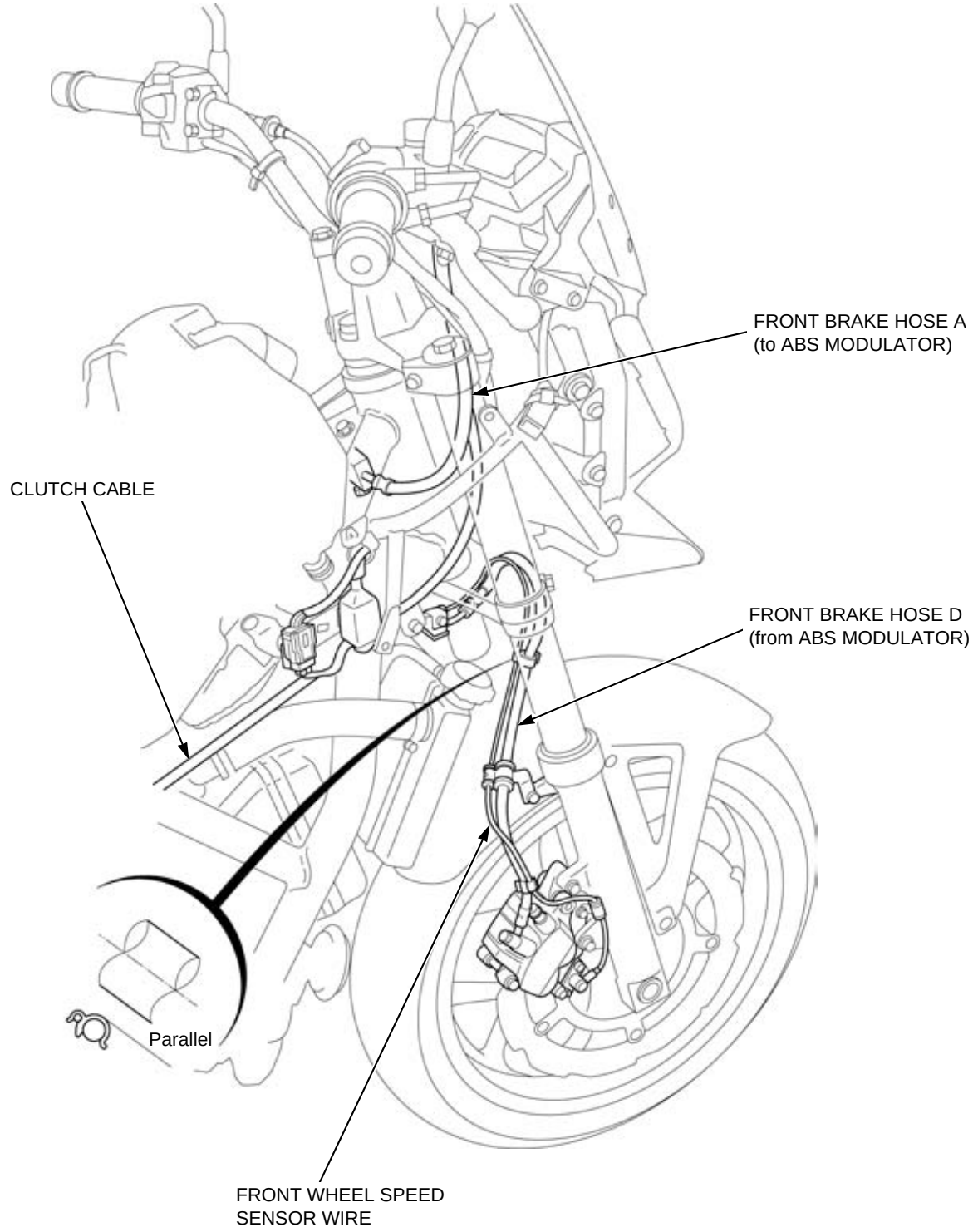
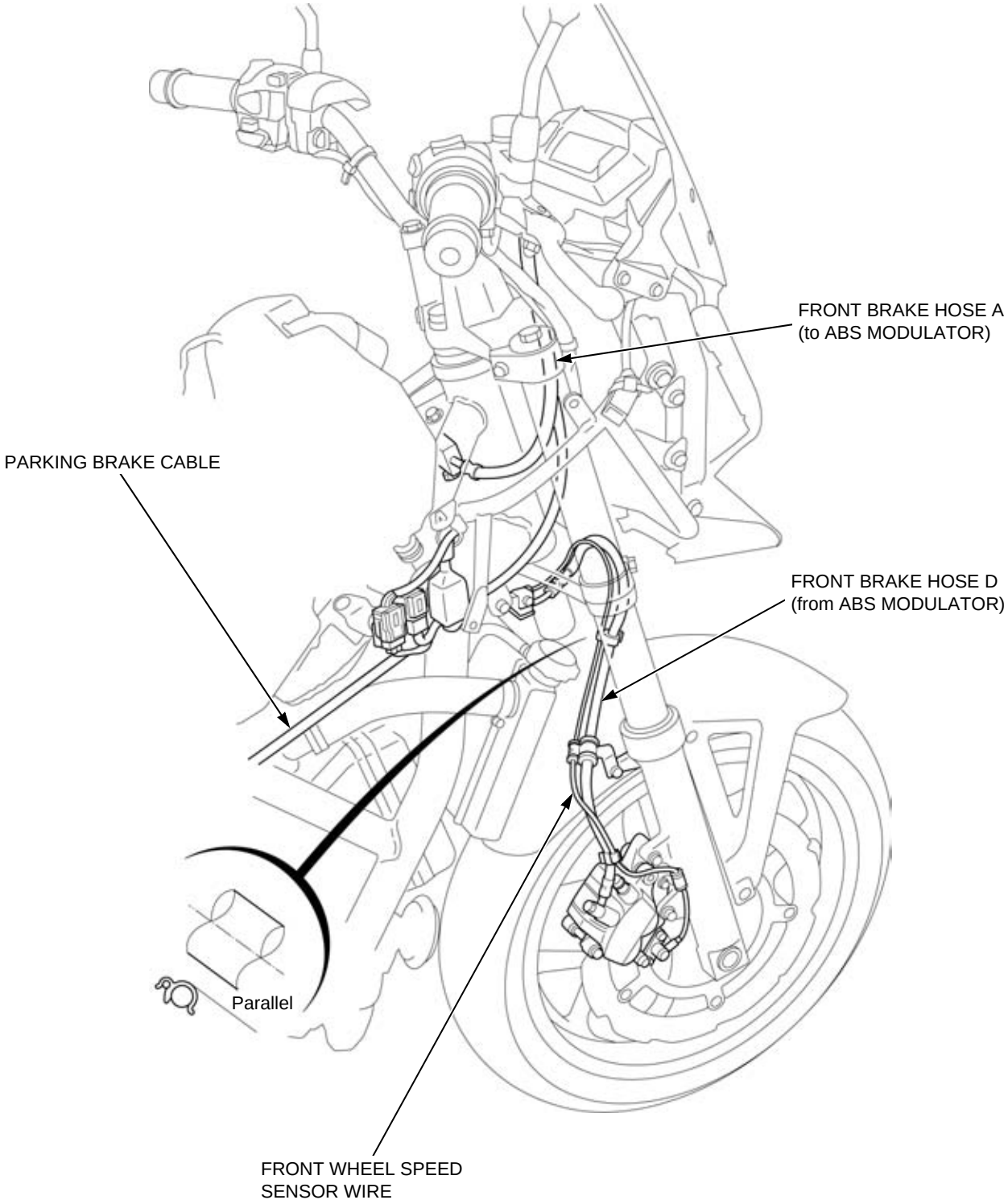
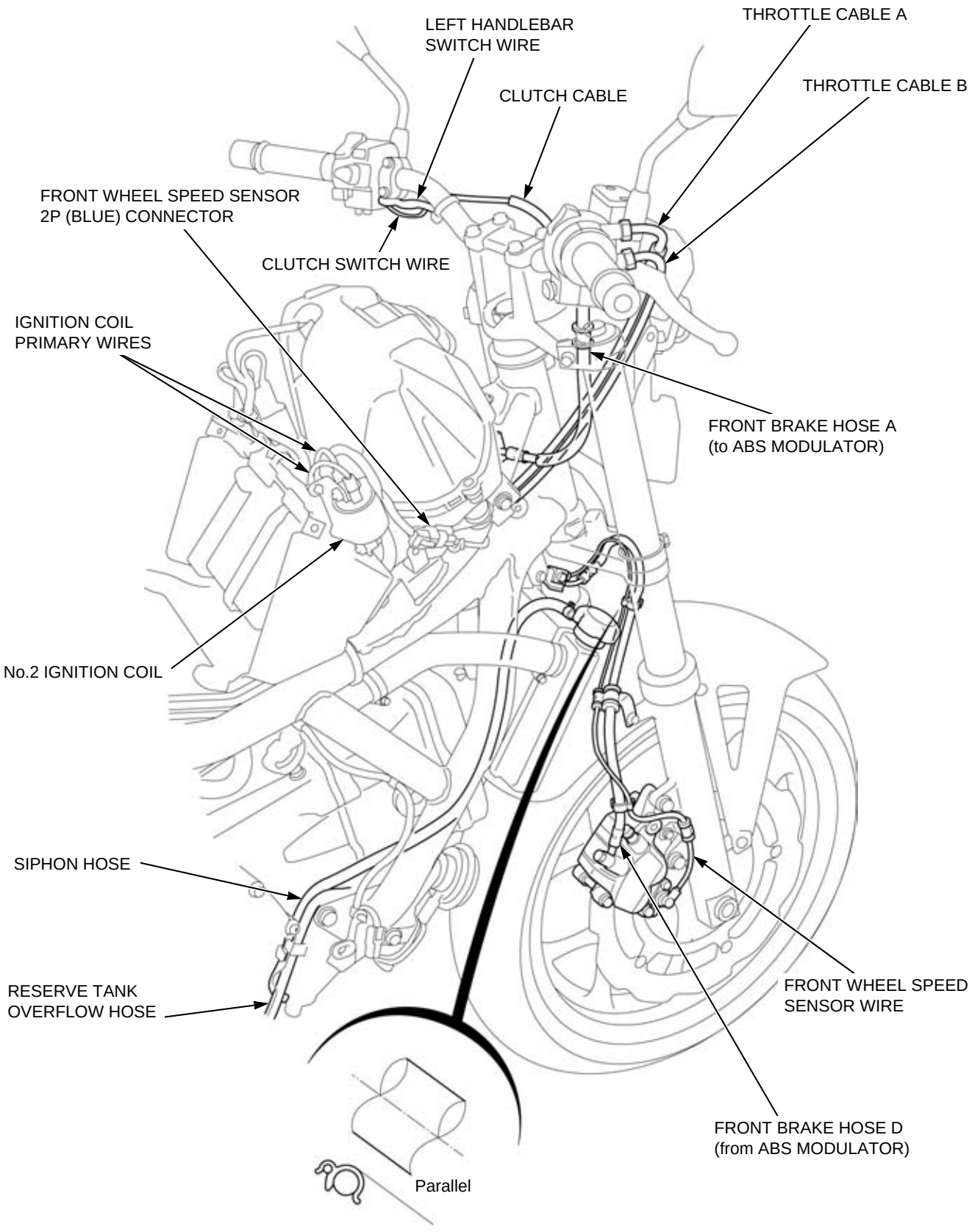

FRONT BRAKE HOSE A
(to ABS MODULATOR)
CLUTCH CABLE
FRONT BRAKE HOSE D
(from ABS MODULATOR)
Parallel
FRONT WHEEL SPEED
SENSOR WIRE

XD:


FRONT BRAKE HOSE A
(to ABS MODULATOR)
PARKING BRAKE CABLE
FRONT BRAKE HOSE D
(from ABS MODULATOR)
Parallel
FRONT WHEEL SPEED
SENSOR WIRE

SA:


LEFT HANDLEBAR SWITCH WIRE
THROTTLE CABLE A
CLUTCH CABLE
THROTTLE CABLE B
FRONT WHEEL SPEED SENSOR 2P (BLUE) CONNECTOR
CLUTCH SWITCH WIRE
IGNITION COIL PRIMARY WIRES
FRONT BRAKE HOSE A (to ABS MODULATOR)
No.2 IGNITION COIL
SIPHON HOSE
RESERVE TANK OVERFLOW HOSE
FRONT WHEEL SPEED SENSOR WIRE
FRONT BRAKE HOSE D (from ABS MODULATOR)
Parallel

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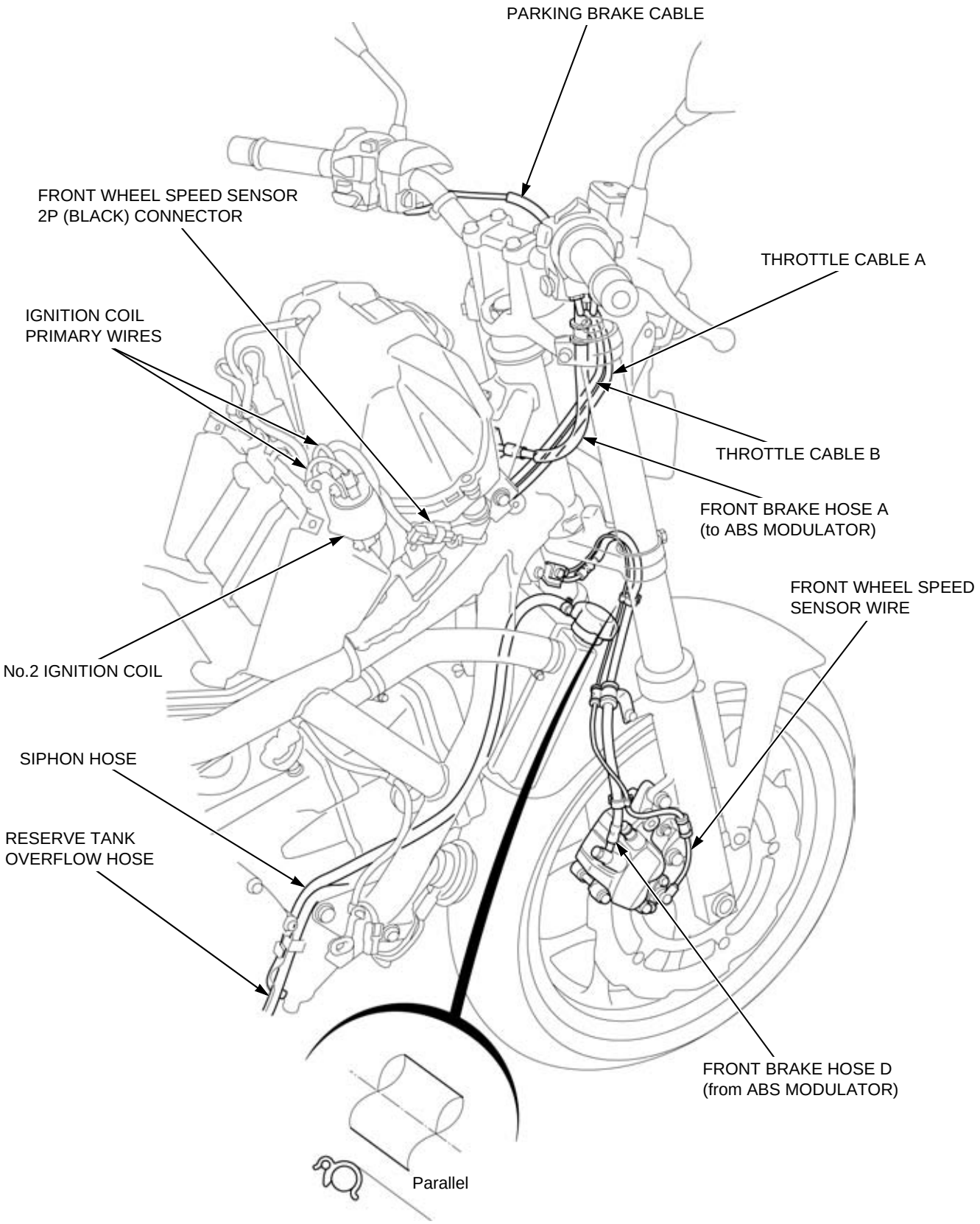
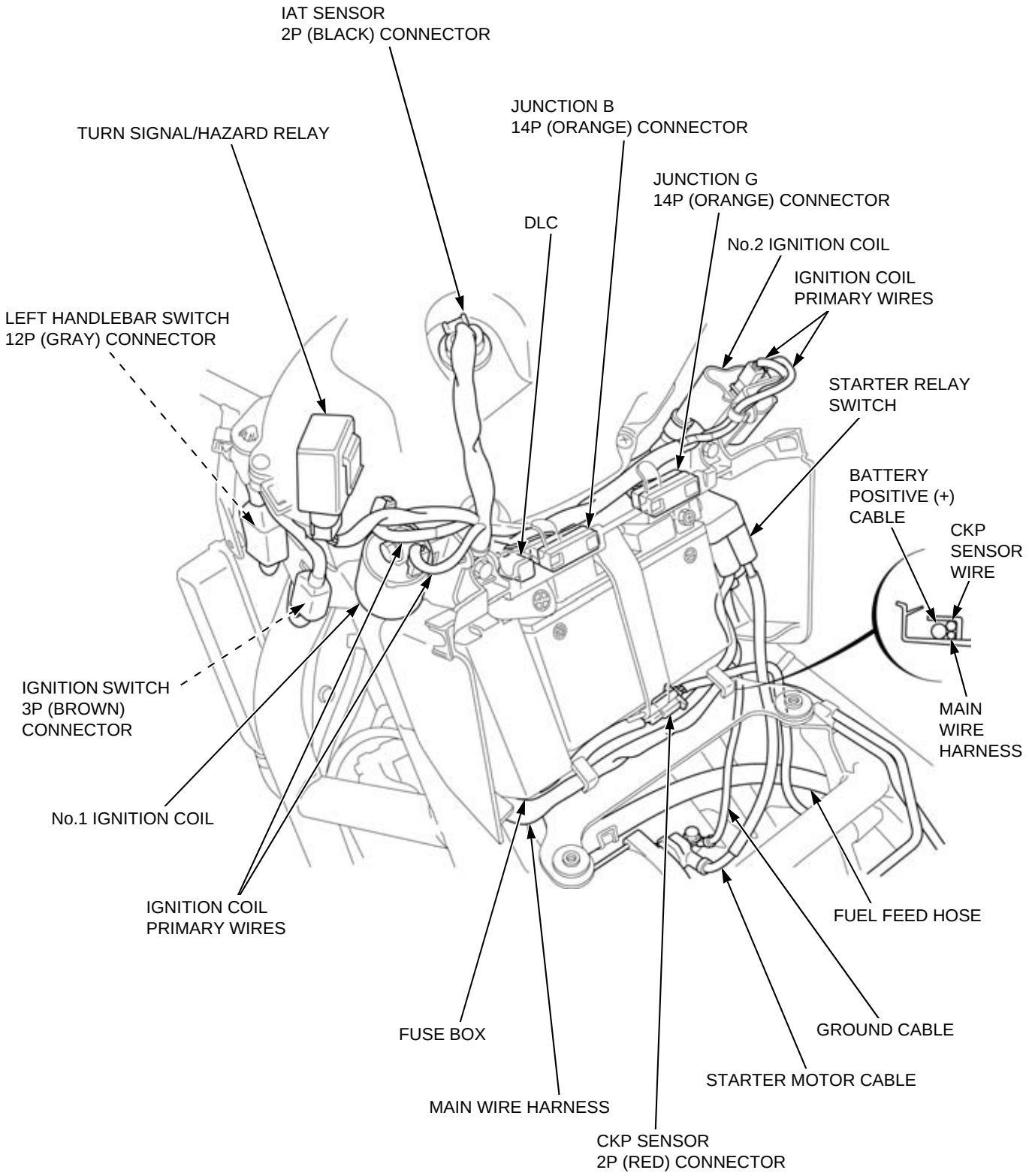
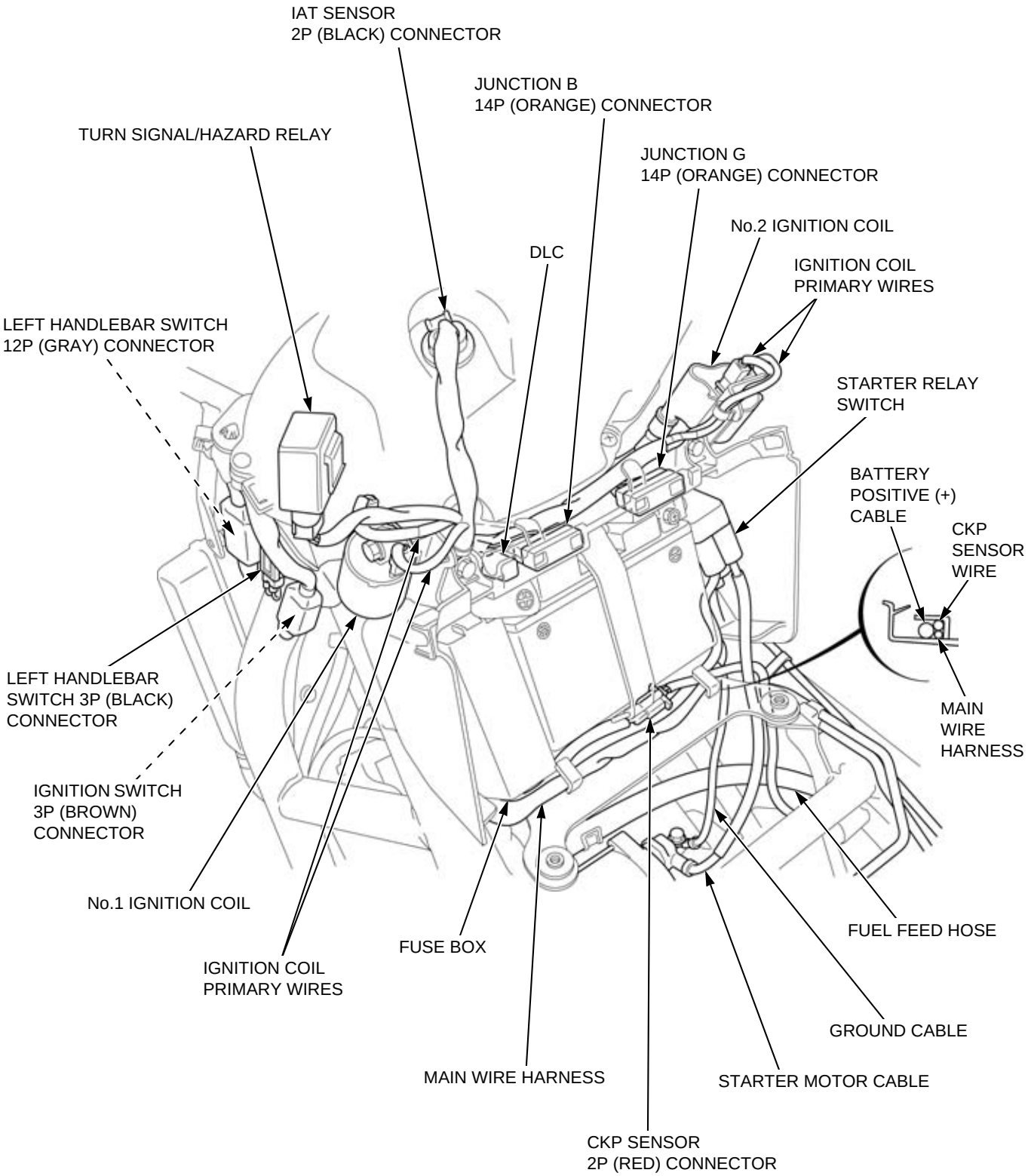

PARKING BRAKE CABLE
FRONT WHEEL SPEED SENSOR
2P (BLACK) CONNECTOR
THROTTLE CABLE A
IGNITION COIL
PRIMARY WIRES
THROTTLE CABLE B
FRONT BRAKE HOSE A
(to ABS MODULATOR)
FRONT WHEEL SPEED
SENSOR WIRE
No.2 IGNITION COIL
SIPHON HOSE
RESERVE TANK
OVERFLOW HOSE
FRONT BRAKE HOSE D
(from ABS MODULATOR)
Parallel

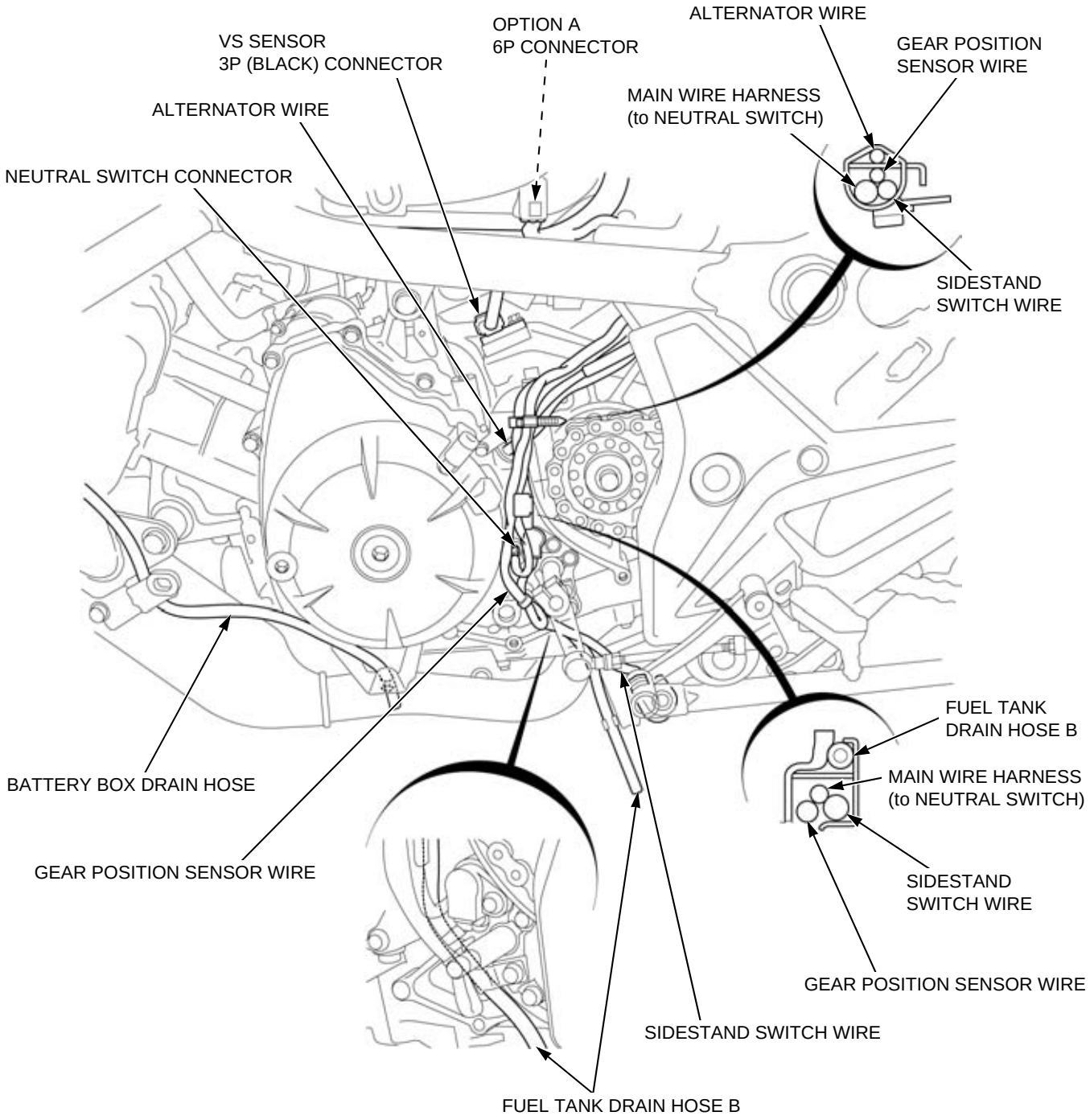
X/XA:


IAT SENSOR
2P (BLACK) CONNECTOR
JUNCTION B
14P (ORANGE) CONNECTOR
TURN SIGNAL/HAZARD RELAY
JUNCTION G
14P (ORANGE) CONNECTOR
DLC
No.2 IGNITION COIL
IGNITION COIL
PRIMARY WIRES
LEFT HANDLEBAR SWITCH
12P (GRAY) CONNECTOR
STARTER RELAY
SWITCH
BATTERY
POSITIVE (+)
CABLE
CKP
SENSOR
WIRE
IGNITION SWITCH
3P (BROWN)
CONNECTOR
MAIN
WIRE
HARNESS
No.1 IGNITION COIL
IGNITION COIL
PRIMARY WIRES
FUEL FEED HOSE
FUSE BOX
GROUND CABLE
STARTER MOTOR CABLE
MAIN WIRE HARNESS
CKP SENSOR
2P (RED) CONNECTOR

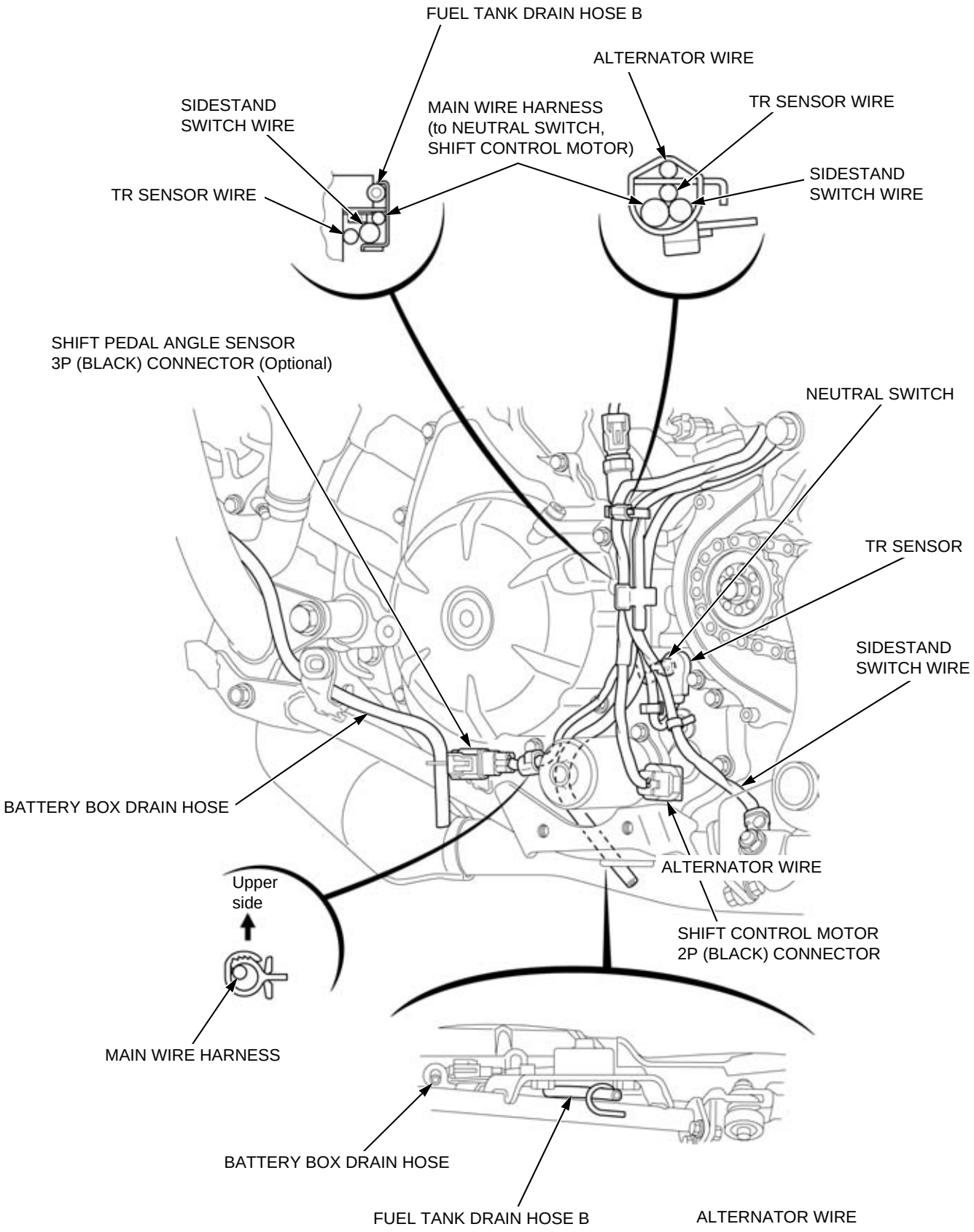
XD:


IAT SENSOR
2P (BLACK) CONNECTOR
JUNCTION B
14P (ORANGE) CONNECTOR
TURN SIGNAL/HAZARD RELAY
JUNCTION G
14P (ORANGE) CONNECTOR
No.2 IGNITION COIL
DLC
IGNITION COIL
PRIMARY WIRES
LEFT HANDLEBAR SWITCH
12P (GRAY) CONNECTOR
STARTER RELAY
SWITCH
BATTERY
POSITIVE (+)
CABLE
CKP
SENSOR
WIRE
LEFT HANDLEBAR
SWITCH 3P (BLACK)
CONNECTOR
MAIN
WIRE
HARNESS
IGNITION SWITCH
3P (BROWN)
CONNECTOR
No.1 IGNITION COIL
FUEL FEED HOSE
FUSE BOX
IGNITION COIL
PRIMARY WIRES
GROUND CABLE
MAIN WIRE HARNESS
STARTER MOTOR CABLE
CKP SENSOR
2P (RED) CONNECTOR

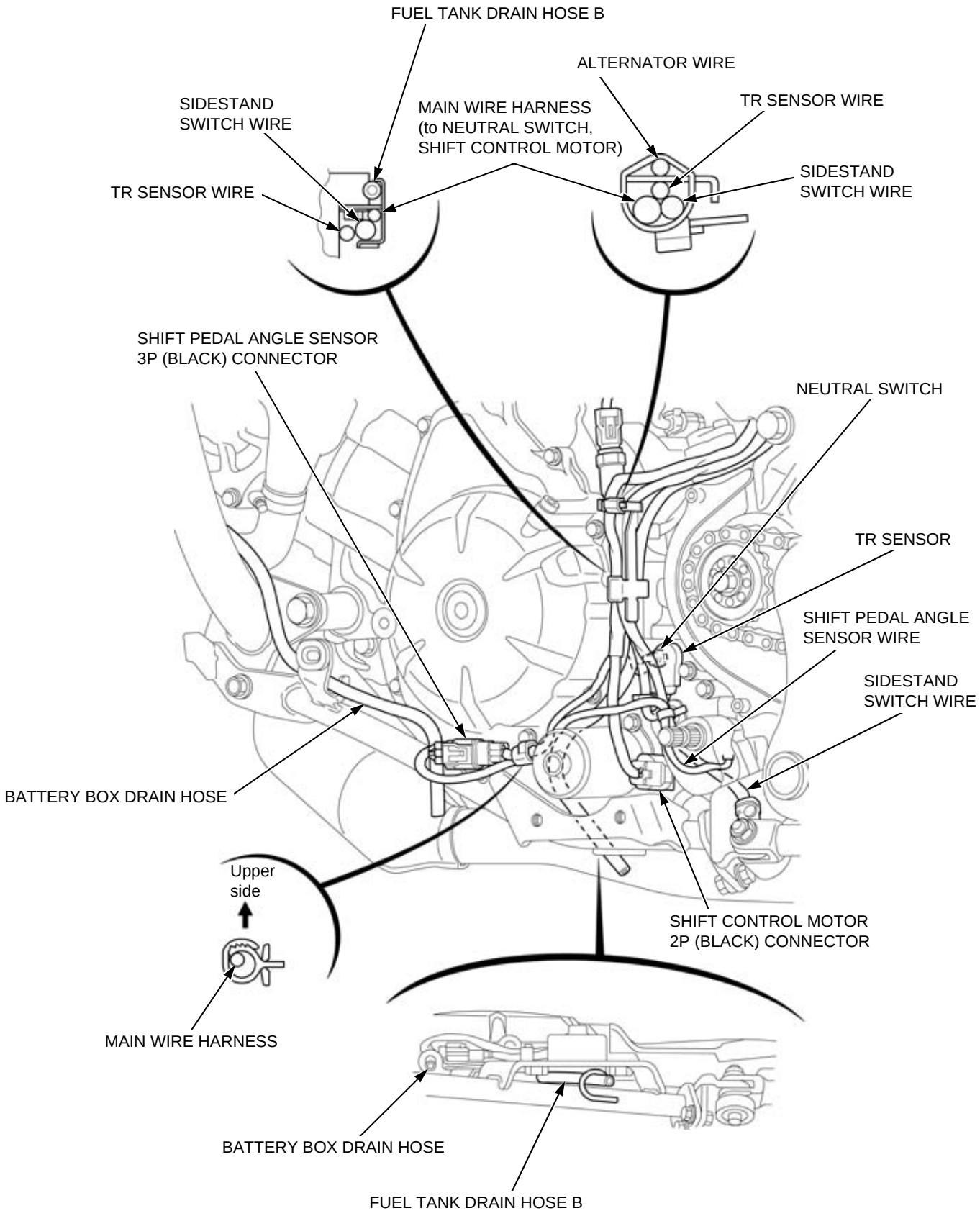
X/XA:


ALTERNATOR WIRE
OPTION A
6P CONNECTOR
VS SENSOR
3P (BLACK) CONNECTOR
GEAR POSITION
SENSOR WIRE
MAIN WIRE HARNESS
(to NEUTRAL SWITCH)
ALTERNATOR WIRE
NEUTRAL SWITCH CONNECTOR
SIDESTAND
SWITCH WIRE
FUEL TANK
DRAIN HOSE B
MAIN WIRE HARNESS
(to NEUTRAL SWITCH)
BATTERY BOX DRAIN HOSE
GEAR POSITION SENSOR WIRE
SIDESTAND
SWITCH WIRE
GEAR POSITION SENSOR WIRE
SIDESTAND SWITCH WIRE
FUEL TANK DRAIN HOSE B

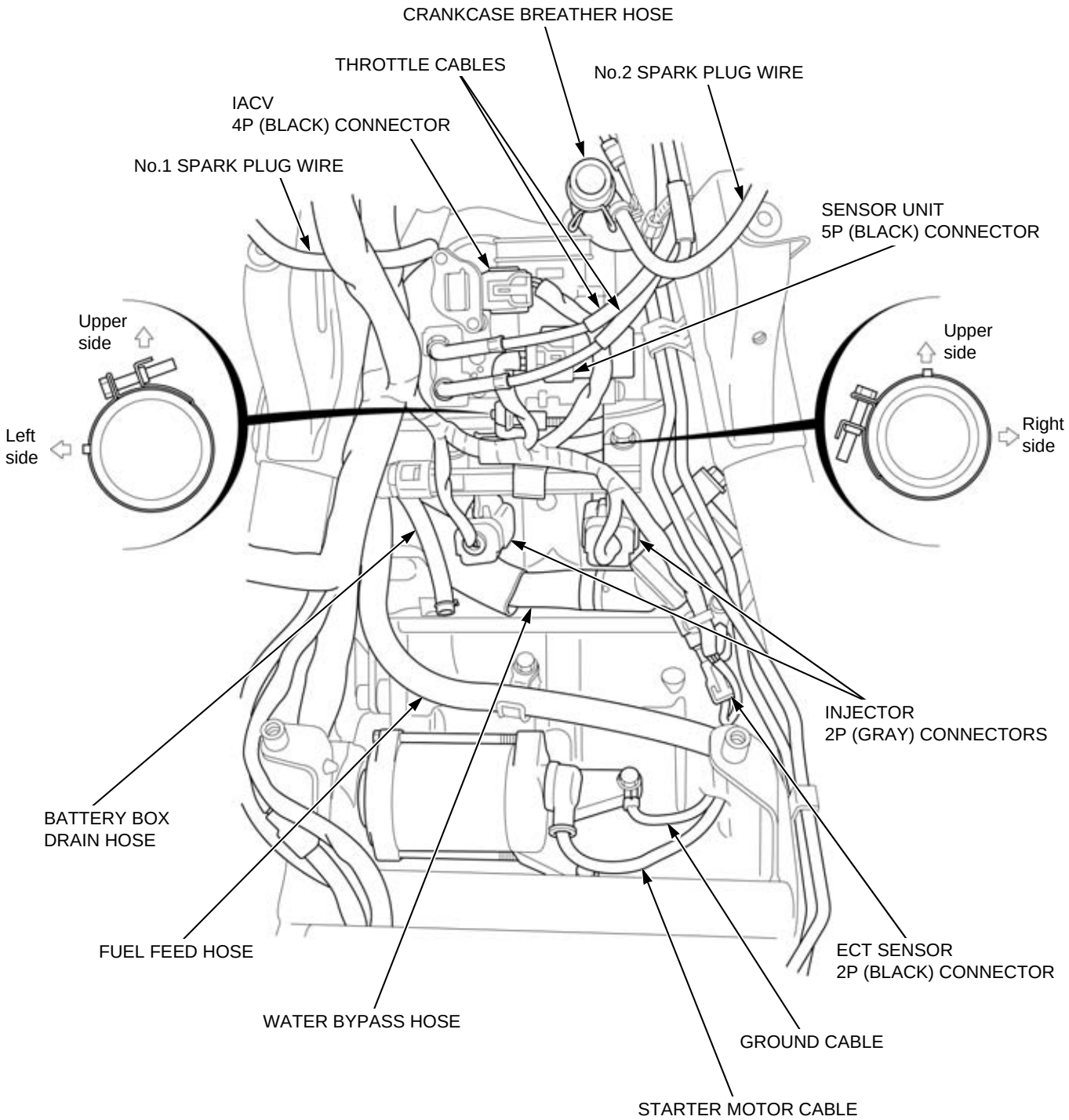
XD/SD (Except IIID/TH type):



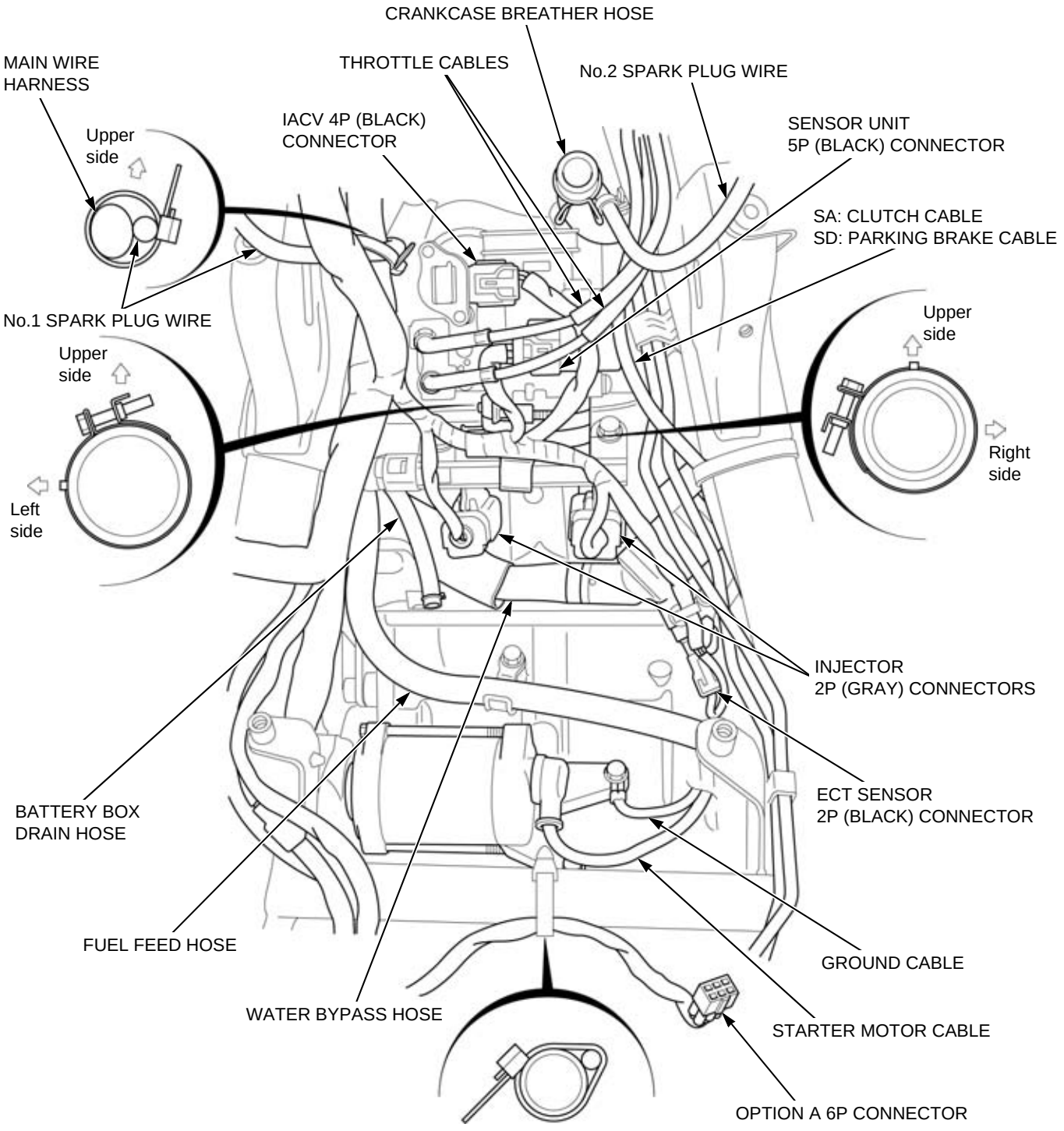
XD/SD (IIID type only):



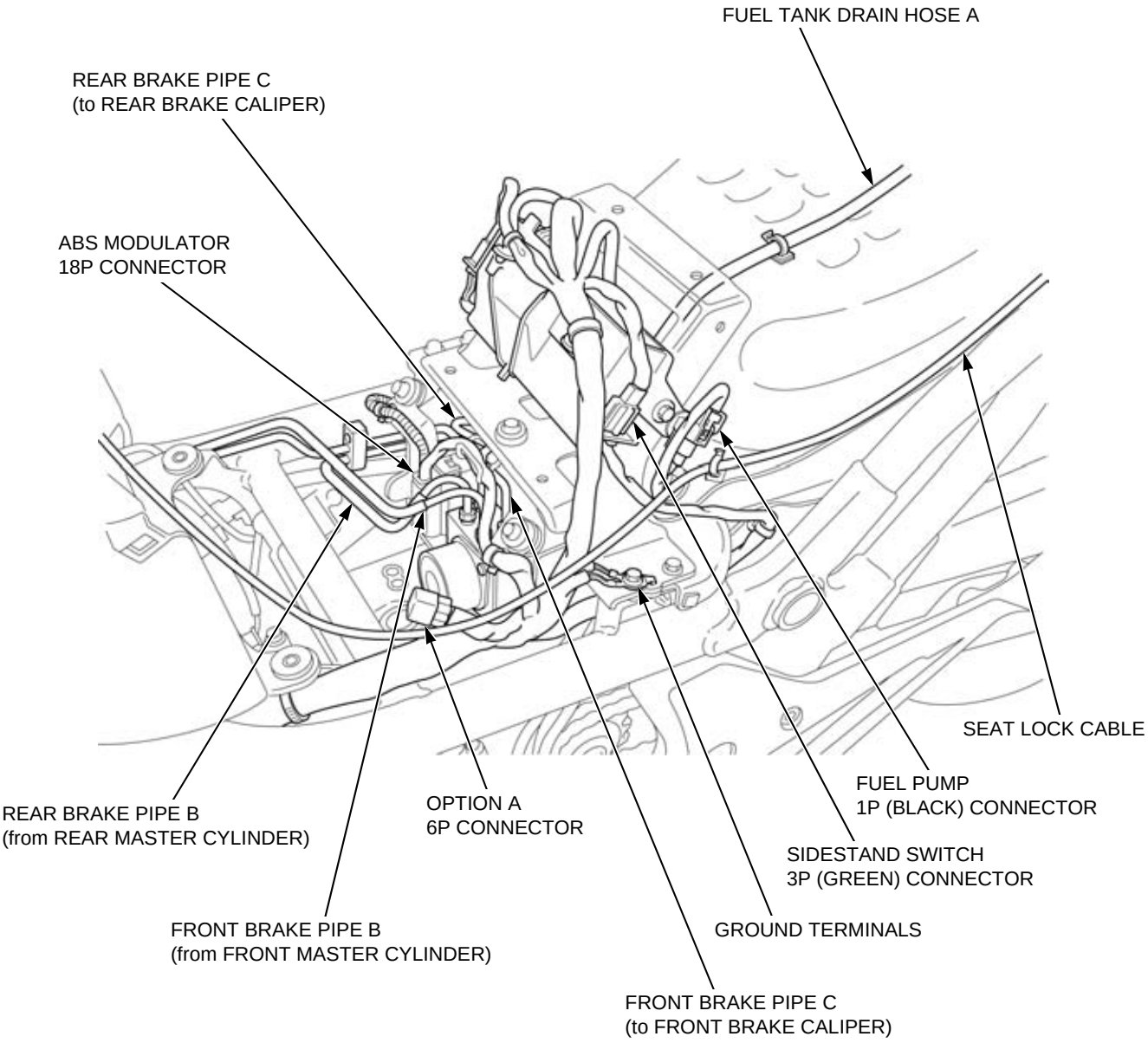
XA/XD:


CRANKCASE BREATHER HOSE
THROTTLE CABLES
No.2 SPARK PLUG WIRE
IACV
4P (BLACK) CONNECTOR
No.1 SPARK PLUG WIRE
SENSOR UNIT
5P (BLACK) CONNECTOR
Upper
side
Upper
side
Left
side
Right
side
INJECTOR
2P (GRAY) CONNECTORS
BATTERY BOX
DRAIN HOSE
FUEL FEED HOSE
ECT SENSOR
2P (BLACK) CONNECTOR
WATER BYPASS HOSE
GROUND CABLE
STARTER MOTOR CABLE

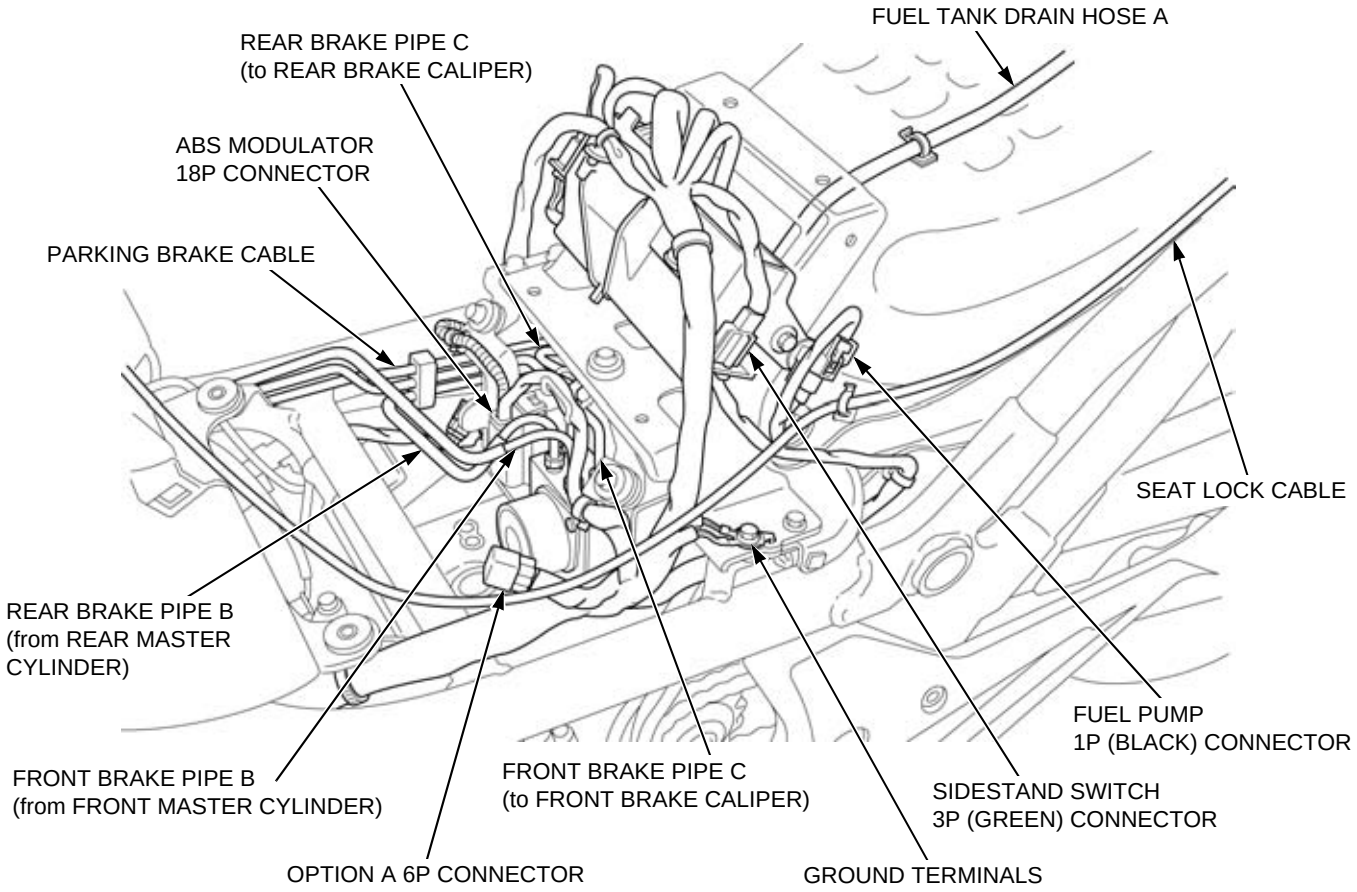
SA/SD:


CRANKCASE BREATHER HOSE
MAIN WIRE HARNESS
THROTTLE CABLES
No.2 SPARK PLUG WIRE
IACV 4P (BLACK) CONNECTOR
SENSOR UNIT 5P (BLACK) CONNECTOR
Upper side
SA: CLUTCH CABLE
SD: PARKING BRAKE CABLE
No.1 SPARK PLUG WIRE
Upper side
Upper side
Right side
Left side
INJECTOR 2P (GRAY) CONNECTORS
BATTERY BOX DRAIN HOSE
ECT SENSOR 2P (BLACK) CONNECTOR
FUEL FEED HOSE
GROUND CABLE
WATER BYPASS HOSE
STARTER MOTOR CABLE
OPTION A 6P CONNECTOR

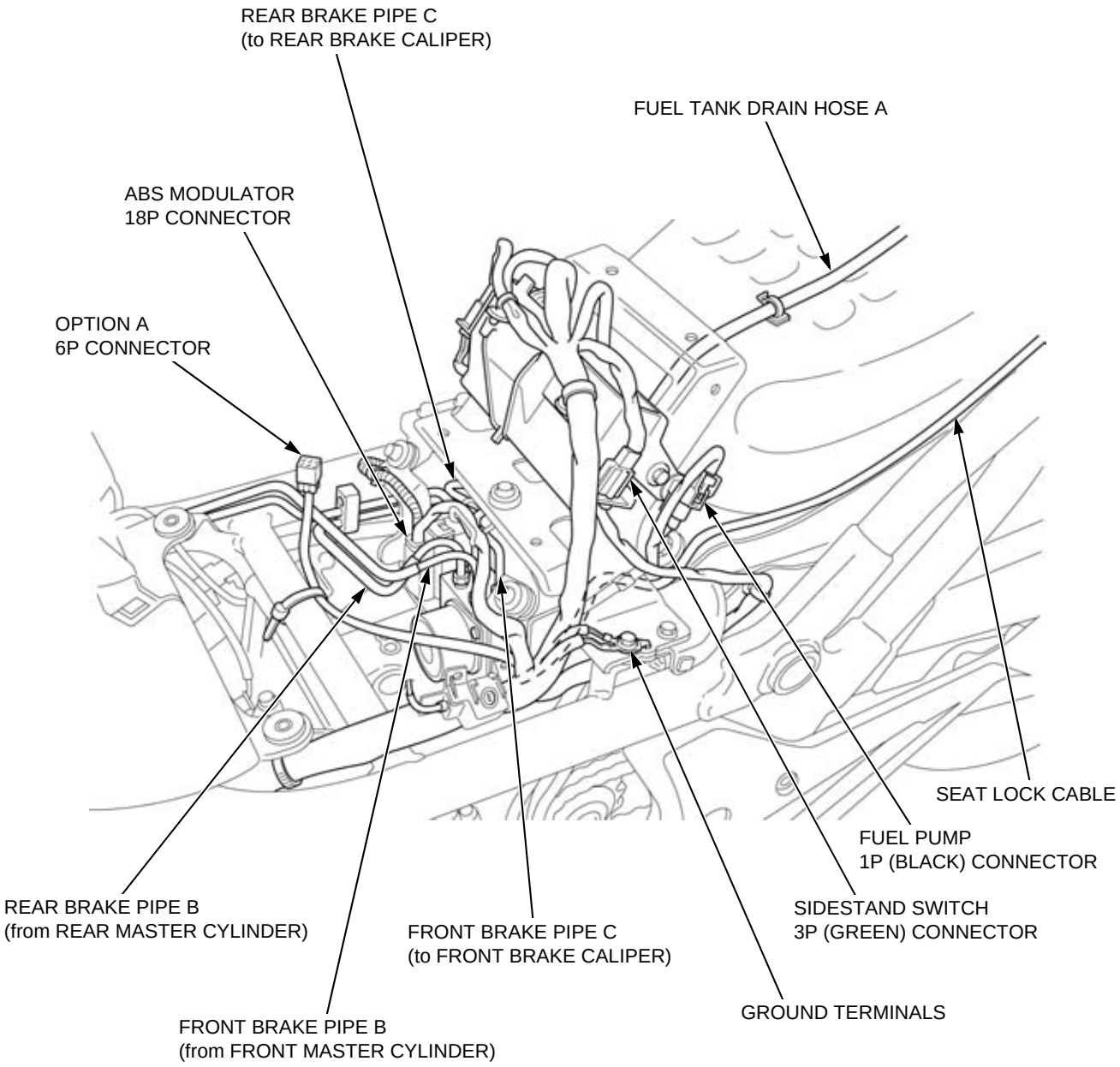
XA:


FUEL TANK DRAIN HOSE A
REAR BRAKE PIPE C
(to REAR BRAKE CALIPER)
ABS MODULATOR
18P CONNECTOR
SEAT LOCK CABLE
FUEL PUMP
1P (BLACK) CONNECTOR
REAR BRAKE PIPE B
(from REAR MASTER CYLINDER)
OPTION A
6P CONNECTOR
SIDESTAND SWITCH
3P (GREEN) CONNECTOR
FRONT BRAKE PIPE B
(from FRONT MASTER CYLINDER)
GROUND TERMINALS
FRONT BRAKE PIPE C
(to FRONT BRAKE CALIPER)

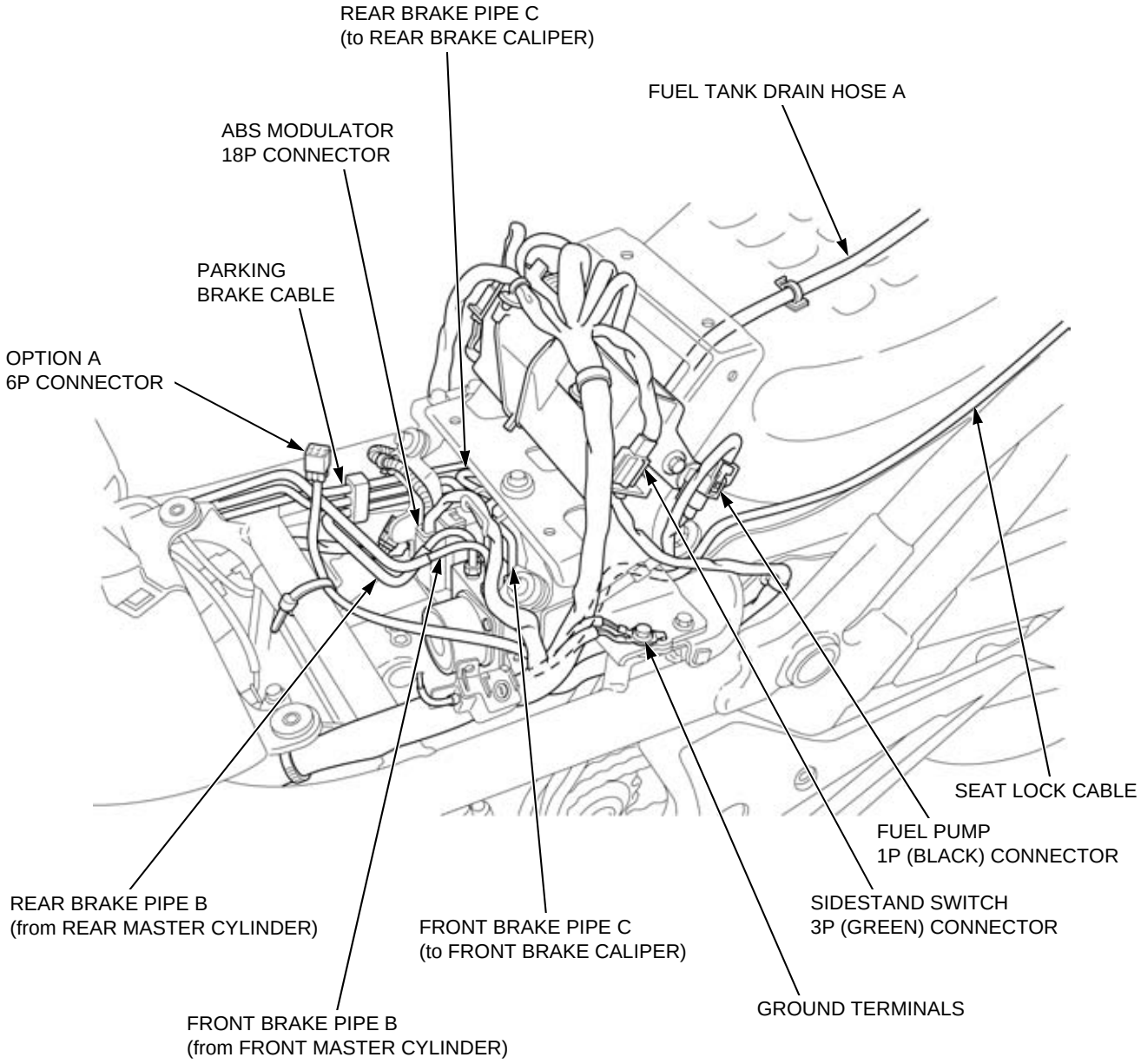
XD:


FUEL TANK DRAIN HOSE A
REAR BRAKE PIPE C
(to REAR BRAKE CALIPER)
ABS MODULATOR
18P CONNECTOR
PARKING BRAKE CABLE
SEAT LOCK CABLE
REAR BRAKE PIPE B
(from REAR MASTER
CYLINDER)
FUEL PUMP
1P (BLACK) CONNECTOR
FRONT BRAKE PIPE B
(from FRONT MASTER CYLINDER)
FRONT BRAKE PIPE C
(to FRONT BRAKE CALIPER)
SIDESTAND SWITCH
3P (GREEN) CONNECTOR
OPTION A 6P CONNECTOR
GROUND TERMINALS

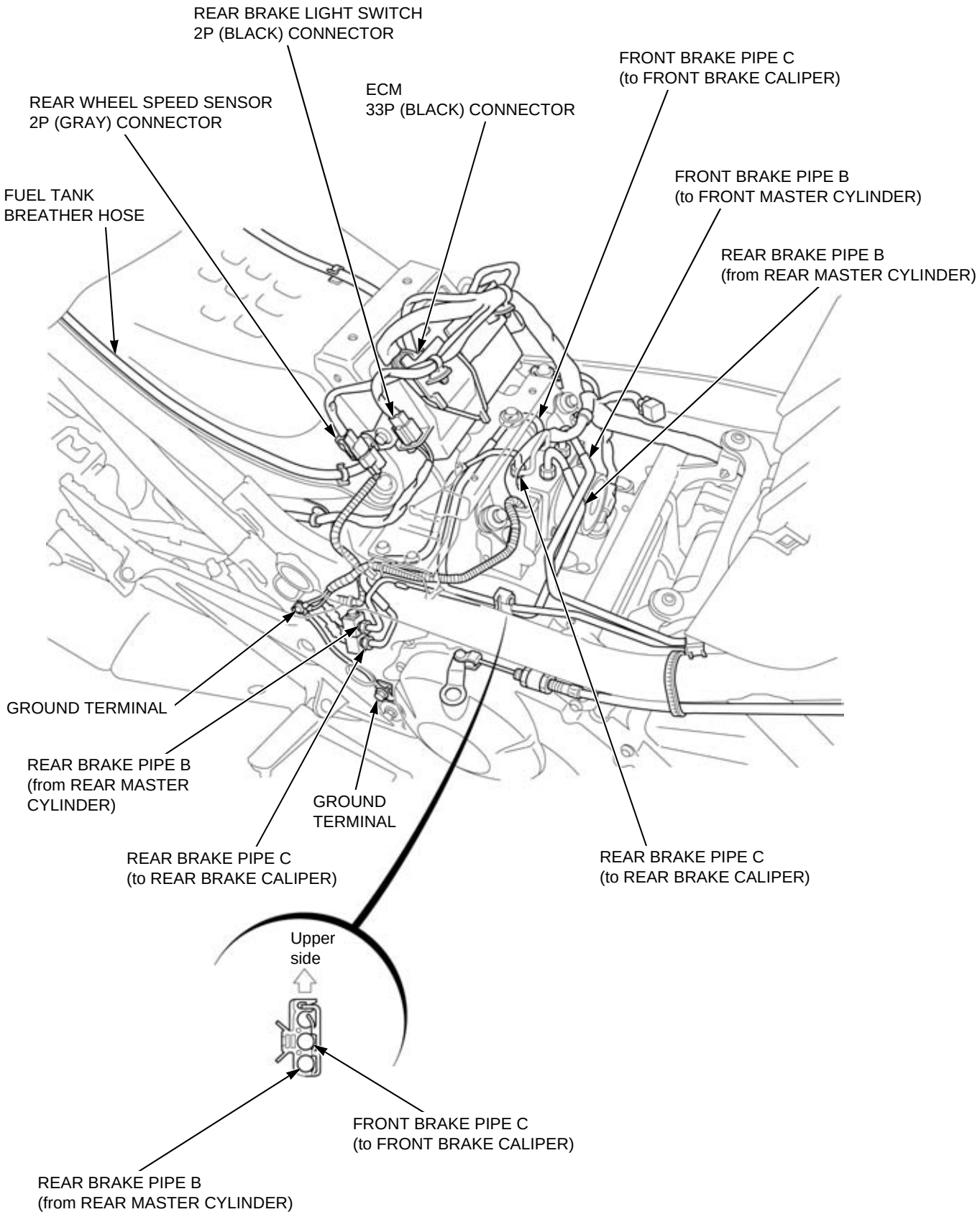
SA:


REAR BRAKE PIPE C
(to REAR BRAKE CALIPER)
FUEL TANK DRAIN HOSE A
ABS MODULATOR
18P CONNECTOR
OPTION A
6P CONNECTOR
SEAT LOCK CABLE
FUEL PUMP
1P (BLACK) CONNECTOR
REAR BRAKE PIPE B
(from REAR MASTER CYLINDER)
FRONT BRAKE PIPE C
(to FRONT BRAKE CALIPER)
SIDESTAND SWITCH
3P (GREEN) CONNECTOR
GROUND TERMINALS
FRONT BRAKE PIPE B
(from FRONT MASTER CYLINDER)

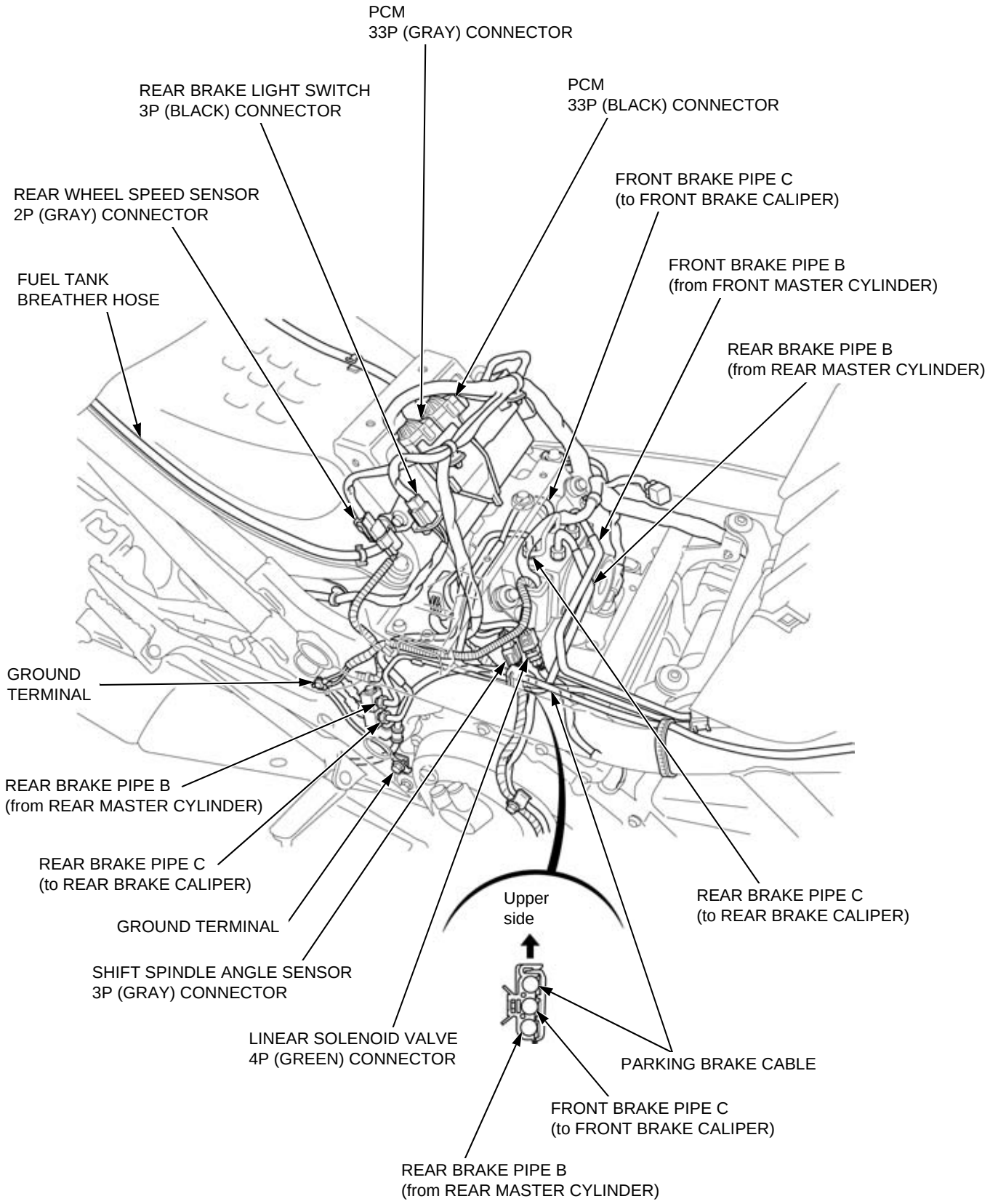
SD:


REAR BRAKE PIPE C
(to REAR BRAKE CALIPER)
FUEL TANK DRAIN HOSE A
ABS MODULATOR
18P CONNECTOR
PARKING
BRAKE CABLE
OPTION A
6P CONNECTOR
SEAT LOCK CABLE
FUEL PUMP
1P (BLACK) CONNECTOR
REAR BRAKE PIPE B
(from REAR MASTER CYLINDER)
FRONT BRAKE PIPE C
(to FRONT BRAKE CALIPER)
SIDESTAND SWITCH
3P (GREEN) CONNECTOR
GROUND TERMINALS
FRONT BRAKE PIPE B
(from FRONT MASTER CYLINDER)

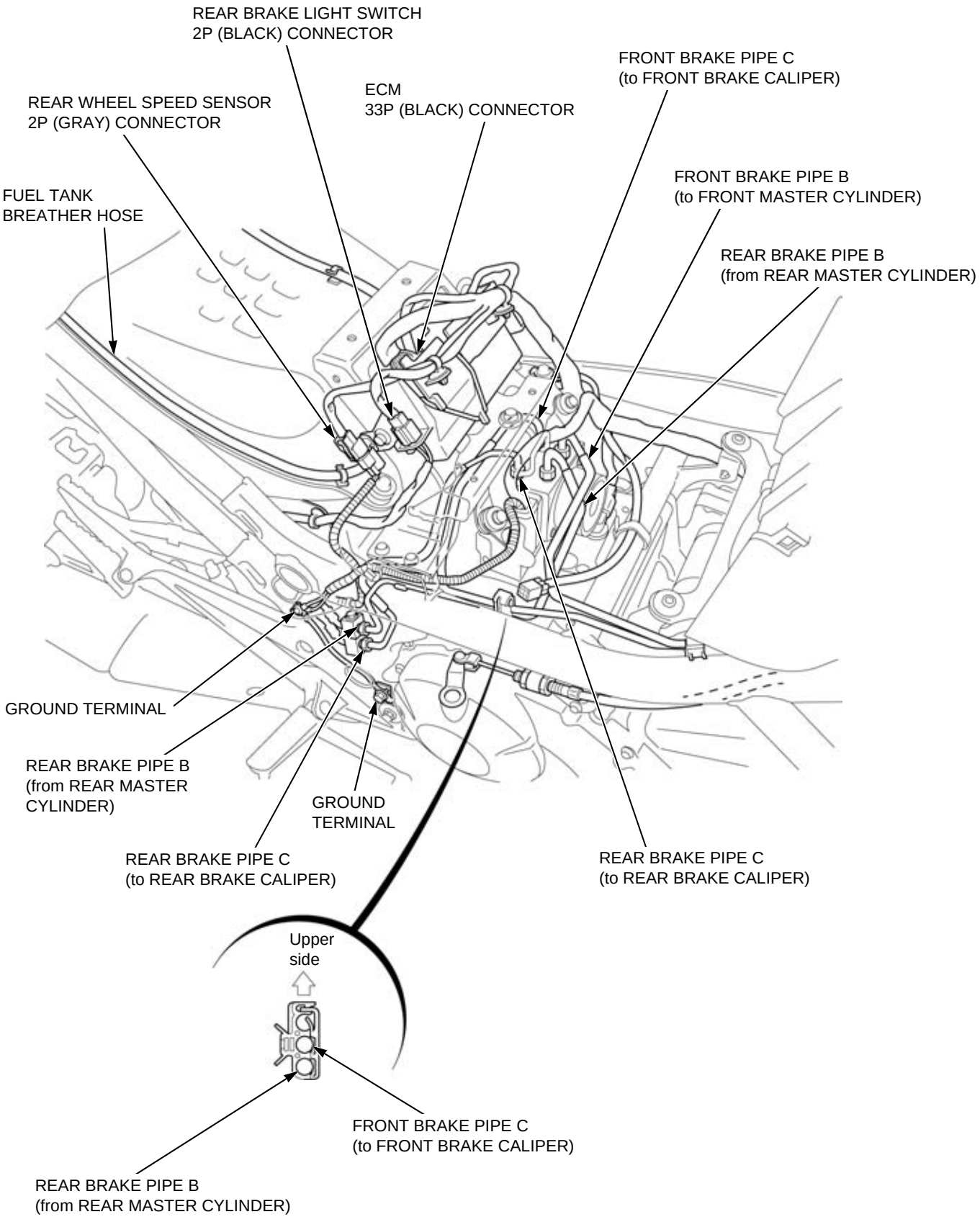
XA:


REAR BRAKE LIGHT SWITCH
2P (BLACK) CONNECTOR
FRONT BRAKE PIPE C
(to FRONT BRAKE CALIPER)
ECM
33P (BLACK) CONNECTOR
REAR WHEEL SPEED SENSOR
2P (GRAY) CONNECTOR
FRONT BRAKE PIPE B
(to FRONT MASTER CYLINDER)
FUEL TANK
BREATHER HOSE
REAR BRAKE PIPE B
(from REAR MASTER CYLINDER)
GROUND TERMINAL
REAR BRAKE PIPE B
(from REAR MASTER
CYLINDER)
GROUND
TERMINAL
REAR BRAKE PIPE C
(to REAR BRAKE CALIPER)
REAR BRAKE PIPE C
(to REAR BRAKE CALIPER)
Upper
side
FRONT BRAKE PIPE C
(to FRONT BRAKE CALIPER)
REAR BRAKE PIPE B
(from REAR MASTER CYLINDER)

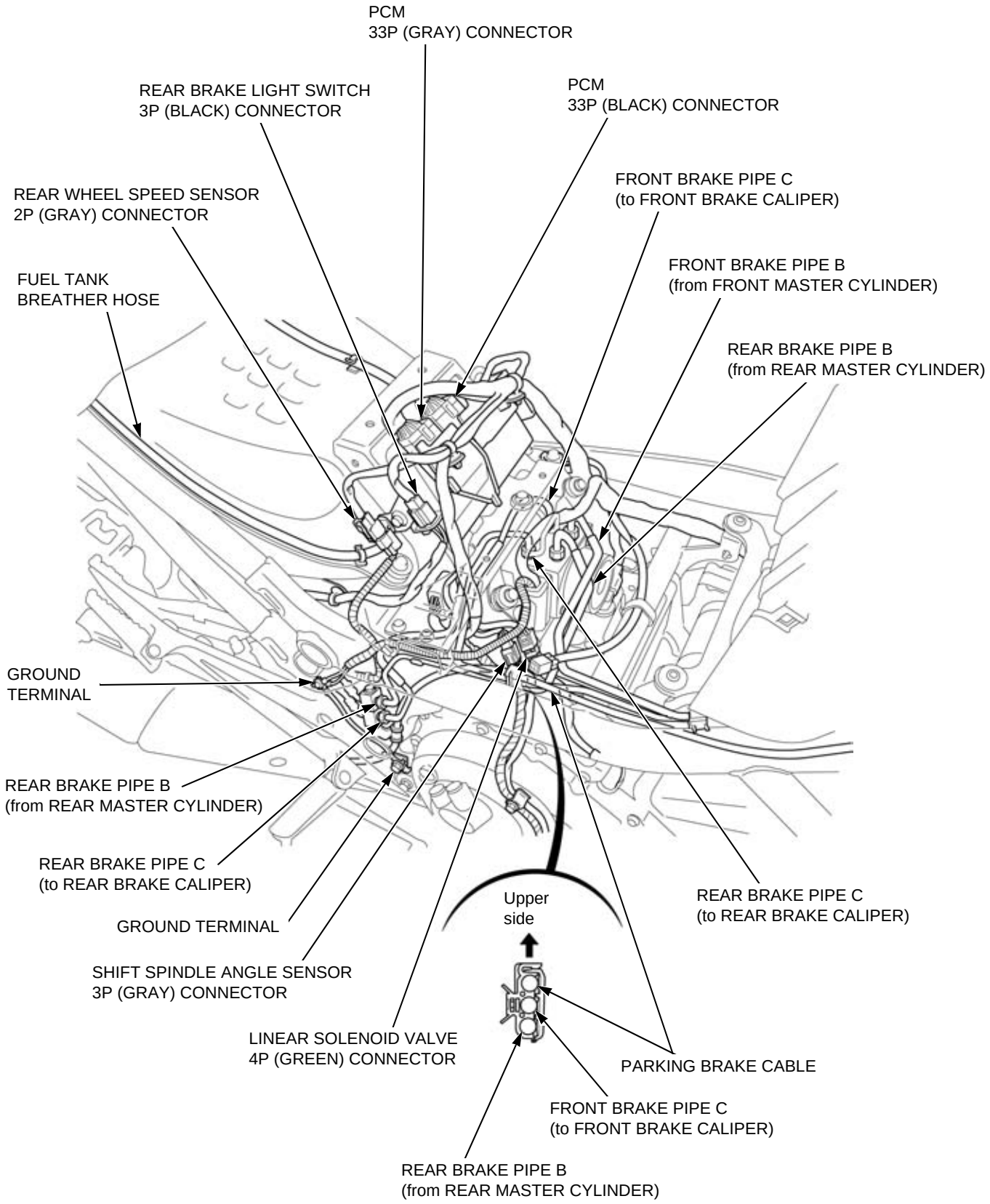
XD:


PCM
33P (GRAY) CONNECTOR
REAR BRAKE LIGHT SWITCH
3P (BLACK) CONNECTOR
PCM
33P (BLACK) CONNECTOR
REAR WHEEL SPEED SENSOR
2P (GRAY) CONNECTOR
FRONT BRAKE PIPE C
(to FRONT BRAKE CALIPER)
FUEL TANK
BREATHER HOSE
FRONT BRAKE PIPE B
(from FRONT MASTER CYLINDER)
REAR BRAKE PIPE B
(from REAR MASTER CYLINDER)
GROUND
TERMINAL
REAR BRAKE PIPE B
(from REAR MASTER CYLINDER)
REAR BRAKE PIPE C
(to REAR BRAKE CALIPER)
GROUND TERMINAL
Upper
side
REAR BRAKE PIPE C
(to REAR BRAKE CALIPER)
SHIFT SPINDLE ANGLE SENSOR
3P (GRAY) CONNECTOR
LINEAR SOLENOID VALVE
4P (GREEN) CONNECTOR
PARKING BRAKE CABLE
FRONT BRAKE PIPE C
(to FRONT BRAKE CALIPER)
REAR BRAKE PIPE B
(from REAR MASTER CYLINDER)

SA:


REAR BRAKE LIGHT SWITCH
2P (BLACK) CONNECTOR
FRONT BRAKE PIPE C
(to FRONT BRAKE CALIPER)
ECM
33P (BLACK) CONNECTOR
REAR WHEEL SPEED SENSOR
2P (GRAY) CONNECTOR
FRONT BRAKE PIPE B
(to FRONT MASTER CYLINDER)
FUEL TANK
BREATHER HOSE
REAR BRAKE PIPE B
(from REAR MASTER CYLINDER)
GROUND TERMINAL
REAR BRAKE PIPE B
(from REAR MASTER
CYLINDER)
GROUND
TERMINAL
REAR BRAKE PIPE C
(to REAR BRAKE CALIPER)
REAR BRAKE PIPE C
(to REAR BRAKE CALIPER)
Upper
side
FRONT BRAKE PIPE C
(to FRONT BRAKE CALIPER)
REAR BRAKE PIPE B
(from REAR MASTER CYLINDER)

SD:


PCM
33P (GRAY) CONNECTOR
REAR BRAKE LIGHT SWITCH
3P (BLACK) CONNECTOR
PCM
33P (BLACK) CONNECTOR
REAR WHEEL SPEED SENSOR
2P (GRAY) CONNECTOR
FRONT BRAKE PIPE C
(to FRONT BRAKE CALIPER)
FUEL TANK
BREATHER HOSE
FRONT BRAKE PIPE B
(from FRONT MASTER CYLINDER)
REAR BRAKE PIPE B
(from REAR MASTER CYLINDER)
GROUND
TERMINAL
REAR BRAKE PIPE B
(from REAR MASTER CYLINDER)
REAR BRAKE PIPE C
(to REAR BRAKE CALIPER)
GROUND TERMINAL
Upper
side
REAR BRAKE PIPE C
(to REAR BRAKE CALIPER)
SHIFT SPINDLE ANGLE SENSOR
3P (GRAY) CONNECTOR
LINEAR SOLENOID VALVE
4P (GREEN) CONNECTOR
PARKING BRAKE CABLE
FRONT BRAKE PIPE C
(to FRONT BRAKE CALIPER)
REAR BRAKE PIPE B
(from REAR MASTER CYLINDER)

TECHNICAL FEATURES

ECM-to-COMBINATION METER TWO-WAY SERIAL COMMUNICATION (X/XA/S/SA)

This motorcycle is equipped with the ECM-to-combination meter two-way serial communication system.

ECM sends the following information to combination meter:

– Engine speed signal
– HISS indicator signal, MIL signal, Engine oil pressure indicator signal, High coolant temperature indicator signal
– Gear position indicator signal
– Fuel pulse signal (for fuel mileage signal)

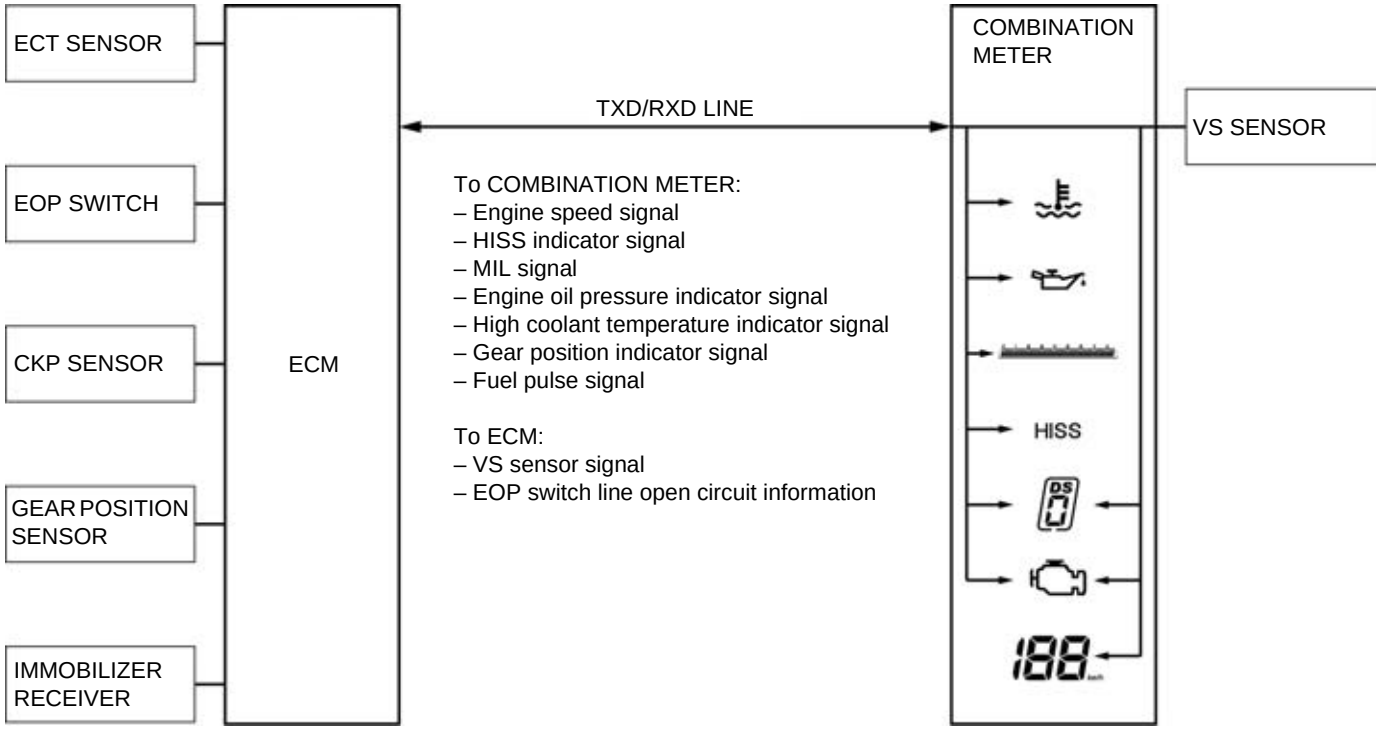
Combination meter sends the following information to the ECM.

– VS sensor signal
– EOP switch line open circuit information

NOTE:

- The combination meter detects a problem in the VS sensor and EOP switch line.
- The combination meter diagnosis the VS sensor failure, then send the DTC 11-1 to the ECM and ECM send the MIL signal to the combination meter.
- The combination meter send the EOP switch line open circuit information to the ECM, then ECM diagnosis the EOP switch line failure and send the DTC 87-1 signal to the combination meter.

These signals are forwarded to the combination meter or ECM by asynchronous communication via one wire. This wire is called the TXD/RXD line (serial communication line).



WHEN THERE IS A PROBLEM IN THE TXD/RXD LINE

When an open or short circuit occurs in the TXD/RXD line, the combination meter indicate the following:

– MIL and engine oil pressure indicator stay on.
– Gear position indicator "–" stay on.
– Tachometer, high coolant temperature indicator and HISS indicator do not come on.
– Odometer, tripmeter or fuel mileage meter indicates "–"

When the ECM did not receive the meter information, the ECM store the DTC 86-1. Check the DTC 86-1 with the MCS (page 26-51).

Check the ECM by ECM communication diagnostic mode (page 26-81).

Check the combination meter by combination meter communication diagnostic mode (page 26-81).

PCM-to-COMBINATION METER TWO-WAY SERIAL COMMUNICATION (XD/SD)

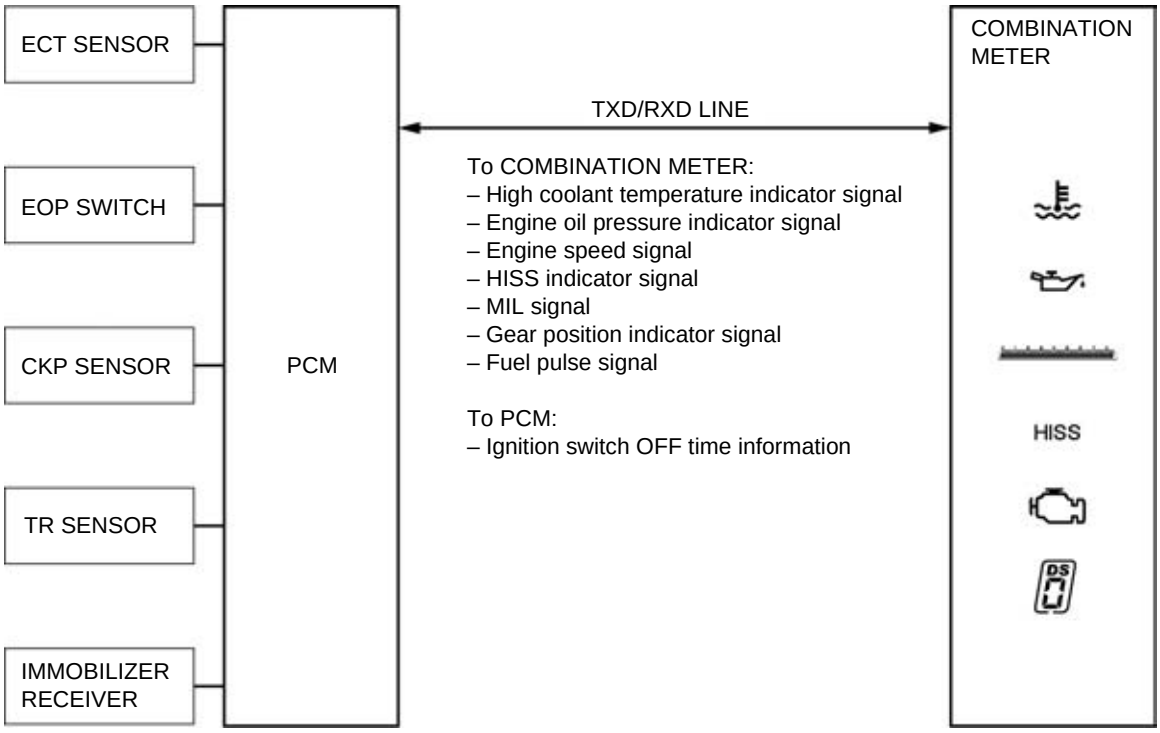
This motorcycle is equipped with the PCM-to-combination meter two-way serial communication system.

The PCM sends the following information to combination meter:

– High coolant temperature indicator signal
– Engine oil pressure indicator signal
– Engine speed signal
– MIL signal
– HISS indicator signal
– Gear position indicator signal
– Fuel pulse signal (for fuel mileage signal)

Combination meter sends the ignition switch OFF time information (elapsed time after the ignition switch is turned OFF) to the PCM. The PCM uses this information for the EOP switch line open circuit detection with the VS sensor signal.

These signals are communicated between the combination meter and PCM via one wire. This wire is called the TXD/RXD line (serial communication line).



WHEN THE SERIAL COMMUNICATION IS ABNORMAL

If there is any problem in the TXD/RXD line, the combination meter shows following:

– MIL and engine oil pressure indicator stay on.
– Shift indicator "–" is blinking.
– Tachometer, high coolant temperature indicator and HISS indicator do not come on.
– Odometer, tripmeter or fuel mileage meter indicates "–"

TXD/RXD line troubleshooting (page 26-81)

If there is any problem in the serial communication, the PCM stores the DTC 86-1. Read the DTC (page 4-12).

DTC troubleshooting (page 4-40)
MIL troubleshooting (page 4-60)

MAINTENANCE SCHEDULE

NC700XD/SD

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.

	FREQUENCY / ITEMS	NOTE	ODOMETER READING (NOTE 1) x 1,000 km	1	12	24	36	48	ANNUAL CHECK	REGULAR REPLACE	REFER TO PAGE
			x 1,000 mi	0.6	8	16	24	32			
*	FUEL LINE				I	I	I	I	I		3-5
*	THROTTLE OPERATION				I	I	I	I	I		3-5
*	AIR CLEANER	NOTE 2				R		R			3-7
	CRANKCASE BREATHER	NOTE 3			C	C	C	C	C		3-8
*	SPARK PLUG					I		R			3-8
*	VALVE CLEARANCE					I		I			3-10
	ENGINE OIL			R	R	R	R	R	R		3-12
	ENGINE OIL FILTER			R	R	R	R	R	R		3-13
	CLUTCH OIL FILTER	NOTE 5		R		R		R			3-14
*	ENGINE IDLE SPEED			I	I	I	I	I	I		3-15
	RADIATOR COOLANT	NOTE 4			I	I	I	I	I	3 YEARS	3-15
*	COOLING SYSTEM				I	I	I	I	I		3-16
	DRIVE CHAIN		EVERY 1,000 km (600 mi) I, L								26-51
	DRIVE CHAIN SLIDER				I	I	I	I			3-20
	BRAKE FLUID	NOTE 4			I	I	I	I	I	2 YEARS	3-21
	BRAKE PADS WEAR				I	I	I	I	I		3-22
	BRAKE SYSTEM			I	I	I	I	I	I		26-51
	BRAKE LIGHT SWITCH				I	I	I	I	I		3-24
*	BRAKE LOCK OPERATION	NOTE 5		I	I	I	I	I			3-24
	HEADLIGHT AIM				I	I	I	I	I		3-25
	SIDESTAND				I	I	I	I	I		3-27
*	SUSPENSION				I	I	I	I	I		3-28
*	NUTS, BOLTS, FASTENERS			I	I	I	I	I	I		3-29
**	WHEELS/TIRES				I	I	I	I	I		3-29
**	STEERING HEAD BEARINGS			I	I	I	I	I	I		3-30

* 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 your motorcycle 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.
5. NC700SD/XD only.

NC750X/XA/XD/S/SA/SD (EXCEPT TH TYPE)

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.

	FREQUENCY / ITEMS	NOTE	ODOMETER READING (NOTE 1) x 1,000 km	1	12	24	36	48	ANNUAL CHECK	REGULAR REPLACE	REFER TO PAGE
			x 1,000 mi	0.6	8	16	24	32			
*	FUEL LINE				I	I	I	I	I		3-5
*	THROTTLE OPERATION				I	I	I	I	I		3-5
*	AIR CLEANER	NOTE 2				R		R			3-7
	CRANKCASE BREATHER	NOTE 3			C	C	C	C	C		3-8
*	SPARK PLUG					I		R			3-8
*	VALVE CLEARANCE					I		I			3-10
	ENGINE OIL			R	R	R	R	R	R		3-12
	ENGINE OIL FILTER			R	R	R	R	R	R		3-13
	CLUTCH OIL FILTER	NOTE 6		R		R		R			3-14
*	ENGINE IDLE SPEED			I	I	I	I	I	I		3-15
	RADIATOR COOLANT	NOTE 4			I	I	I	I	I	3 YEARS	3-15
*	COOLING SYSTEM				I	I	I	I	I		3-16
	DRIVE CHAIN			EVERY 1,000 km (600 mi) I, L							26-51
	DRIVE CHAIN SLIDER				I	I	I	I			3-20
	BRAKE FLUID	NOTE 4			I	I	I	I	I	2 YEARS	3-21
	BRAKE PADS WEAR				I	I	I	I	I		3-22
	BRAKE SYSTEM			I	I	I	I	I	I		26-51
	BRAKE LIGHT SWITCH				I	I	I	I	I		3-24
*	BRAKE LOCK OPERATION	NOTE 6		I	I	I	I	I			3-24
	HEADLIGHT AIM				I	I	I	I	I		3-25
	CLUTCH SYSTEM	NOTE 5		I	I	I	I	I			3-26
	SIDESTAND				I	I	I	I	I		3-27
*	SUSPENSION				I	I	I	I	I		3-28
*	NUTS, BOLTS, FASTENERS			I	I	I	I	I	I		3-29
**	WHEELS/TIRES				I	I	I	I	I		3-29
**	STEERING HEAD BEARINGS			I	I	I	I	I	I		3-30

* 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 your motorcycle 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.
5. NC750S/SA/X/XA only.
6. NC750SD/XD only.

NC750XD (TH TYPE)

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.

	FREQUENCY / ITEMS	NOTE	ODOMETER READING (NOTE 1)								REFER TO PAGE
			x 1,000 km	1	6	12	18	24	30	36	
			x 1,000 mi	0.6	4	8	12	16	20	24	
*	FUEL LINE					I		I		I	3-5
*	THROTTLE OPERATION					I		I		I	3-5
*	AIR CLEANER	NOTE 2					R			R	3-7
	CRANKCASE BREATHER	NOTE 3			C	C	C	C	C	C	3-8
*	SPARK PLUG			EVERY 24,000 km (16,000 mi): I EVERY 48,000 km (32,000 mi): R							3-8
*	VALVE CLEARANCE							I			3-10
	ENGINE OIL			R		R		R		R	3-12
	ENGINE OIL FILTER			R		R		R		R	3-13
	CLUTCH OIL FILTER			R				R			3-14
*	ENGINE IDLE SPEED			I		I		I		I	3-15
	RADIATOR COOLANT	NOTE 4				I		I		I	3-15
*	COOLING SYSTEM					I		I		I	3-16
*	EVAPORATIVE EMISSION CONTROL SYSTEM						I			I	25-27
	DRIVE CHAIN			EVERY 1,000 km (600 mi): I, L							26-51
	DRIVE CHAIN SLIDER					I		I		I	3-20
	BRAKE FLUID	NOTE 4			I	I	I	I	I	I	3-21
	BRAKE PADS WEAR				I	I	I	I	I	I	3-22
	BRAKE SYSTEM			I		I		I		I	26-51
	BRAKE LIGHT SWITCH					I		I		I	3-24
*	BRAKE LOCK OPERATION			I	I	I	I	I	I	I	3-24
	HEADLIGHT AIM					I		I		I	3-25
	SIDESTAND					I		I		I	3-27
*	SUSPENSION					I		I		I	3-28
*	NUTS, BOLTS, FASTENERS			I		I		I		I	3-29
**	WHEELS/TIRES					I		I		I	3-29
**	STEERING HEAD BEARINGS			I		I		I		I	3-30

* 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 your motorcycle 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.

DRIVE CHAIN

REPLACEMENT

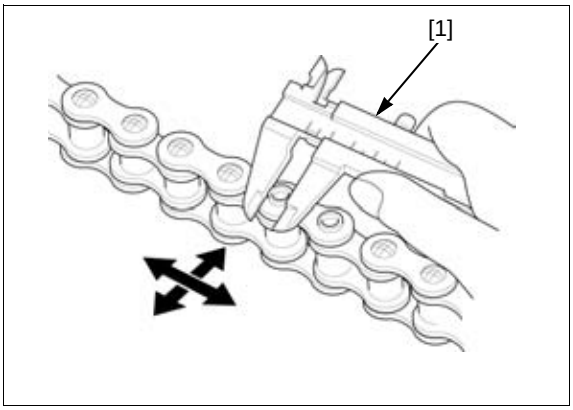
NOTE:

Refer to drive chain replacement (page 3-19).

Make sure that the pins are staked properly by measuring the diameter of the staked area using a slide caliper [1].

DIAMETER OF THE STAKED AREA:
DID: 5.40 – 5.60 mm (0.213 – 0.220 in)
RK: 5.30 – 5.70 mm (0.209 – 0.224 in)

After staking, check the staked area of the master link for cracks.
If there is any cracking, replace the master link, O-rings and plate.

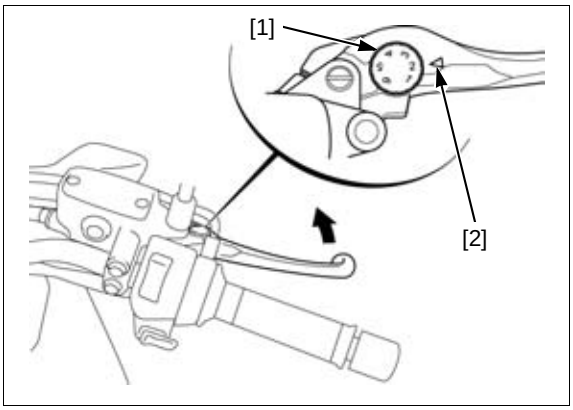


BRAKE SYSTEM

BRAKE LEVER ADJUSTMENT

Align the "△" mark [2] on the brake lever with the index number on the adjuster.

The distance between the brake lever and the grip can be adjusted by turning the adjuster [1].



PGM-FI TROUBLESHOOTING INFORMATION

MCS INFORMATION

- The MCS can readout the DTC, freeze data, current data and other ECM/PCM condition.

How to connect the MCS

Turn the ignition switch OFF.

Remove the maintenance lid (page 21-6).

Remove the DLC [1] from the battery box.

Connect the MCS to the DLC.

Turn the ignition switch ON and engine stop switch "○" check the DTC and freeze data.

NOTE:

Freeze data indicates the engine conditions when the first malfunction was detected.

ECM/PCM reset

The MCS can reset the ECM/PCM data including the DTC, freeze data and some learning memory.

After the ECM/PCM reset, perform the TP sensor reset procedure (page 7-19).

GEARSHIFT LINKAGE (X/XA/S/SA)

REMOVAL

Remove the following:

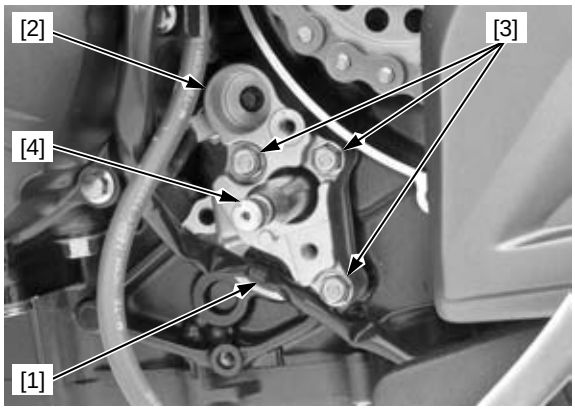
– Left rear cover (page 2-29)
– Right crankcase cover (page 11-5)

Remove the gear position sensor (page 26-84).

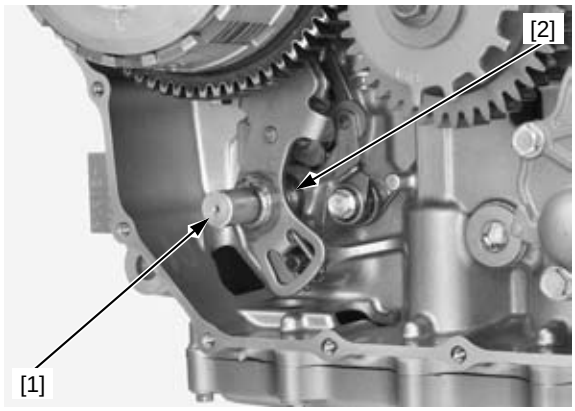
Release the sidestand switch wire clamp [1] from the gear position sensor holder [2].

Remove the gear position sensor holder bolts [3] and gear position sensor holder.

Clean the gearshift spindle [4].



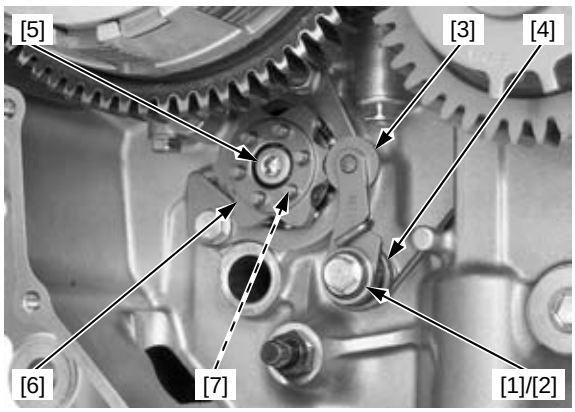
Remove the gearshift spindle [1] and washer [2].



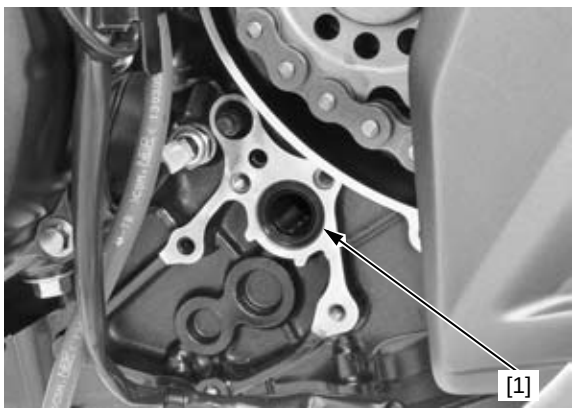
Remove the following:

– Shift drum stopper arm pivot bolt [1]
– Washers [2]
– Stopper arm [3]
– Return spring [4]

Remove the shift drum center socket bolt [5], shift drum stopper plate [6] and dowel pin [7].



Remove the gearshift spindle oil seal [1].

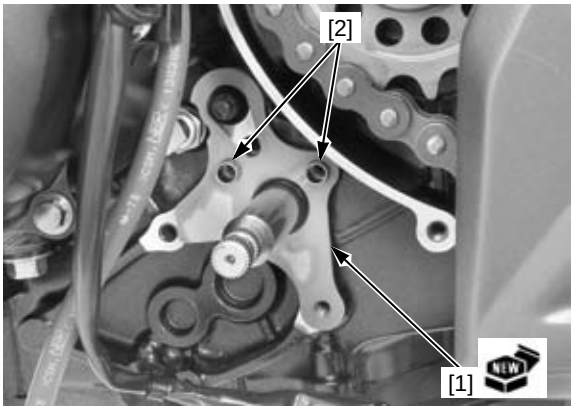


INSTALLATION

NOTE:

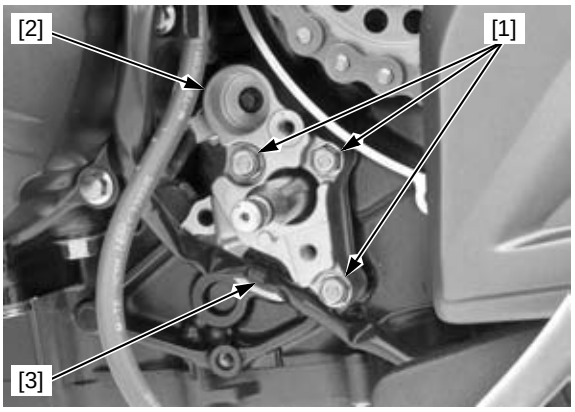
Refer to gearshift linkage installation (page 11-17).

Install a new gasket [1] and dowel pins [2].



Install the gear position sensor holder bolts [1] and gear position sensor holder [2].

TORQUE:
Gear position sensor holder bolt:
14 N·m (1.4 kgf·m, 10 lbf·ft)



Install the sidestand switch wire clamp [3].

Install the gear position sensor (page 26-84).

DCT SHIFT PEDAL (IIIED TYPE ONLY)

DCT SHIFT PEDAL ASSEMBLY REMOVAL/INSTALLATION

Remove the DCT gearshift arm pinch bolt [1] and gearshift arm [2].

Remove the DCT shift pedal pivot bolt [3].

Remove the DCT shift pedal assembly [4].

Installation is in the reverse order of removal.

NOTE:

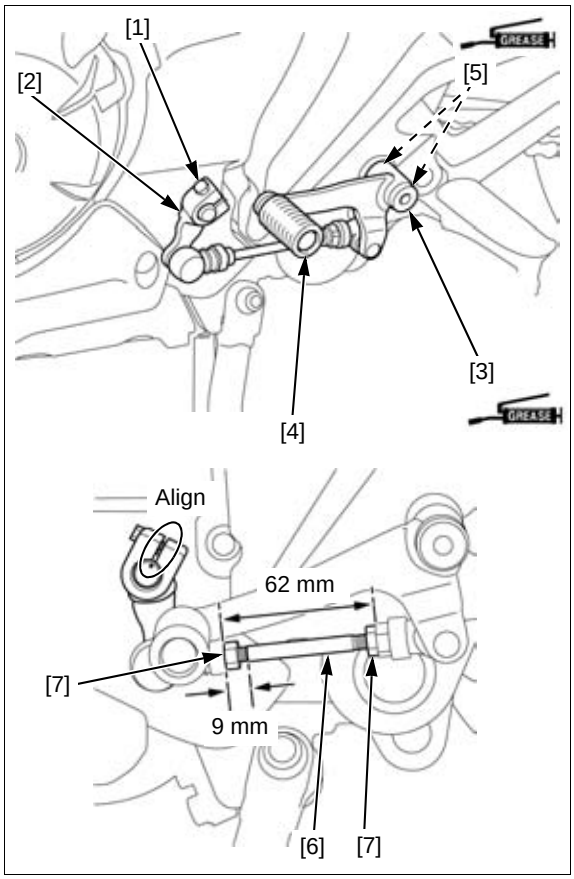
- Apply grease to the DCT shift pedal pivot bolt and dust seal [5] lips.
- Align the gearshift arm slit with the punch mark.
- Tighten the gearshift arm pinch bolt and DCT shift pedal pivot bolt to the specified torque.

TORQUE:
DCT gearshift arm pinch bolt:
12 N·m (1.2 kgf·m, 9 lbf·ft)
DCT shift pedal pivot bolt:
27 N·m (2.8 kgf·m, 20 lbf·ft)

Adjust the tie-rod [6] length so that the distance between the ball joint ends is standard length as shown.

After adjustment tighten the DCT gearshift pedal adjuster lock nuts [7] to the specified torque.

TORQUE: 10 N·m (1.0 kgf·m, 7 lbf·ft)



SHIFT PEDAL ANGLE SENSOR ASSEMBLY REMOVAL/INSTALLATION

Remove the DCT shift pedal assembly (page 26-54).

Remove the left rear cover (page 2-30).

Remove the shift pedal angle sensor cover [1].

Disconnect the shift pedal angle sensor 3P (Black) connector [2] and release the wire ties [3].

The shift pedal angle sensor assembly is factory pre-set. Do not disassembly it.

Remove the shift pedal angle sensor mounting bolts [4] and shift pedal angle sensor assembly [5].

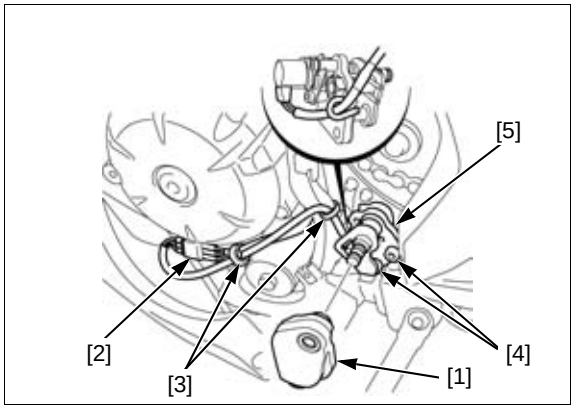
Route the wire properly (page 26-18).

Installation is in the reverse order of removal.

NOTE:

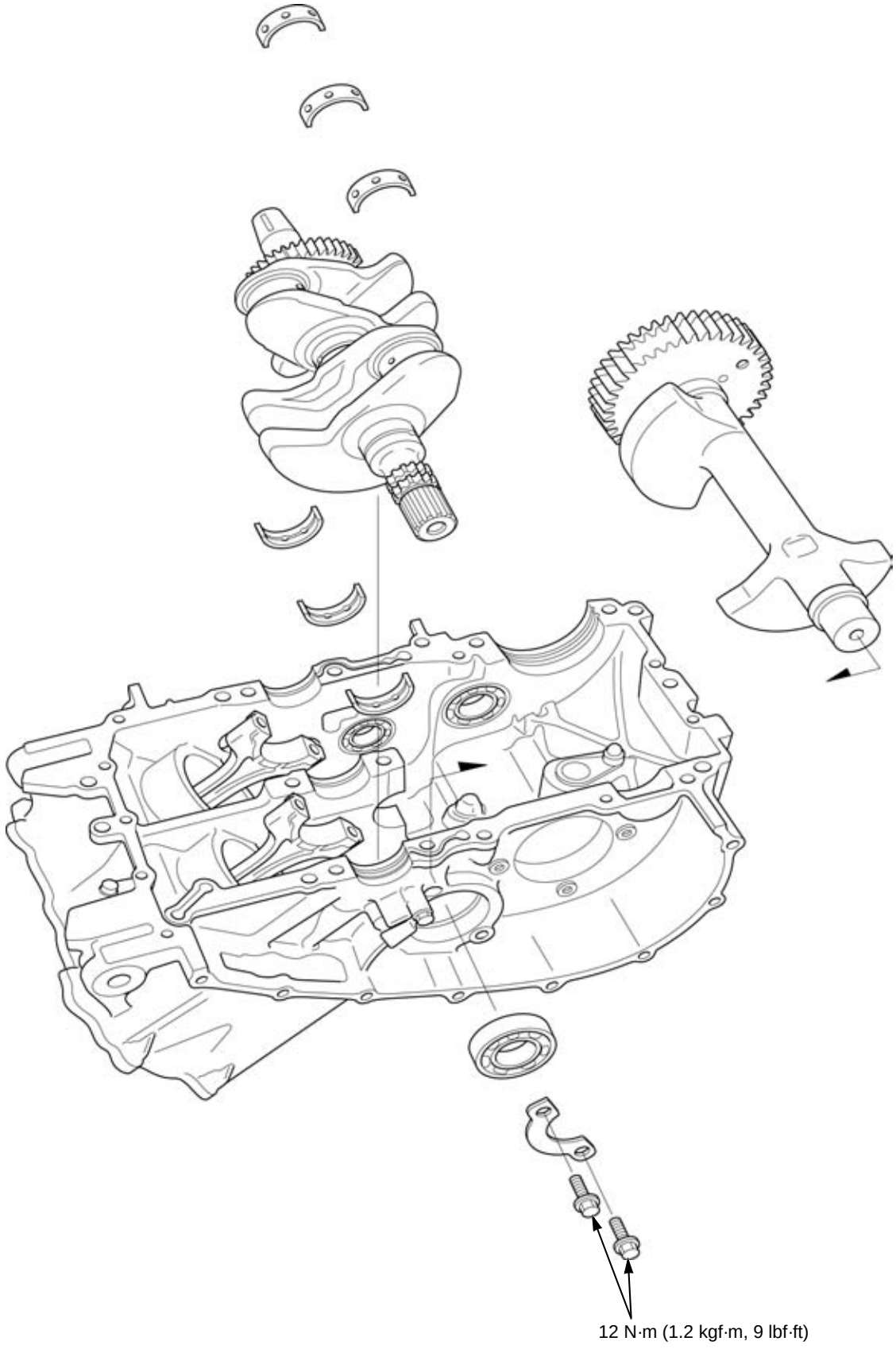
- Be careful not to pinch any wire harnesses.
- Route the shift pedal angle sensor wire as shown.
- Tighten the shift pedal angle sensor assembly mounting bolts to the specified torque.

TORQUE:
Shift pedal angle sensor assembly mounting bolt:
22 N·m (2.2 kgf·m, 16 lbf·ft)



COMPONENT LOCATION (BALANCER)

NC750:



TRANSMISSION (XD/SD)

TRANSMISSION ASSEMBLY

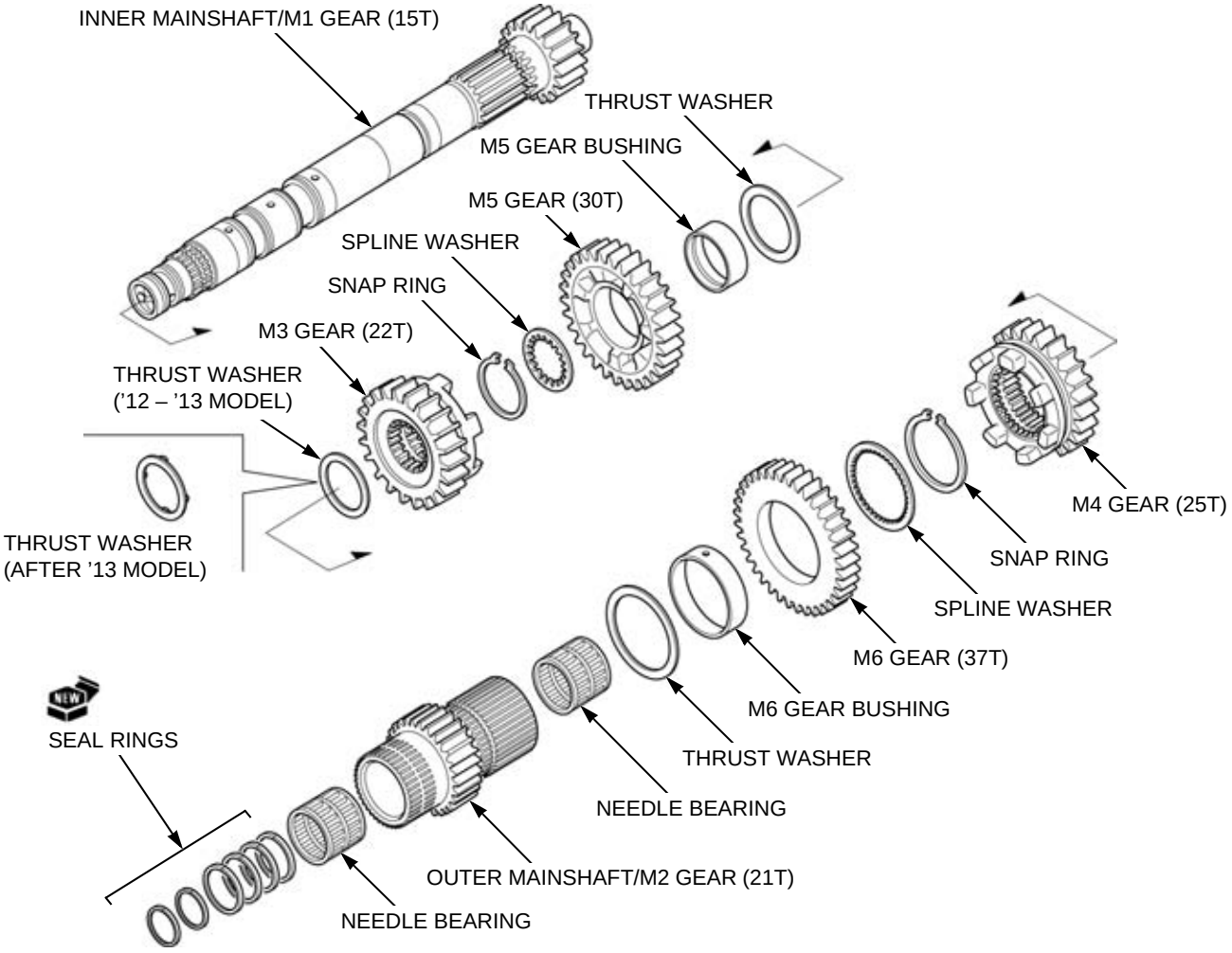
Clean all parts in solvent, and dry them thoroughly.

Apply engine oil to the gear teeth, rotating surface and bearing.

Apply molybdenum oil solution to the spline bushing outer surfaces, bushing inner and outer surfaces, and gear shifter grooves.

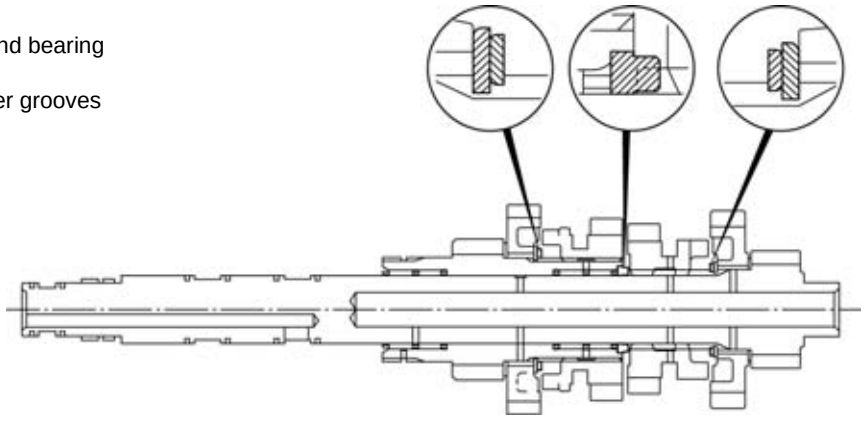
Assemble the mainshaft and countershaft.

MAINSHAFT



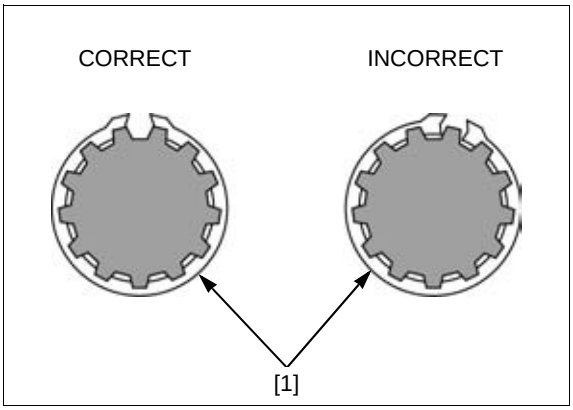
: Gear teethe, rotating surfaces and bearing

: Bushing surfaces and gear shifter grooves



NOTE:

- Coat each gear with clean engine oil and check for smooth movement.
- Align the lock washer tabs with the spline washer grooves.
- Always install the thrust washers and snap rings with the chamfered (rolled) edge facing away from the thrust load.
- Install the snap rings [1] so that the end gap aligns with the groove of the splines.
- Make sure that the snap rings are fully seated in the shaft groove after installing them.
- Make sure that the thrust washer dogs align the inner mainshaft splines.

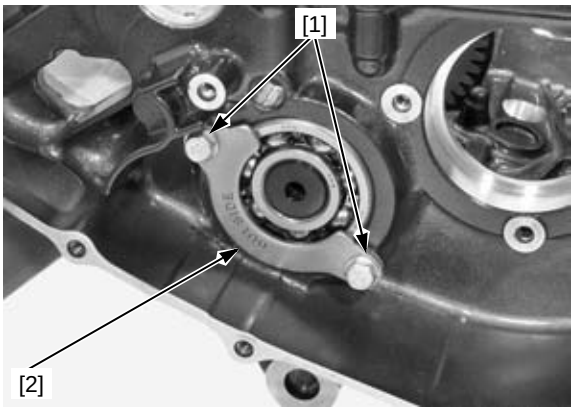


BALANCER

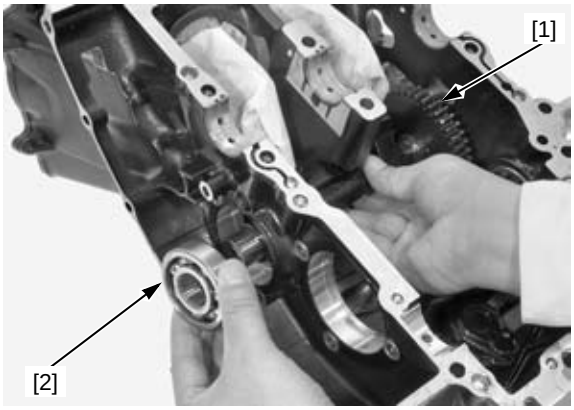
REAR BALANCER REMOVAL (NC750 ONLY)

Remove the crankshaft (page 15-5).

Remove the rear balancer shaft bearing set plate bolts [1] and set plate [2].



Remove the rear balancer shaft [1] and right balancer shaft bearing [2].



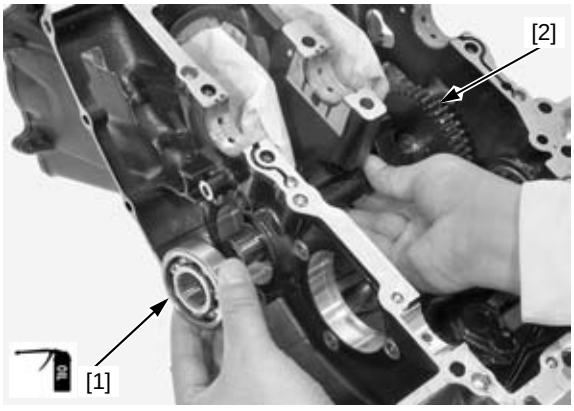
REAR BALANCER INSTALLATION (NC750 ONLY)

Apply engine oil to the right balancer shaft bearing [1].

Install the rear balancer shaft [2] and right balancer shaft bearing into the upper crankcase.

NOTE:

Install the bearing into the crankcase with the marked side facing out.



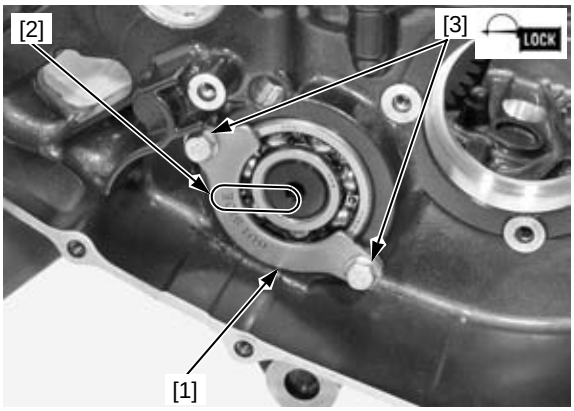
Apply locking agent to the rear balancer shaft bearing set plate bolts threads (page 26-12).

Install the rear balancer shaft bearing set plate [1] with its "OUT SIDE" mark [2] facing out.

Install and tighten the rear balancer shaft bearing set plate bolts [3] to the specified torque.

TORQUE: 12 N·m (1.2 kgf·m, 9 lbf·ft)

Install the crankshaft (page 26-59).



CRANKSHAFT

Separate the crankcase halves (page 14-7).

INSTALLATION (NC750 ONLY)

NOTE:

Refer to crankshaft installation (page 15-6).

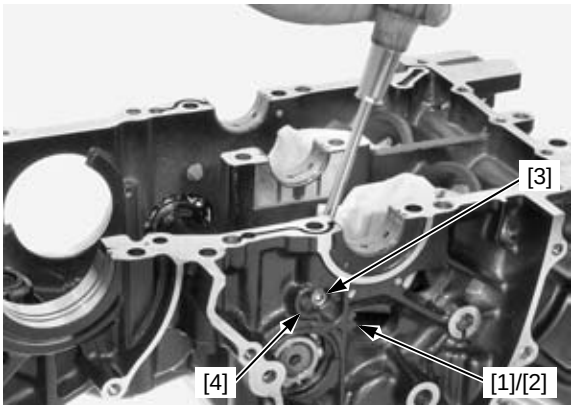
Align the rear balancer driven gear [1] and driven sub gear [2] teeth then install a 6 x 12 mm socket bolt [3] to the rear balancer driven gear and driven sub gear holes at the upper crankcase inspection hole [4].

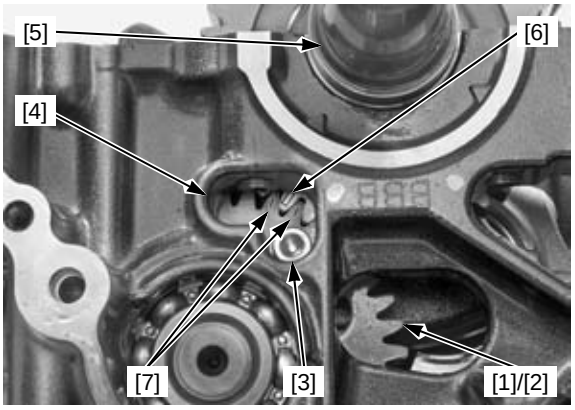
Install the crankshaft [5] onto the upper crankcase.

Make sure that the index line [6] on the balancer drive gear is positioned between the index lines [7] on the rear balancer driven gear as shown.

Remove the 6 x 12 mm socket bolt.

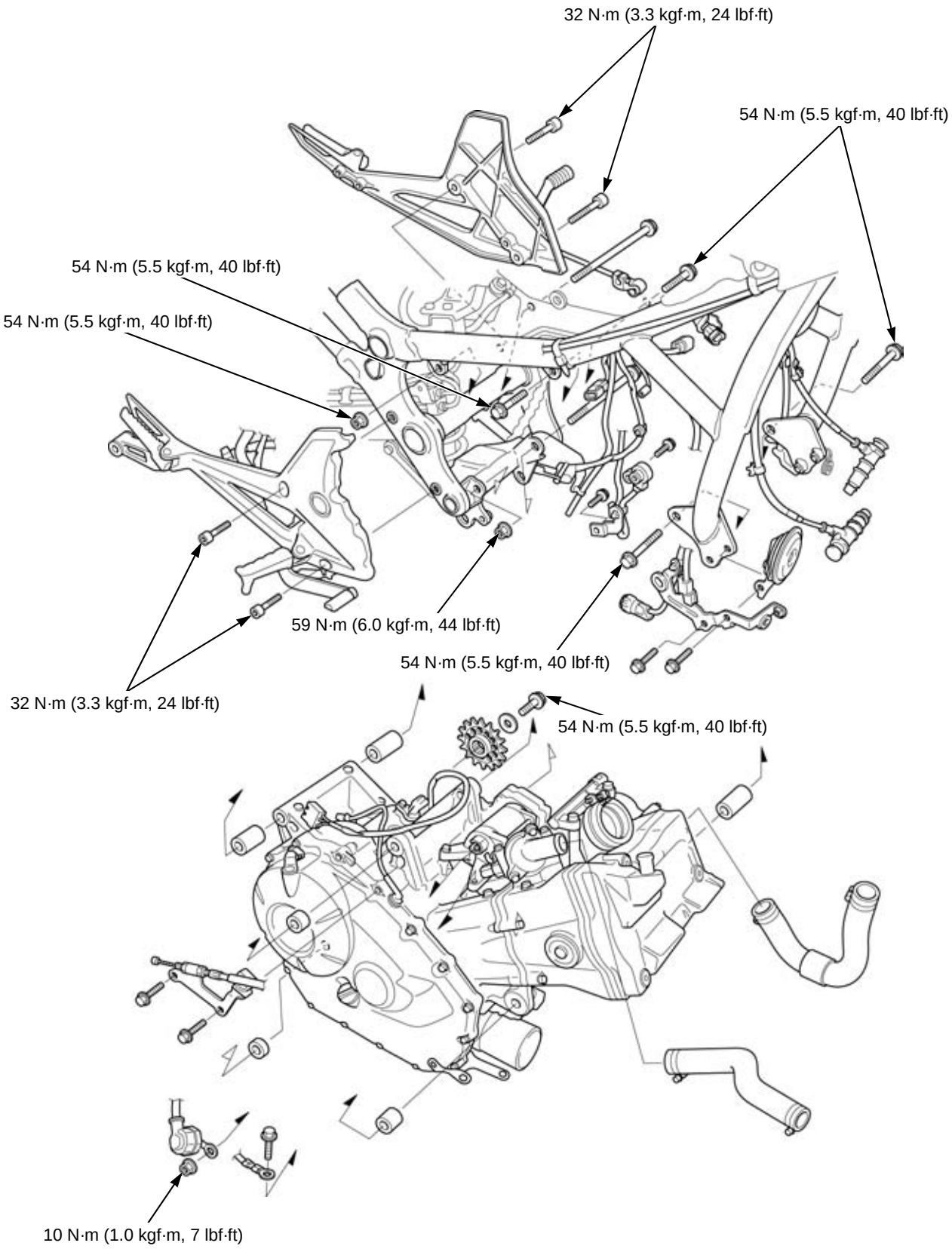
Set the connecting rods to the crankpins.





COMPONENT LOCATION (ENGINE REMOVAL/INSTALLATION)

X/XA/S/SA:



ENGINE REMOVAL (X/XA/S/SA)

NOTE:

Refer to engine removal (X/XA/S/SA) (page 16-5).

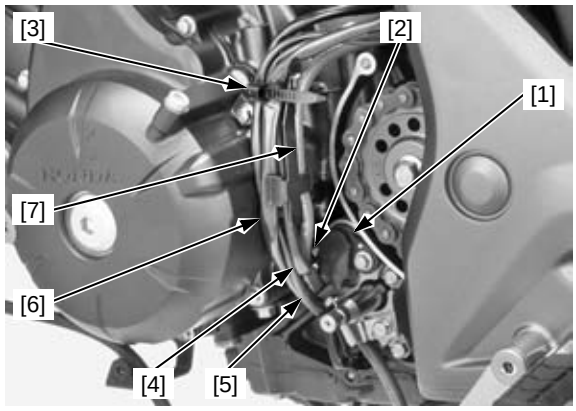
Remove the gear position sensor [1] (page 26-84).

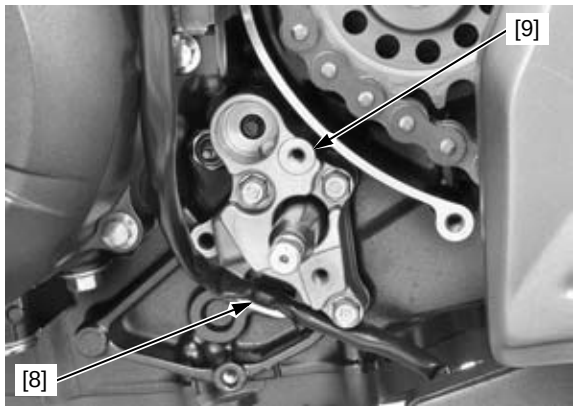
Disconnect the neutral switch connector [2].

Remove the wire band [3].

Release the neutral switch wire [4], gear position sensor wire [5], sidestand switch wire [6], fuel tank drain hose B [7].

Release the sidestand switch wire clamp [8] from the gear position sensor holder [9].





ENGINE INSTALLATION (X/XA/S/SA)

NOTE:

Refer to engine installation (X/XA/S/SA) (page 16-15).

Install the sidestand switch wire clamp [1].

Route the hose and wires properly (page 26-18).

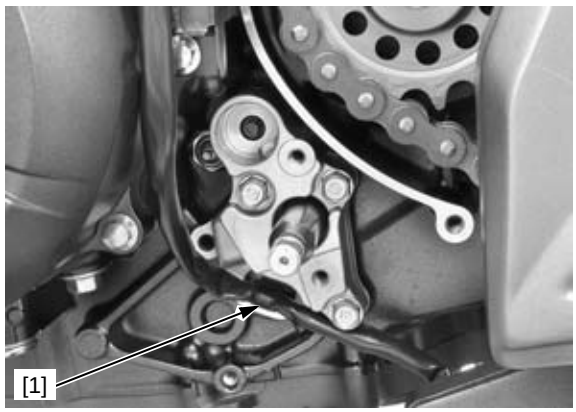
Install the following:

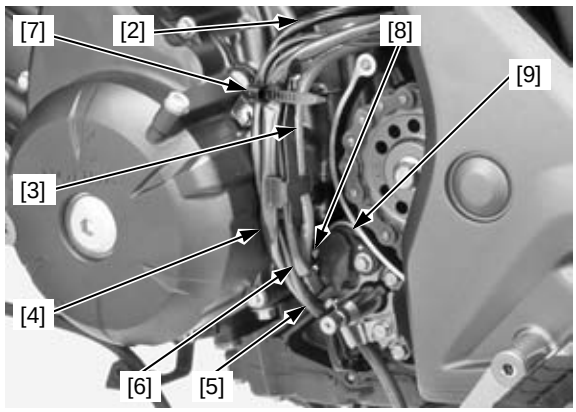
– Alternator wire [2]
– Fuel tank drain hose B [3]
– Sidestand switch wire [4]
– Gear position sensor wire [5]
– Neutral switch wire [6]

Install the wire band [7].

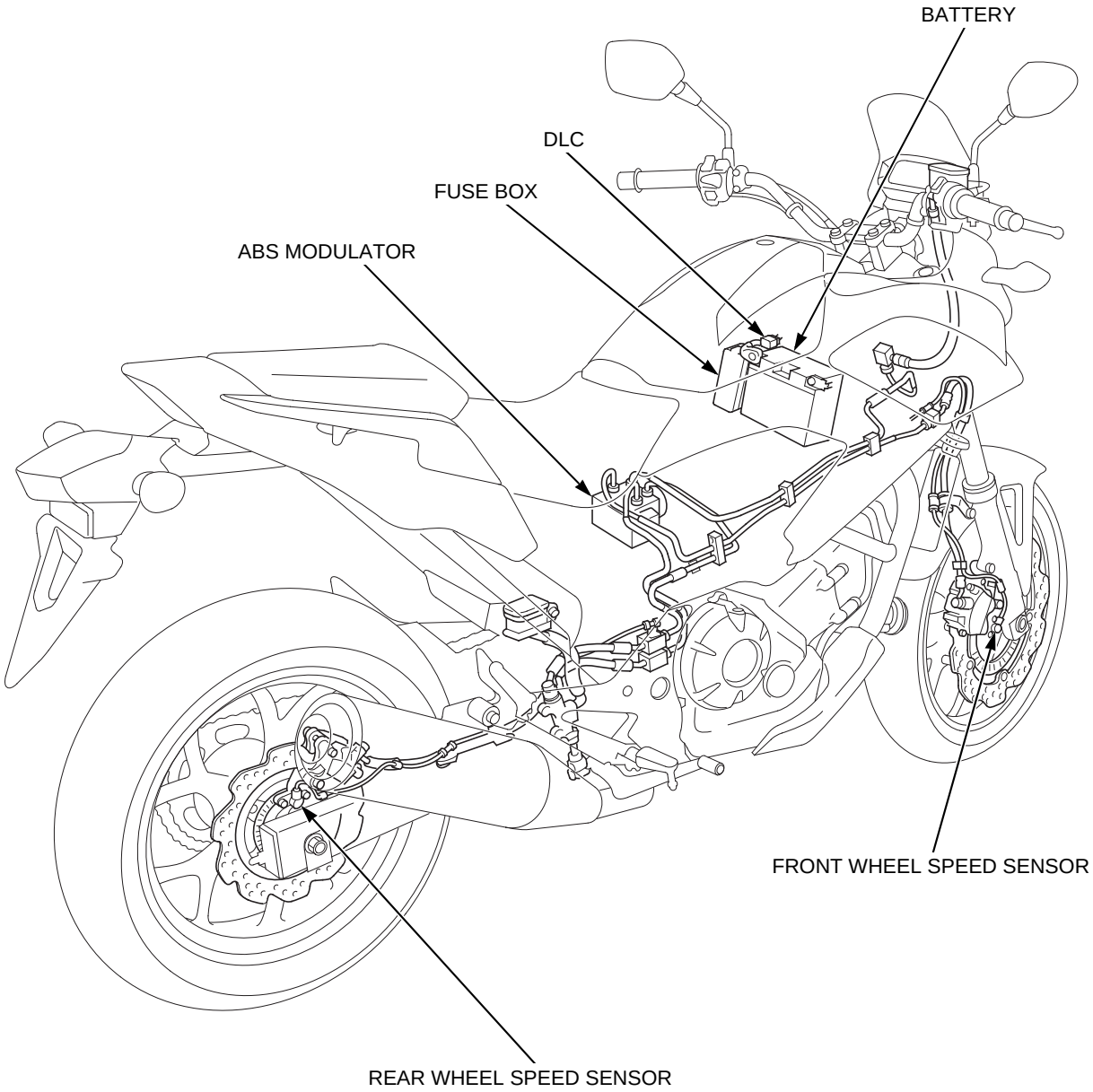
Connect the neutral switch connector [8].

Install the gear position sensor [9] (page 26-84).

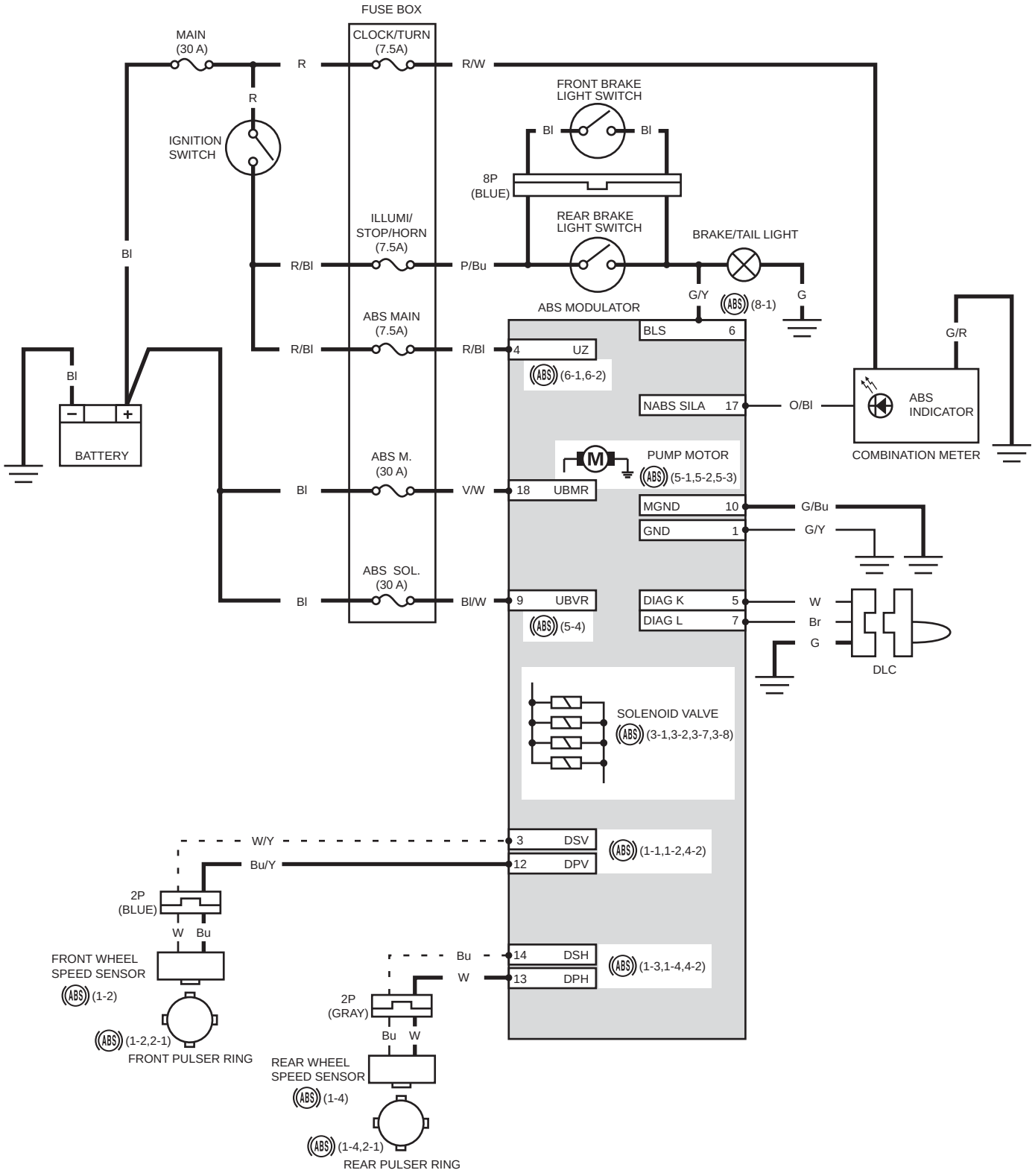




ABS SYSTEM LOCATION



ABS SYSTEM DIAGRAM



ABS TROUBLESHOOTING INFORMATION

SYSTEM DESCRIPTION

SUMMARY OF ABS PRE-START SELF-DIAGNOSIS SYSTEM

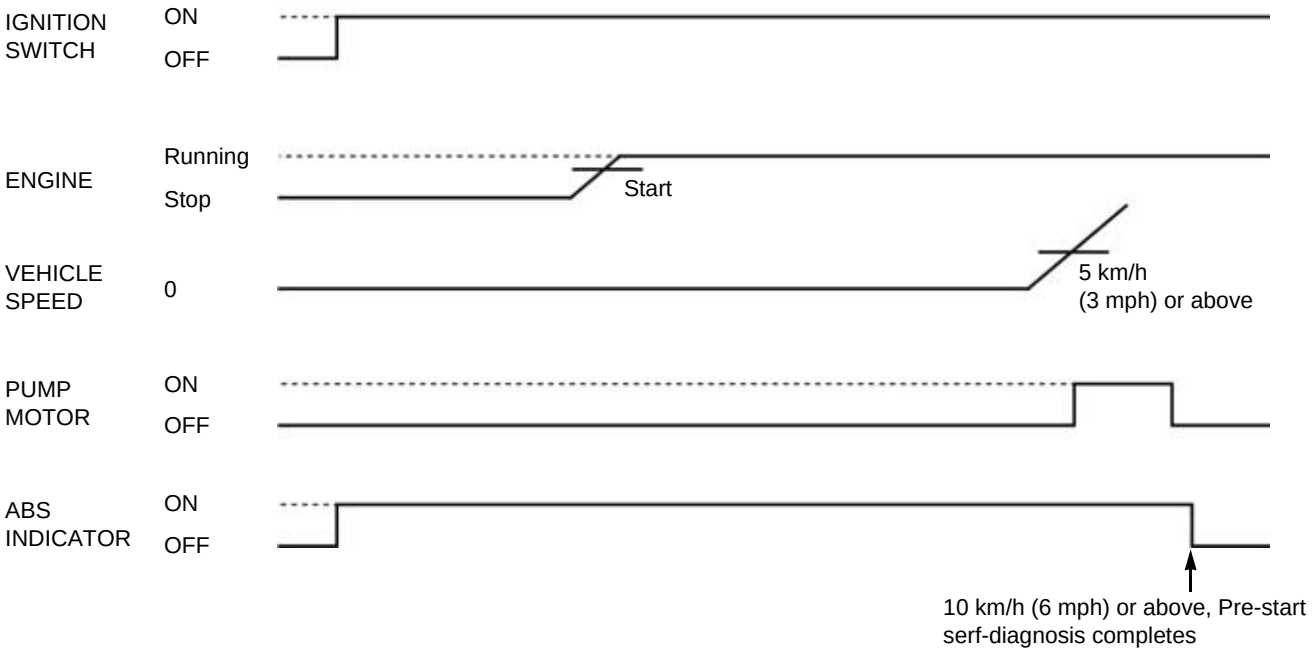
The ABS pre-start self-diagnosis system diagnoses the electrical system as well as the operating status of the modulator. When there is any abnormality, the problem and the associated part can be detected by reading the DTC.

When the motorcycle is running, pulse signals generated at the front/rear wheel speed sensor are sent to the ABS Control Unit. When the ABS Control Unit detects that vehicle speed reaches fixed velocity 5 km/h (3 mph)), the pump motor is temporarily operated to check if the ABS system functions normally. If the system is normal, pre-start self-diagnosis is complete by the time the vehicle speed reaches 10 km/h (6 mph) approximately.

If a problem is detected, the ABS indicator blinks or comes on and stays on to notify the rider of the problem. The self-diagnosis is also made while the motorcycle is running, and the ABS indicator blinks when a problem is detected.
When the ABS indicator blinks, the cause of the problem can be identified by retrieving the DTC following the specified retrieval procedure (page 20-8).

If the ABS indicator does not come on when the ignition switch is turned ON, or the ABS indicator stays on after the pre-start self-diagnosis procedure is complete, the ABS indicator may be faulty. Follow the troubleshooting (page 26-68).

Pre-start serf-diagnosis when normal:



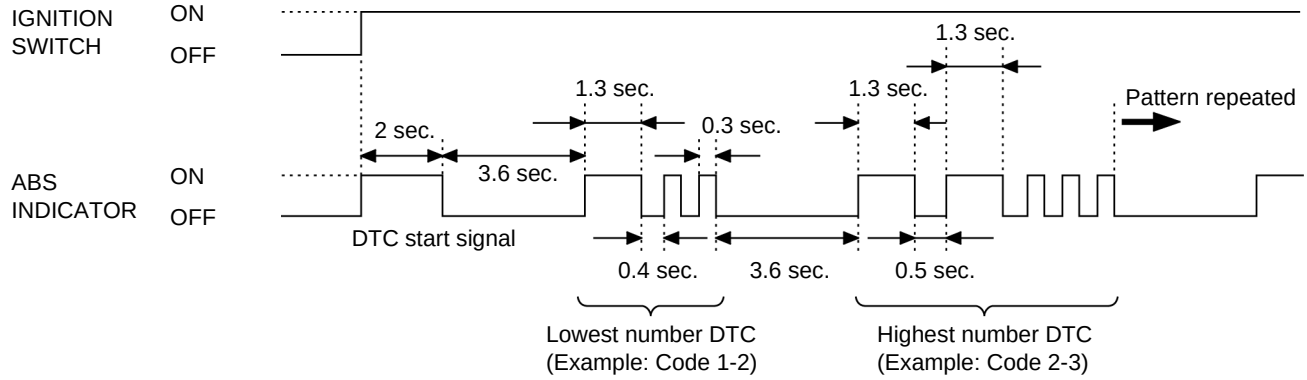
PRE-START SELF-DIAGNOSIS PROCEDURE

1. Turn the ignition switch ON and engine stop switch to "".
2. Make sure the ABS indicator comes on.
3. Start the engine.
4. Ride the motorcycle and increase the vehicle speed to approximately 10 km/h (6 mph).
5. The ABS is normal if the ABS indicator goes off.

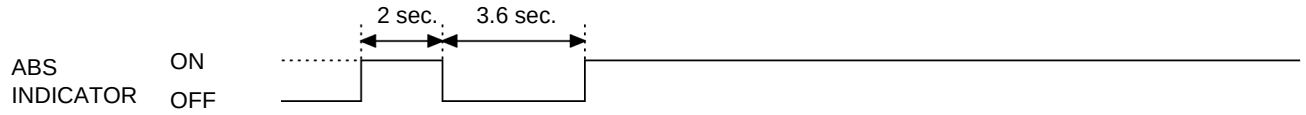
DTC INDICATION PATTERN

NOTE:

- The ABS indicator indicates the DTC by blinking a specified number of times.
  The indicator has two types of blinking, a long blink and short blink. The long blink lasts for 1.3 seconds, the short blink lasts for 0.3 seconds. For example, when one long blink is followed by two short blinks, the DTC is 1-2 (one long blink = 1 blink, plus two short blinks = 2 blinks).
- When the ABS control unit stores some DTCs, the ABS indicator shows the DTCs in the order from the lowest number to highest number. For example, when the ABS indicator indicates code 1-2, then indicates code 2-3, two failures have occurred.



When the DTC is not stored:



MCS INFORMATION

Refer to PGM-FI system (page 26-51).

CIRCUIT INSPECTION

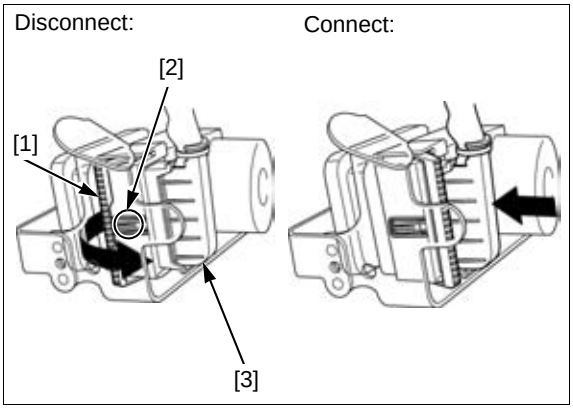
INSPECTION AT ABS MODULATOR CONNECTOR

Remove the luggage box (page 2-19).

Turn the ignition switch OFF.

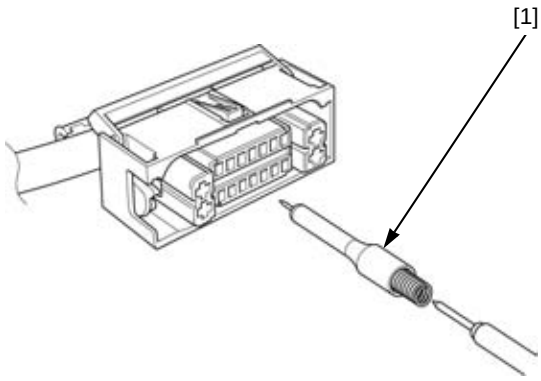
Disconnecting procedure:
Turn the lock lever [1] to this side while pressing the lock tab [2] to release it.
Be sure the lock lever is turned all the way and disconnect the ABS modulator 18P (Black) connector [3].

Connecting procedure:
Be sure to seat the lock lever against the wire side of the connector fully. Connect the ABS modulator 18P (Black) connector by pressing it straight at the area as shown (arrow) until the lock tab clicks.
Make sure the connector is locked securely.

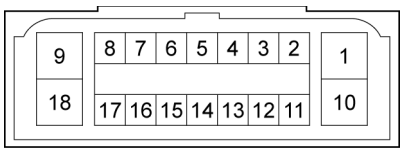


- Always clean around and keep any foreign material away from the connector before disconnecting it.
- A faulty ABS is often related to poorly connected or corroded connections. Check those connections before proceeding.
- In testing at ABS modulator 18P (Black) connector terminals (wire harness side; except No. 1, No. 9, No. 10 and No. 18 terminals), always use the test probe [1]. Insert the test probe into the connector terminal, then connect the digital multimeter probe to the test probe.

TOOL:
Test probe [1] **07ZAJ-RDJA110**



TERMINAL LAYOUT:



(Terminal side of the wire harness)

ABS DTC INDEX

NOTE:

- The ABS indicator might blink in the following cases. Correct the faulty part.
  – Incorrect tire pressure.
  – Tires not recommended for the motorcycle were installed (incorrect tire size).
  – Deformation of the wheel or tire.
- The ABS indicator might blink while riding under the following conditions. This is temporary failure. Be sure to erase the DTC (page 20-9). Then, test-ride the motorcycle above 10 km/h (6 mph) and check the DTC (page 20-8). Ask the rider for the riding conditions in detail when the motorcycle is brought in for inspection.
  – The motorcycle has continuously run bumpy roads.
  – The front wheel leaves the ground for a long time when riding (wheelie).
  – Only either the front or rear wheel rotates.
  – The ABS operates continuously.
  – The ABS control unit has been disrupted by an extremely powerful radio wave (electromagnetic interference).

DTC	Function failure	Detection		Symptom/Fail-safe function	Refer to
		A	B		
–	ABS indicator malfunction • ABS modulator voltage input line • Indicator related wires • Combination meter • ABS modulator • ABS fuse 7.5 A (ABS MAIN)			• ABS indicator never comes ON at all	26-68
				• ABS indicator stays ON at all	26-68
1-1	Front wheel speed sensor circuit malfunction • Wheel speed sensor or related wires	○	○	• Stops ABS operation	26-71
1-2	Front wheel speed sensor malfunction • Wheel speed sensor, pulser ring or related wires • Electromagnetic interference		○	• Stops ABS operation	26-71
1-3	Rear wheel speed sensor circuit malfunction • Wheel speed sensor or related wires	○	○	• Stops ABS operation	26-73
1-4	Rear wheel speed sensor malfunction • Wheel speed sensor, pulser ring or related wires • Electromagnetic interference		○	• Stops ABS operation	26-73
2-1	Wheel slipping • Pulser ring or related wires		○	• Stops ABS operation	26-71 26-73
3-1 3-2 3-7 3-8	Solenoid valve malfunction (ABS modulator)	○	○	• Stops ABS operation	26-75
4-2	Front wheel lock (Wheelie) • Riding condition		○	• Stops ABS operation	26-71
5-1	Motor lock • Pump motor (ABS modulator) or related wires • ABS fuse 30 A (ABS M.)	○	○	• Stops ABS operation	26-75
5-2	Motor stuck off • Pump motor (ABS modulator) or related wires • ABS fuse 30 A (ABS M.)	○	○	• Stops ABS operation	
5-3	Motor stuck on • Pump motor (ABS modulator) or related wires • ABS fuse 30 A (ABS M.)	○	○	• Stops ABS operation	
5-4	Valve relay malfunction • Valve relay (ABS modulator) or related wires • ABS fuse 30 A (ABS SOL.)	○	○	• Stops ABS operation	26-76
6-1	Power circuit/Under voltage • Input voltage (too low) • ABS fuse 7.5 A (ABS MAIN)	○	○	• Stops ABS operation	26-77
6-2	Power circuit/Over voltage • Input voltage (too high)	○	○	• Stops ABS operation	
8-1	ABS control unit • ABS control unit malfunction (ABS modulator)	○	○	• Stops ABS operation	26-78

(A) Pre-start self-diagnosis (page 20-7)

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

ABS INDICATOR CIRCUIT TROUBLESHOOTING

ABS INDICATOR DOES NOT COME ON (when the ignition switch turned ON)

NOTE:

- Before starting this inspection, check the initial function of the combination meter (page 22-10).

1. Indicator Operation Inspection

Turn the ignition switch OFF.
Disconnect the ABS modulator 18P (Black) connector (page 26-65).
Turn the ignition switch ON and engine stop switch "".
Check the ABS indicator.

Does the ABS indicator come on?

YES – Faulty ABS modulator

NO – GO TO STEP 2.

2. Indicator Signal Line Short Circuit Inspection

Turn the ignition switch OFF.
Check for continuity between the wire harness side ABS modulator 18P (Black) connector [1] terminal and ground.

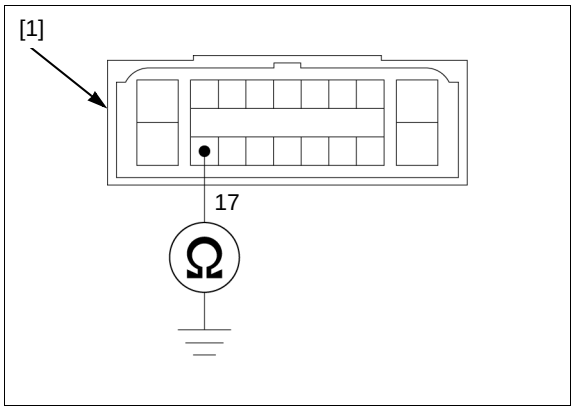
TOOL:
Test probe **07ZAJ-RDJA110**

CONNECTION: 17 – Ground

Is there continuity?

YES – Short circuit in the Orange/black wire

NO – Faulty combination meter



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

1. Service Check Line Short Circuit Inspection

Turn the ignition switch OFF.
Disconnect the ABS modulator 18P (Black) connector (page 26-65).
Check for continuity between the wire harness side ABS modulator 18P (Black) connector [1] terminal and ground.

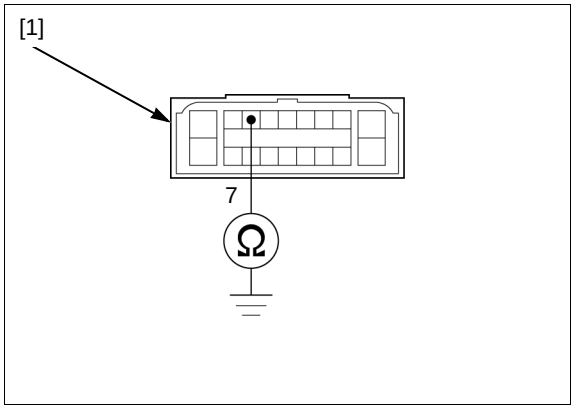
TOOL:
Test probe **07ZAJ-RDJA110**

CONNECTION: 7 – Ground

Is there continuity?

YES – Short circuit in the Brown wire

NO – GO TO STEP 2.



2. Indicator Signal Line Open Circuit Inspection

Short the wire harness side ABS modulator 18P (Black) connector [1] terminal to the ground with a jumper wire [2].

TOOL:
Test probe **07ZAJ-RDJA110**

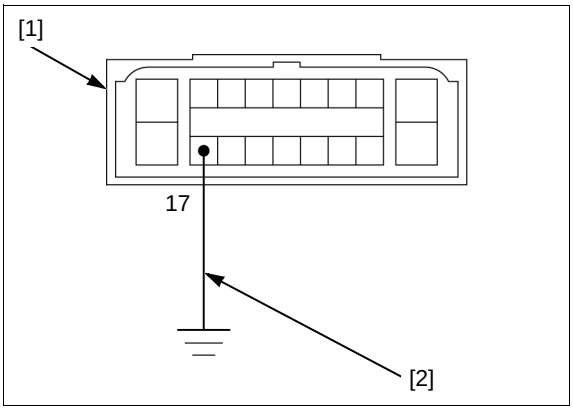
CONNECTION: 17 – Ground

Turn the ignition switch ON and engine stop switch "".
Check the ABS indicator.

Does it go off?

YES – GO TO STEP 3.

NO – • Open circuit in the Orange/black wire
• Faulty combination meter (if the Orange/black wire is OK)



3. Modulator Ground Line Open Circuit Inspection

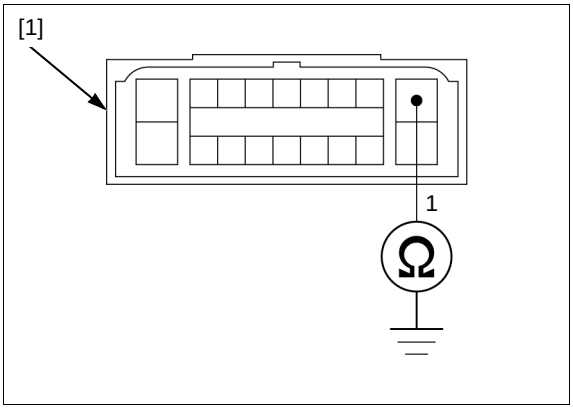
Turn the ignition switch OFF.
Check for continuity between the wire harness side ABS modulator 18P (Black) connector [1] terminal and ground.

CONNECTION: 1 – Ground

Is there continuity?

YES – GO TO STEP 4.

NO – Open circuit in the Green/yellow wire



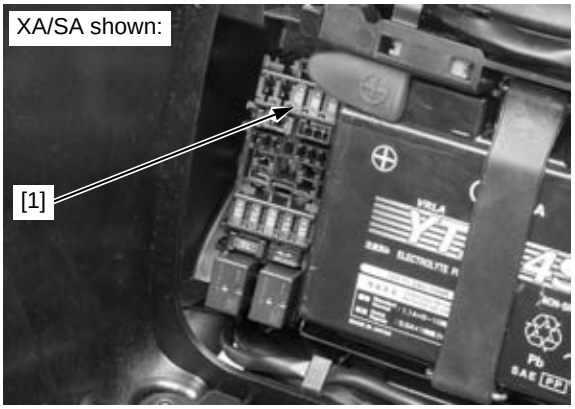
4. Fuse Inspection

Remove the fuse box cover and check the ABS fuse 7.5 A (ABS MAIN) [1] in the fuse box for blown.

Is the fuse blown?

YES – GO TO STEP 5.

NO – GO TO STEP 6.



5. Power Input Line Short Circuit Inspection

With the ABS fuse 7.5 A (ABS MAIN) removed, check for continuity between the wire harness side ABS modulator 18P (Black) connector [1] and ground.

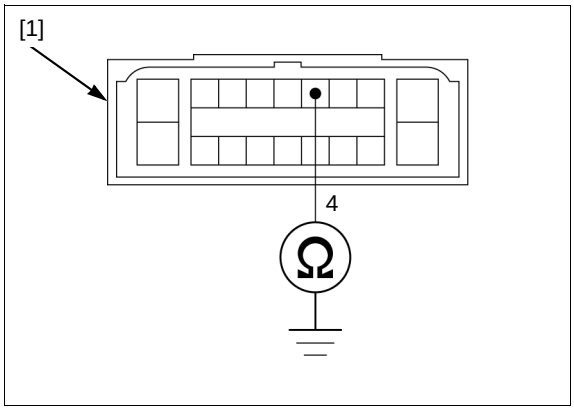
TOOL:
Test probe 07ZAJ-RDJA110

CONNECTION: 4 – Ground

Is there continuity?

YES – Short circuit in Red/black wire

NO – Intermittent failure. Replace the ABS fuse 7.5 A (ABS MAIN) with a new one, and recheck.



6. Power Input Line Open Circuit Inspection

Install the ABS fuse 7.5 A (ABS MAIN).
Turn the ignition switch ON.
Measure the voltage between the wire harness side ABS modulator 18P (Black) connector [1] terminal and ground.

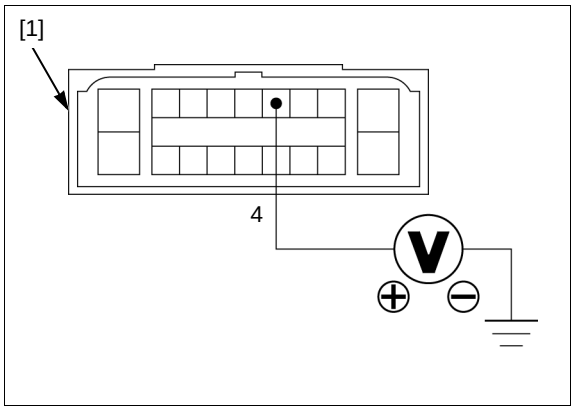
TOOL:
Test probe 07ZAJ-RDJA110

CONNECTION: 4 (+) – Ground (–)

Is there battery voltage?

YES – Faulty ABS modulator

NO – Open circuit in Red/black wire



ABS TROUBLESHOOTING

NOTE:

- Perform inspection with the ignition switch OFF, unless otherwise specified.
- All connector diagrams in the troubleshooting are viewed from the terminal side.
- Use a fully charged battery. Do not diagnose with a charger connected to the battery.
- 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 (page 20-9) and test-ride the motorcycle to check that the ABS indicator operates normally during pre-start self-diagnosis (page 20-7).

DTC 1-1, 1-2, 2-1 or 4-2 (Front Wheel Speed Sensor Circuit/Front Wheel Speed Sensor/Front Pulser Ring/Front Wheel Lock)

NOTE:

- The ABS indicator might blink under unusual riding conditions (page 26-67). This is temporary failure. Erase the DTC (page 20-9) and test-ride the motorcycle above 10 km/h (6 mph) to check that the ABS indicator operates normally (page 26-65).

1. Speed Sensor Air Gap Inspection

Measure the air gap between the front wheel speed sensor and pulser ring (page 20-24).

Is the air gap correct?

YES – GO TO STEP 2.

NO – Check each part for deformation and looseness and correct accordingly. Recheck the air gap.

2. Speed Sensor Condition Inspection

Inspect the area around the front wheel speed sensor:
Check that there is iron or other magnetic deposits between the pulser ring [1] and wheel speed sensor [2], and the pulser ring slots for obstructions.
Check the installation condition of the pulser ring or wheel speed sensor for looseness.
Check the pulser ring and sensor tip for deformation or damage.

Are the sensor and pulser ring in good condition?

YES – GO TO STEP 3.

NO – Remove any deposits. Install properly or replace faulty part.

3. Front Wheel Speed Sensor Line Short Circuit Inspection (at sensor side)

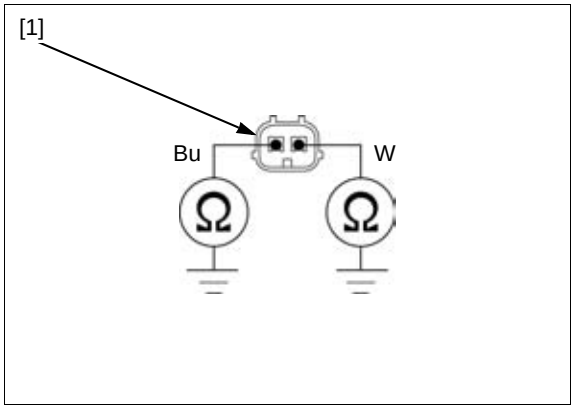
Turn the ignition switch OFF.
Disconnect the front wheel speed sensor 2P (Blue) connector (page 20-25).
Check for continuity between each terminal of the sensor side front wheel speed sensor 2P (Blue) connector [1] and ground.

CONNECTION: White – Ground
Blue – Ground

Is there continuity?

YES – Faulty front wheel speed sensor

NO – GO TO STEP 4.



4. Front Wheel Speed Sensor Line Short Circuit Inspection

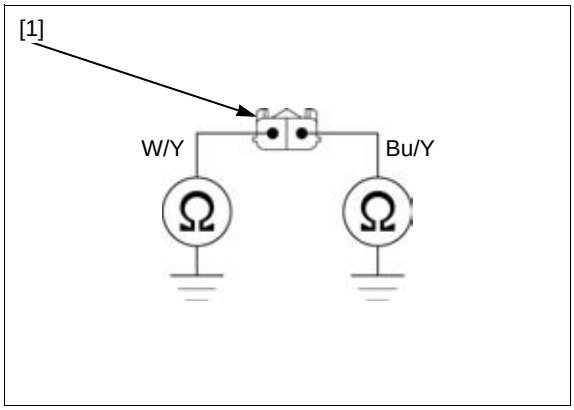
Disconnect the ABS modulator 18P (Black) connector (page 26-65).
Check for continuity between each terminal of the wire harness side front wheel speed sensor 2P (Blue) connector [1] and ground.

CONNECTION: Blue/yellow – Ground
White/yellow – Ground

Is there continuity?

YES – • Short circuit in the Blue/yellow wire
• Short circuit in the White/yellow wire

NO – GO TO STEP 5.



5. Speed Sensor Line Open Circuit Inspection

Turn the ignition switch OFF.
Disconnect the following:

– ABS modulator 18P (Black) connector (page 26-65)
– Front wheel speed sensor 2P (Blue) connector (page 20-25)

Short the wire harness side ABS modulator 18P (Black) connector [1] terminals with a jumper wire [2].

CONNECTION: 3 – 12

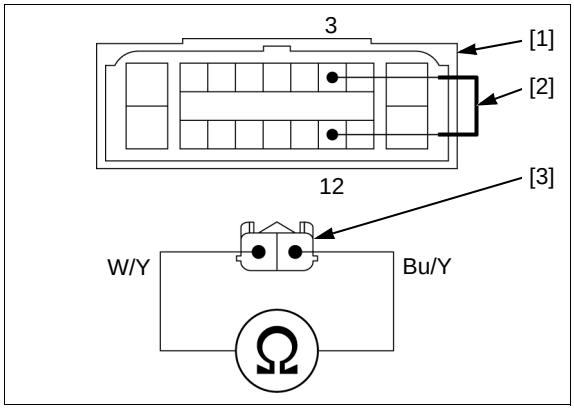
Check for continuity between the wire harness side front wheel speed sensor 2P (Blue) connector [3] terminals.

CONNECTION: Blue/yellow – White/yellow

Is there continuity?

YES – GO TO STEP 6.

NO – Open circuit in the Blue/yellow or White/yellow wire



6. Failure Reproduction with a New Speed Sensor

Replace the front wheel speed sensor with a new one (page 20-25).
Connect the ABS modulator 18P (Black) and front wheel speed sensor 2P (Blue) connectors.
Erase the DTC (page 20-9).
Test-ride the motorcycle above 10 km/h (6 mph).
Recheck the DTC (page 20-8).

Is the DTC 1-1, 1-2, 2-1 or 4-2 indicated?

YES – Faulty ABS modulator

NO – Faulty original wheel speed sensor

DTC 1-3, 1-4 or 2-1 (Rear Wheel Speed Sensor Circuit/Rear Wheel Speed Sensor/Rear Pulser Ring)

NOTE:

- The ABS indicator might blink under unusual riding conditions (page 26-67). This is temporary failure. Erase the DTC (page 20-9) and test-ride the motorcycle above 10 km/h (6 mph) to check that the ABS indicator operates normally (page 26-65).
- If DTC 4-3 is indicated, check the rear brake for drag.

1. Speed Sensor Air Gap Inspection

Measure the air gap between the rear wheel speed sensor and pulser ring (page 20-24).

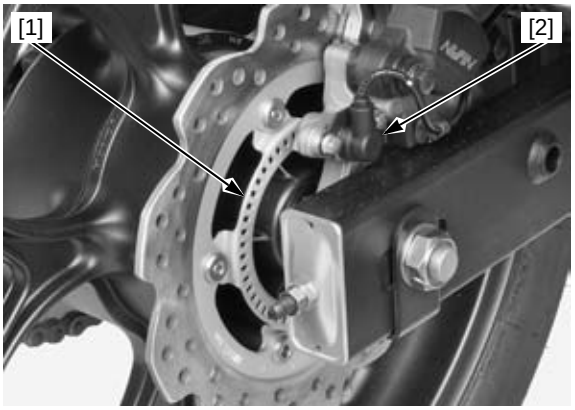
Is the air gap correct?

YES – GO TO STEP 2.

NO – Check each part for deformation and looseness and correct accordingly. Recheck the air gap.

2. Speed Sensor Condition Inspection

Inspect the area around the rear wheel speed sensor:
Check that there is iron or other magnetic deposits between the pulser ring [1] and wheel speed sensor [2], and the pulser ring slots for obstructions.
Check the installation condition of the pulser ring or wheel speed sensor for looseness.
Check the pulser ring and sensor tip for deformation or damage.



Are the sensor and pulser ring in good condition?

YES – GO TO STEP 3.

NO – Remove any deposits. Install properly or replace faulty part.

3. Rear Wheel Speed Sensor Line Short Circuit Inspection (at sensor side)

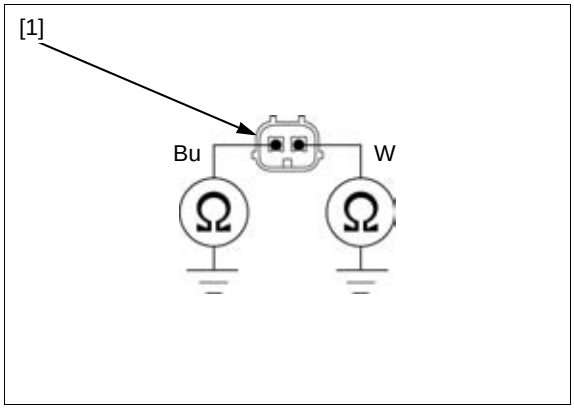
Turn the ignition switch OFF.
Disconnect the rear wheel speed sensor 2P (Gray) connector (page 20-26).
Check for continuity between each terminal of the sensor side rear wheel speed sensor 2P (Gray) connector [1] and ground.

CONNECTION: Blue – Ground
White – Ground

Is there continuity?

YES – Faulty rear wheel speed sensor

NO – GO TO STEP 4.



4. Rear Wheel Speed Sensor Line Short Circuit Inspection

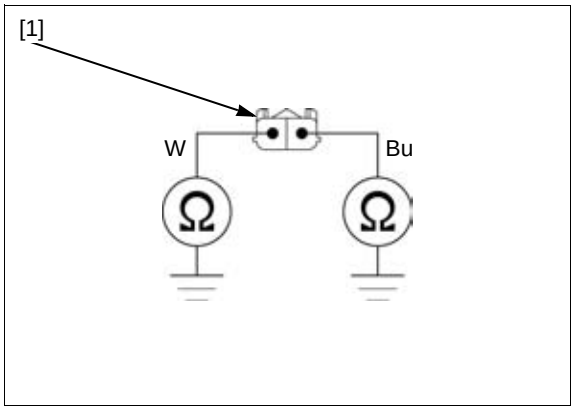
Check for continuity between each terminal of the wire harness side rear wheel speed sensor 2P (Gray) connector [1] and ground.

CONNECTION: White – Ground
Blue – Ground

Is there continuity?

YES – • Short circuit in the White wire
• Short circuit in the Blue wire

NO – GO TO STEP 5.



5. Speed Sensor Line Open Circuit Inspection

Turn the ignition switch OFF.
Disconnect the following:

– ABS modulator 18P (Black) connector (page 26-65)
– Rear wheel speed sensor 2P (Gray) connector (page 20-26)

Short the wire harness side ABS modulator 18P (Black) connector [1] terminals with a jumper wire [2].

CONNECTION: 13 – 14

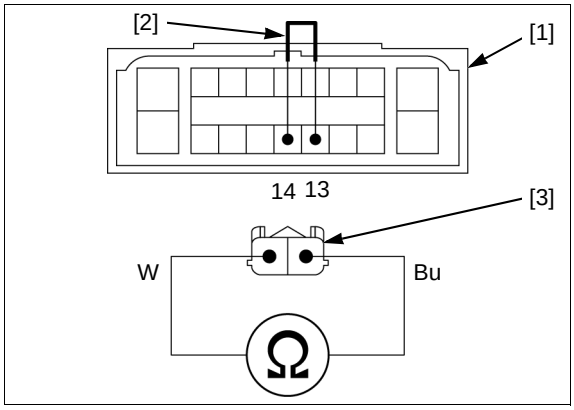
Check for continuity between the wire harness side rear wheel speed sensor 2P (Gray) connector [3] terminals.

CONNECTION: White – Blue

Is there continuity?

YES – GO TO STEP 6.

NO – Open circuit in the White or Blue wire



6. Failure Reproduction with a New Speed Sensor

Replace the rear wheel speed sensor with a new one (page 20-25).
Connect the ABS modulator 18P (Black) and rear wheel speed sensor 2P (Gray) connectors.
Erase the DTC (page 20-9).
Test-ride the motorcycle above 10 km/h (6 mph).
Recheck the DTC (page 20-8).

Is the DTC 1-3, 1-4 or 2-1 indicated?

YES – Faulty ABS modulator

NO – Faulty original wheel speed sensor

DTC 3-1, 3-2, 3-7 or 3-8 (Solenoid Valve)

1. Failure Reproduction

Erase the DTC (page 20-9).
Test-ride the motorcycle above 10 km/h (6 mph).
Recheck the DTC (page 20-8).

Is the DTC 3-1, 3-2, 3-7 or 3-8 indicated?

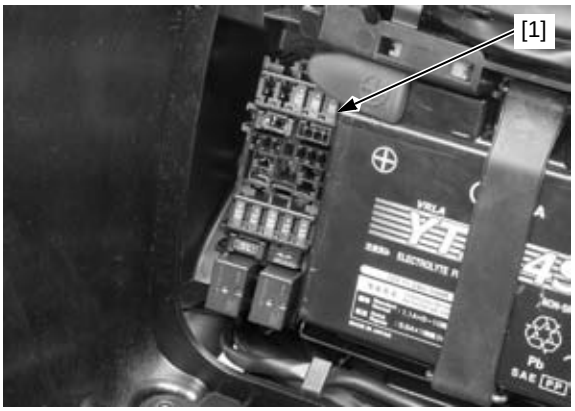
YES – Faulty ABS modulator

NO – Solenoid valve is normal (intermittent failure).

DTC 5-1, 5-2 or 5-3 (Motor Lock)

1. Fuse Inspection

Turn the ignition switch OFF.
Remove the maintenance lid (page 21-6).
Remove the fuse box cover and check the ABS fuse 30 A (ABS M.) [1] in the fuse box for blown.



Is the fuse blown?

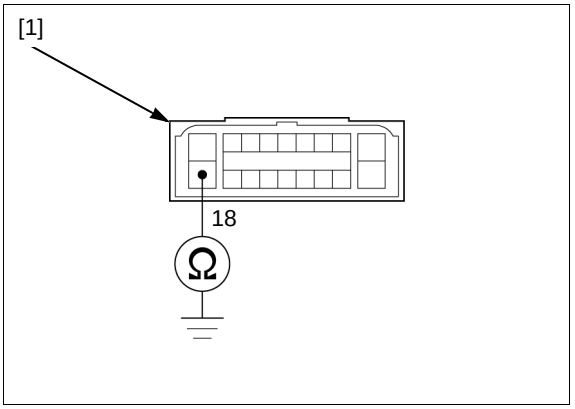
YES – GO TO STEP 2.

NO – GO TO STEP 3.

2. Motor Power Input Line Short Circuit Inspection

Disconnect the ABS modulator 18P (Black) connector (page 26-65).
With the ABS fuse 30 A (ABS M.) removed, check for continuity between the wire harness side ABS modulator 18P (Black) connector [1] terminal and ground.

CONNECTION: 18 – Ground



Is there continuity?

YES – Short circuit in the Violet/white wire between the fuse box and ABS modulator 18P (Black) connector

NO – Intermittent failure. Replace the ABS fuse 30 A (ABS M.) with a new one, and recheck.

3. Motor Power Input Line Open Circuit Inspection

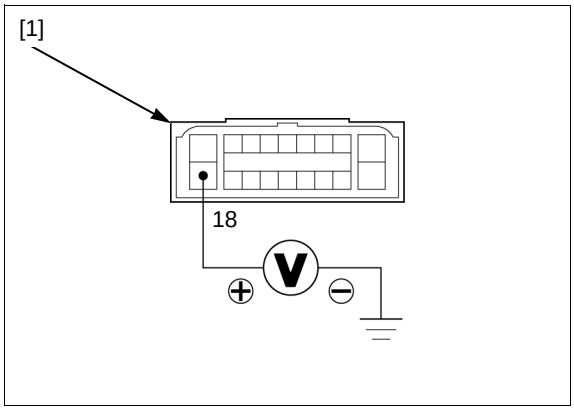
Install the ABS fuse 30 A (ABS M.).
Disconnect the ABS modulator 18P (Black) connector (page 26-65).
Measure the voltage between the wire harness side ABS modulator 18P (Black) connector [1] terminal and ground.

CONNECTION: 18 (+) – Ground (–)

Is there battery voltage?

YES – GO TO STEP 4.

NO – Open circuit in the Black or Violet/white wire between the battery and ABS modulator 18P (Black) connector



4. Failure Reproduction

Turn the ignition switch OFF.
Connect the ABS modulator 18P (Black) connector.
Erase the DTC (page 20-9).
Test-ride the motorcycle above 10 km/h (6 mph).
Recheck the DTC (page 20-8).

Is the DTC 5-1, 5-2 or 5-3 indicated?

YES – Faulty ABS modulator

NO – Pump motor is normal (intermittent failure).

DTC 5-4 (Valve Relay)

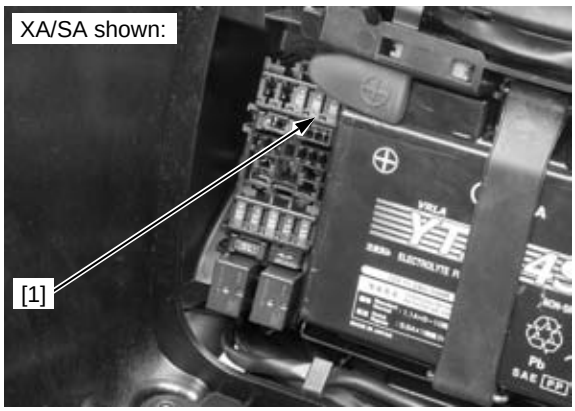
1. Fuse Inspection

Check the ABS fuse 30 A (ABS SOL.) [1] in the fuse box for blown.

Is the fuse blown?

YES – GO TO STEP 2.

NO – GO TO STEP 3.



2. Relay Power Input Line Short Circuit Inspection

Turn the ignition switch OFF.
Disconnect the ABS modulator 18P connector [1].

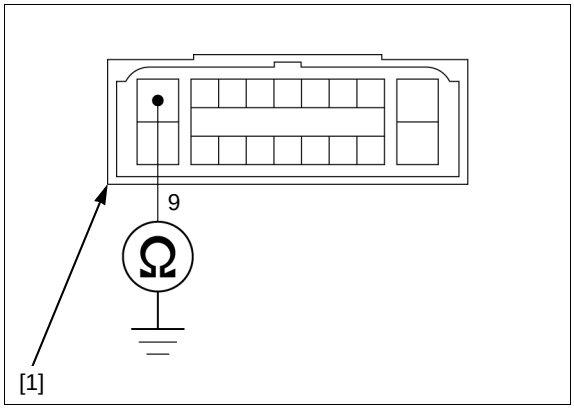
Check for continuity between the ABS modulator 18P connector of the wire harness side and ground.

Connection: 9 – Ground

Is there continuity?

YES – Short circuit in Black/white wire

NO – Intermittent failure. Replace the ABS fuse 30 A (ABS SOL.) with a new one, and recheck.



3. Relay Power Input Line Open Circuit Inspection

Turn the ignition switch OFF.
Disconnect the ABS modulator 18P connector [1].

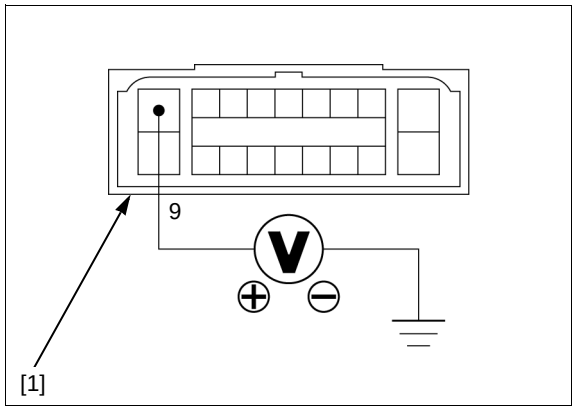
Measure the voltage between the ABS modulator 18P connector of the wire harness side and ground.

Connection: 9 (+) – Ground (–)
Standard: Battery voltage

Does the standard voltage exist?

YES – GO TO STEP 4.

NO – Open circuit in Black/white or Black wire between the battery and ABS modulator 25P connector



4. Failure Reproduction

Connect the ABS modulator 18P connector.
Erase the DTC (page 20-9).
Test ride the motorcycle above 10 km/h (6 mph).
Recheck the DTC (page 20-8).

Is the DTC 5-4 indicated?

YES – Faulty ABS modulator

NO – Valve relay is normal (intermittent failure)

DTC 6-1 or 6-2 (Power Circuit)

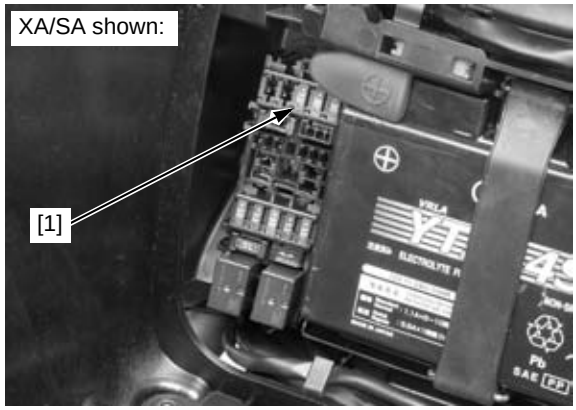
1. Fuse Inspection

Turn the ignition switch OFF.
Remove the maintenance lid (page 21-6).
Remove the fuse box cover and check the ABS fuse 7.5 A (ABS MAIN) [1] in the fuse box for blown.

Is the fuse blown?

YES – GO TO STEP 2.

NO – GO TO STEP 3.



2. Power Input Line Short Circuit Inspection

Disconnect the ABS modulator 18P (Black) connector (page 26-65).
With the ABS fuse 7.5 A (ABS MAIN) removed, check for continuity between the wire harness side ABS modulator 18P (Black) connector [1] and ground.

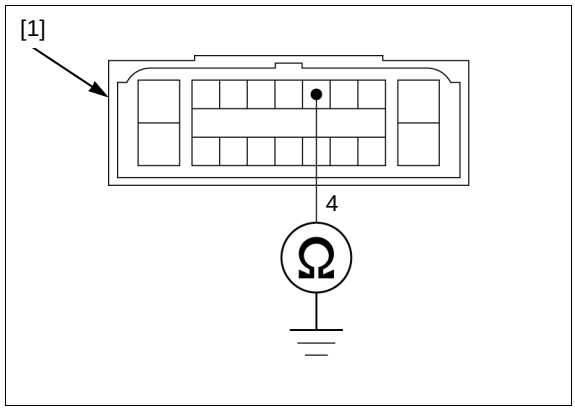
TOOL:
Test probe 07ZAJ-RDJA110

CONNECTION: 4 – Ground

Is there continuity?

YES – Short circuit in Red/black wire

NO – Intermittent failure. Replace the ABS fuse 7.5 A (ABS MAIN) with a new one, and recheck.

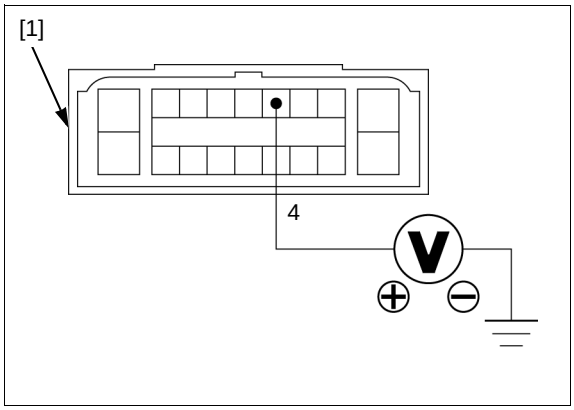


3. Power Input Line Open Circuit Inspection

Install the ABS fuse 7.5 A (ABS MAIN).
Disconnect the ABS modulator 18P (Black) connector (page 26-65).
Turn the ignition switch ON and engine stop switch "".
Measure the voltage between the wire harness side ABS modulator 18P (Black) connector [1] terminal and ground.

TOOL:
Test probe 07ZAJ-RDJA110

CONNECTION: 4 (+) – Ground (–)



Is there battery voltage?

YES – GO TO STEP 4.

NO – Open circuit in Red/black wire

4. Failure Reproduction

Turn the ignition switch OFF.
Connect the ABS modulator 18P (Black) connector.
Erase the DTC (page 20-9).
Test-ride the motorcycle above 10 km/h (6 mph).
Recheck the DTC (page 20-8).

Is the DTC 6-1 or 6-2 indicated?

YES – Faulty ABS modulator

NO – Power circuit is normal (intermittent failure)

DTC 8-1 (ABS Control Unit)

1. Failure Reproduction

Erase the DTC (page 20-9).
Test-ride the motorcycle above 10 km/h (6 mph).
Recheck the DTC (page 20-8).

Is the DTC 8-1 indicated?

YES – Faulty ABS modulator

NO – ABS control unit is normal (intermittent failure)

ABS MODULATOR

REMOVAL/INSTALLATION

Drain the brake fluid from the lever/pedal brake line hydraulic systems (page 19-8).

NOTE:

Be careful not to bend or damage the brake pipes during assembly or removal.

XD/SD: Remove the linear solenoid valve 4P (Green) connector [1] and shift spindle angle sensor 3P (Gray) connector [2] from the ABS modulator stay.

Disconnect the ABS modulator 18P (Black) connector [3] (page 26-65).

Release the main wire harness clamp(s) [4] from the ABS modulator stay.

Release the brake pipes from clamps [5].

Loosen the brake pipe joint nuts [6] and disconnect the brake pipes from the ABS modulator.

Remove the bolts [7].

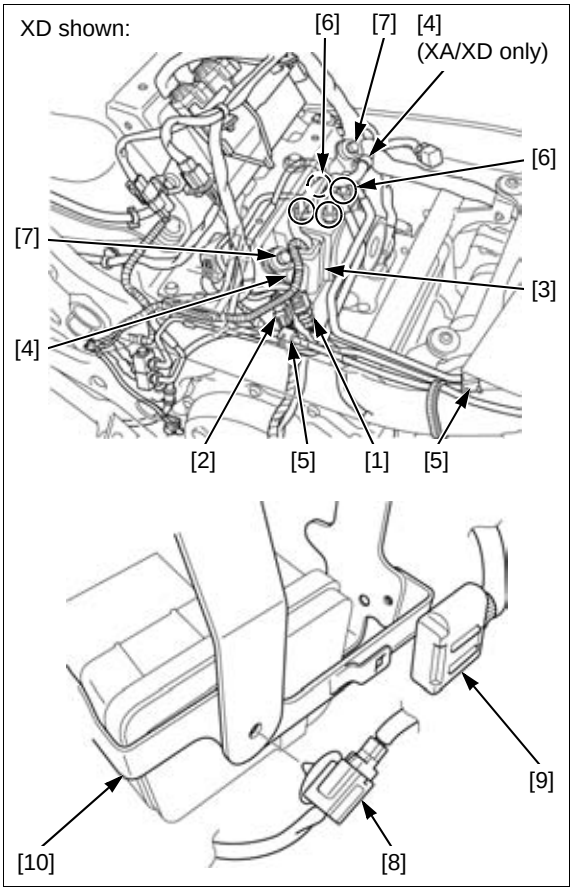
XD/SD: Remove the center cross plate (page 2-32).

XD/SD: Remove the TR sensor 3P (Black) connector [8] and Junction D 24P (White) connector [9] from the ABS modulator stay.

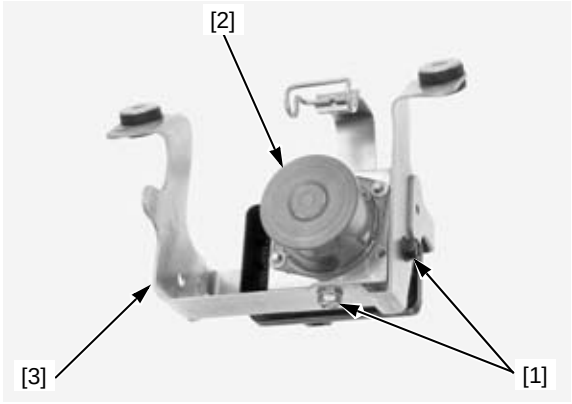
Remove the ABS modulator assembly [10].

NOTE:

Be careful not to bent or damage the brake pipes.



Remove the ABS modulator mounting bolts [1] and ABS modulator [2] from the ABS modulator stay [3].



Installation is in the reverse order of removal.

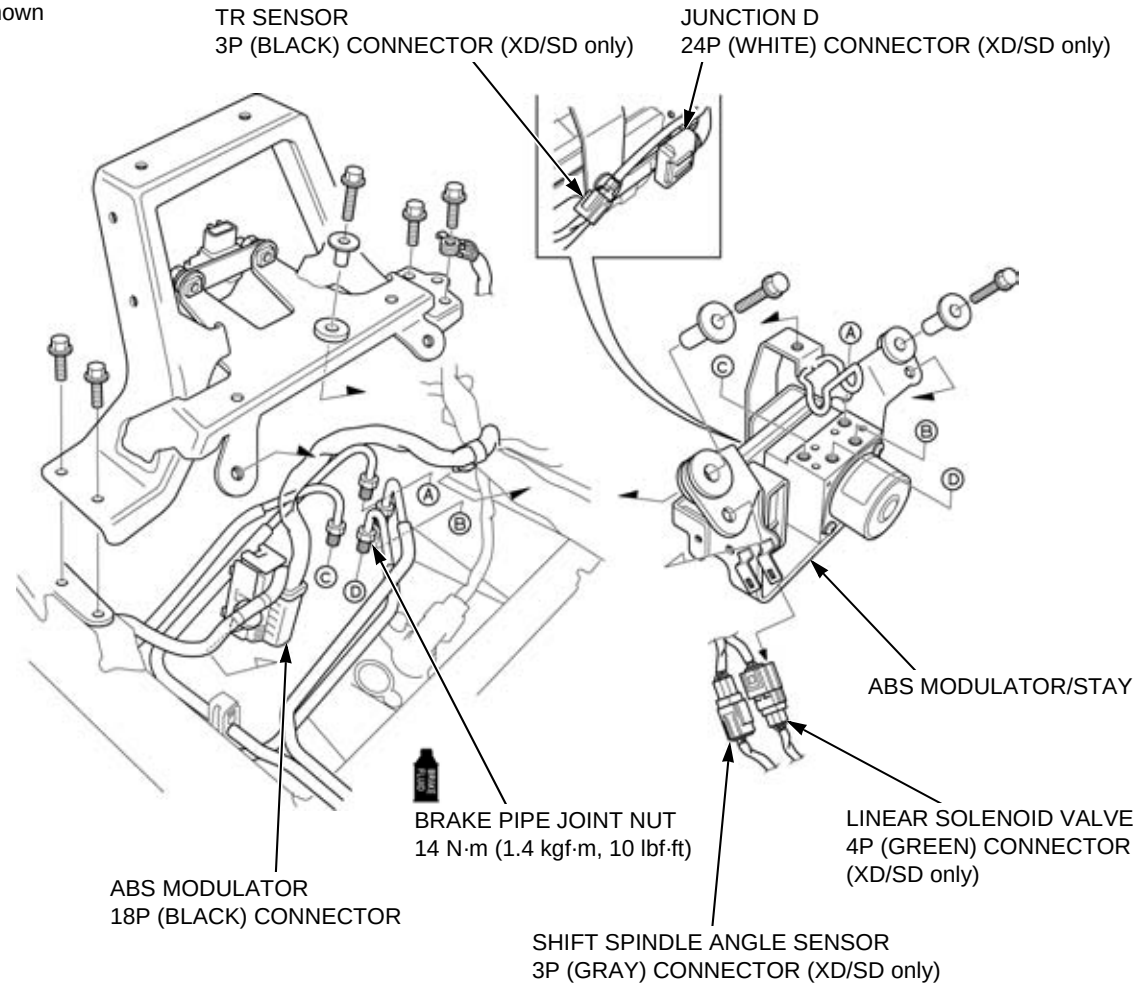
NOTE:

- Apply brake fluid to the joint nut threads and sliding surface.
- Route the wire harness properly (page 26-18).

TORQUE:
Brake pipe joint nut:
14 N·m (1.4 kgf·m, 10 lbf·ft)

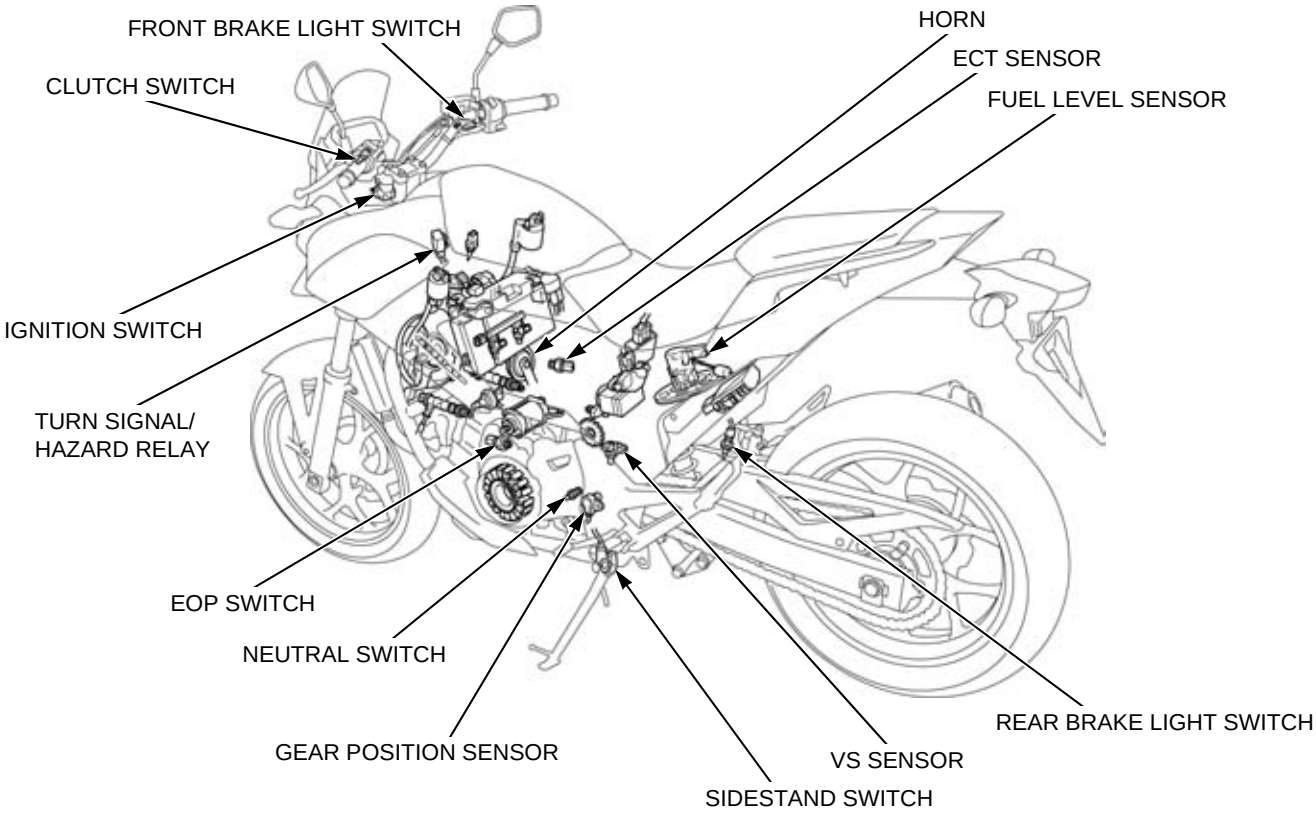
Fill and bleed the lever/pedal brake line hydraulic systems (page 18-8).

XD shown



LIGHTS/METERS/SWITCHES SYSTEM LOCATION

X/XA/S/SA:



COMBINATION METER

TXD/RXD LINE INSPECTION

X/XA/S/SA

Turn the ignition switch ON with the engine stop switch "" and check the combination meter.

The TXD/RXD line is abnormal if the combination meter shows following:

– MIL and engine oil pressure indicator stay on.
– Tachometer, high coolant temperature indicator and HISS indicator do not come on.
– Gear position indicator "–" stay on (After '13 model only)
– Odometer, tripmeter or fuel mileage meter indicates "–" (After '13 model only).

NOTE:

If the engine stop switch turned "", the combination meter indicate same operation.

Check the combination meter TXD/RXD line (page 22-12).

XD/SD

Turn the ignition switch ON with the engine stop switch "" and check the combination meter.

The TXD/RXD line is abnormal if the combination meter shows following:

– MIL and engine oil pressure indicator stay on.
– Shift indicator "–" is blinking.
– Tachometer, high coolant temperature indicator and HISS indicator do not come on.
– Odometer, tripmeter or fuel mileage meter indicates "–" (After '13 model only).

NOTE:

If the ignition switch is turned ON with the engine stop switch turned "", the same condition will occur.

Check the combination meter TXD/RXD line (page 22-12).

NEUTRAL SWITCH

REMOVAL/INSTALLATION (X/XA/S/SA)

Drain the engine oil (page 3-13).

Remove the left rear cover (page 2-29).

Remove the gear position sensor holder (page 26-52).

Disconnect the neutral switch connector [1].

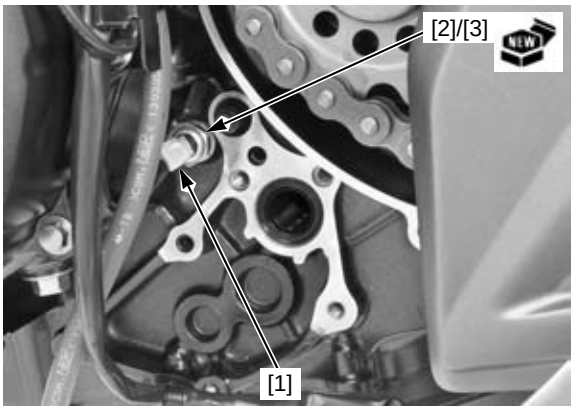
Remove the neutral switch [2] and sealing washer [3].

Install the neutral switch with a new sealing washer. Tighten the neutral switch to the specified torque.

TORQUE: 12 N·m (1.2 kgf·m, 9 lbf·ft)

Install is in the reverse order of removal.

Fill the engine with the recommended engine oil (page 3-13).



GEAR POSITION SENSOR (X/XA/S/SA)

SYSTEM INSPECTION

NOTE:

Check for loose or poor contact terminals at the gear position sensor 3P (Black) connector.

Turn the ignition switch ON and engine stop switch "". Check the gear position indicator.

If the gear position indicator "–" stay on and MIL blinks 41, check the gear position sensor and related wires.

If the gear position sensor and related wires are OK, check the TXD/RXD line (page 26-81).

1. Gear Position Sensor Input Line Open Circuit Inspection

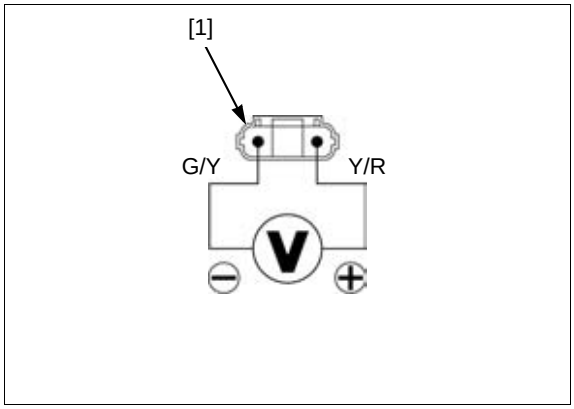
Turn the ignition switch OFF.
Disconnect the gear position sensor 3P (Black) connector (page 26-84).
Turn the ignition switch ON and engine stop switch "".
Measure the voltage between the wire harness side gear position sensor 3P (Black) connector [1] terminals.

Connection: Yellow/red (+) – Green/yellow (–)

Is the voltage within 4.75 – 5.25 V?

YES – GO TO STEP 2.

NO – Open circuit in the Yellow/red or Green/yellow wire

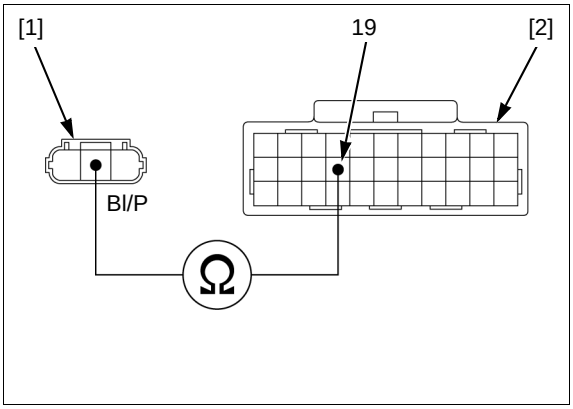


2. Gear Position Sensor Output Line Open Circuit Inspection

Turn the ignition switch OFF.
Disconnect the ECM 33P (Black) connector (page 4-68).
Check for continuity between the wire harness side gear position sensor 3P (Black) connector [1] and ECM 33P (Black) connector [2] terminals.

Connection: Black/pink – 19

TOOL:
Test probe **07ZAJ-RDJA110**



Is there continuity?

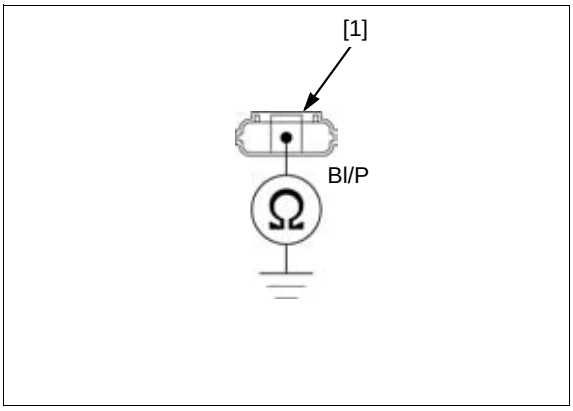
YES – GO TO STEP 3.

NO – Open circuit in the Black/pink wire

3. Gear Position Sensor Output Line Short Circuit Inspection

Check for continuity between the wire harness side gear position sensor 3P (Black) connector [1] terminal and ground.

Connection: Black/pink – Ground



Is there continuity?

YES – Short circuit in the Black/pink wire

NO – GO TO STEP 4.

4. Gear Position Sensor Inspection

Replace the gear position sensor with a known good one (page 26-84).
Connect the gear position sensor 3P (Black) connector and ECM 33P (Black) connector.
Turn the ignition switch ON.
Check the gear position indicator.

Is the gear position indicator "–" stay on?

YES – Check the TXD/RXD line (page 26-81).

NO – Faulty original gear position sensor

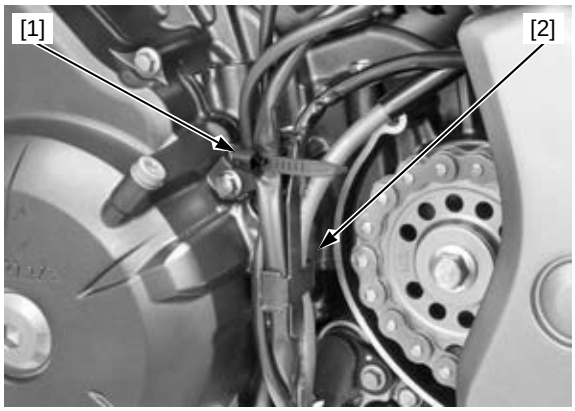
REMOVAL/INSTALLATION

Remove the following:

– Shroud/side cover (page 2-14)
– Left rear cover (page 2-29)

Disconnect the gear position sensor 3P (Black) connector [1].

Remove the wire band [1] and release the wires and hose from the stay [2].



Remove the gear position sensor stay bolt [1] and gear position sensor stay [2].

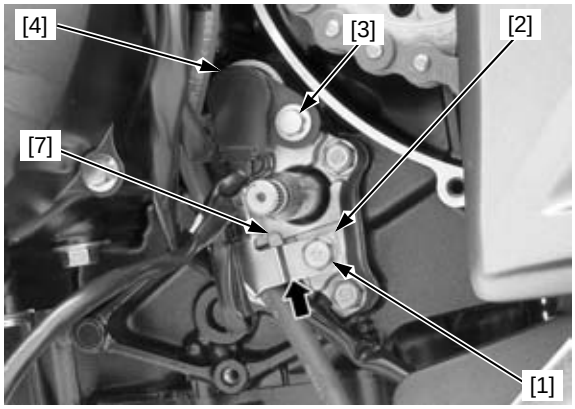
Remove the gear position sensor bolt [3] and gear position sensor [4].

Remove the O-ring [5] from the gear position sensor.

Installation is in the reverse order of removal.

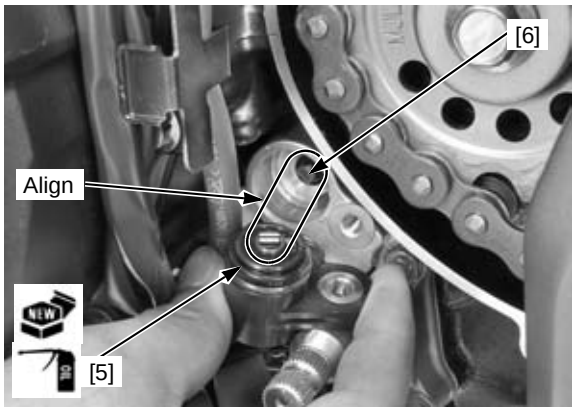
NOTE:

- Replace the O-ring with a new one.
- Apply engine oil to a new O-ring.
- Align the flat surfaces of the gear position sensor and shift drum end [6].
- Tighten the gear position sensor stay bolt by pushing gear position sensor stay against gear position sensor holder tub [7].
- Route the hose and wires properly (page 26-18).

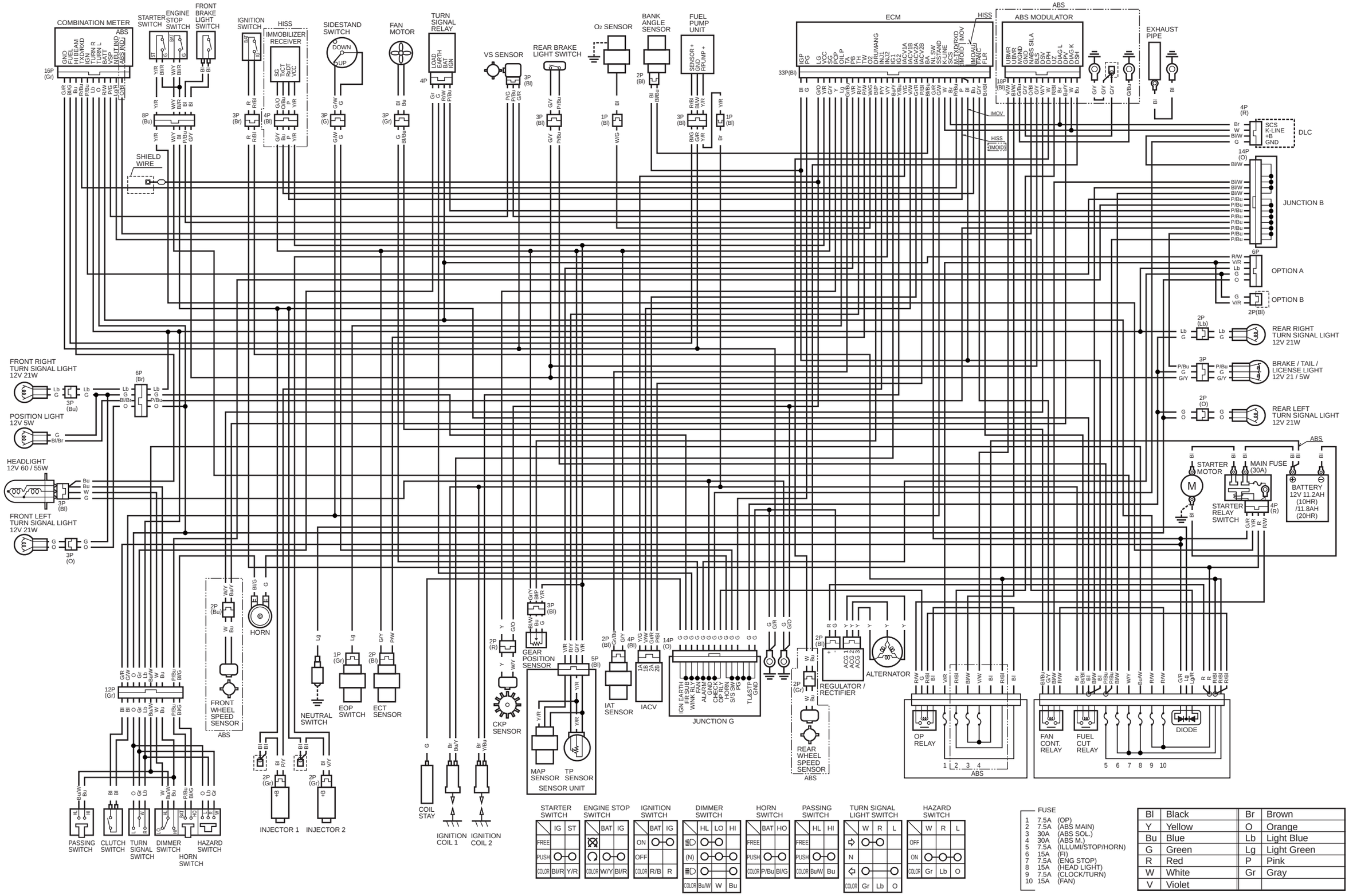


TORQUE:

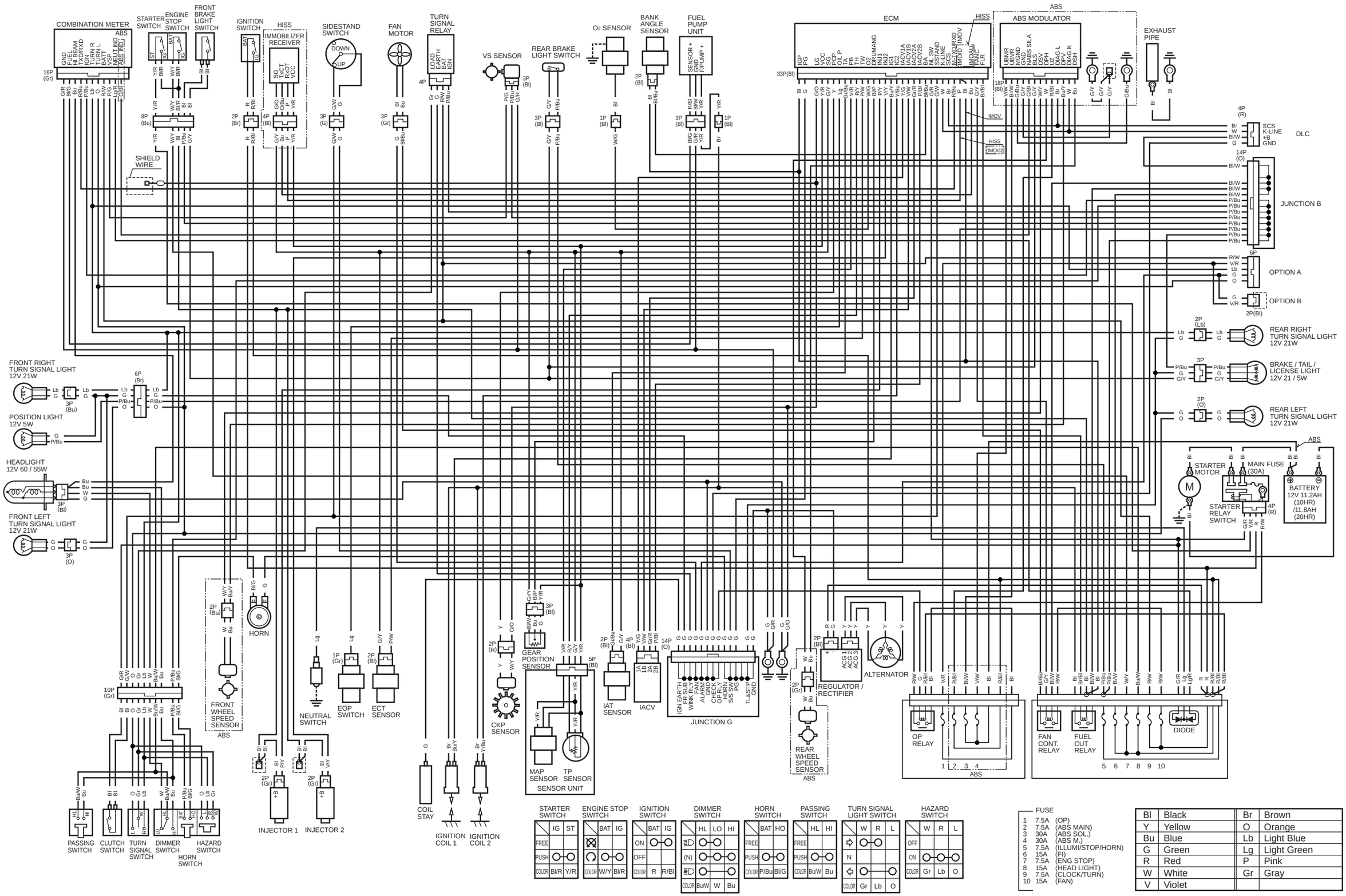
Gear position sensor bolt:
12 N·m (1.2 kgf·m, 9 lbf·ft)



WIRING DIAGRAM (NC750X/XA)



WIRING DIAGRAM (NC750S/SA)

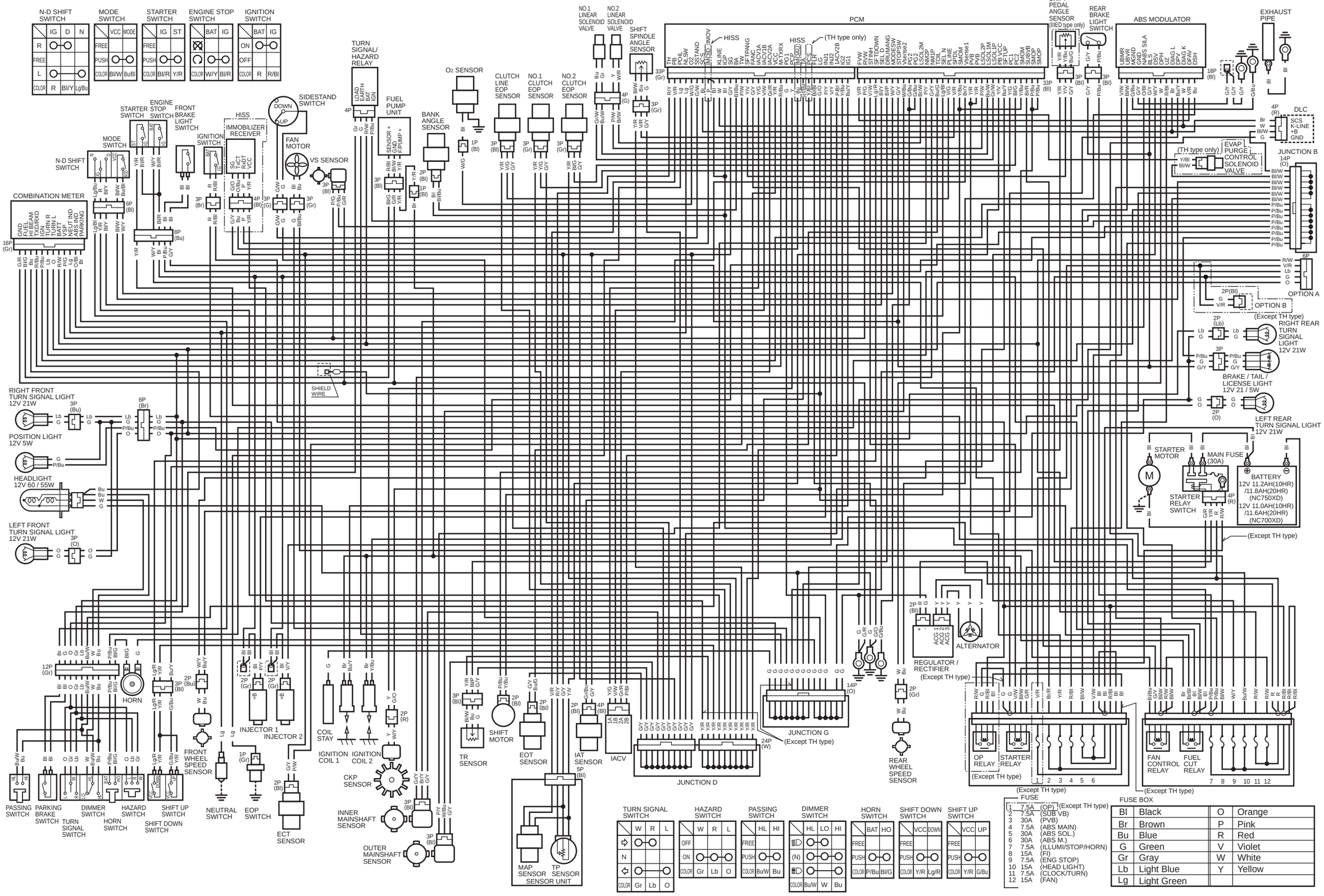


FUSE

1	7.5A	(OP)
2	7.5A	(ABS MAIN)
3	30A	(ABS SOL.)
4	30A	(ABS M.)
5	7.5A	(ILLUMI/STOP/HORN)
6	15A	(FI)
7	7.5A	(ENG STOP)
8	15A	(HEAD LIGHT)
9	7.5A	(CLOCK/TURN)
10	15A	(FAN)

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		

WIRING DIAGRAM (NC700/750XD)



FUSE

1	7.5A	(OP)	(Except TH type)
2	7.5A	(SUB VB)	
3	30A	(PVB)	
4	7.5A	(ABS MAIN)	
5	30A	(ABS SOL.)	
6	30A	(ABS M.)	
7	7.5A	(ILLUMI/STOP/HORN)	
8	15A	(FI)	
9	7.5A	(ENG STOP)	
10	15A	(HEAD LIGHT)	
11	7.5A	(CLOCK/TURN)	
12	15A	(FAN)	

FUSE BOX

Bl	Black	O	Orange
Br	Brown	P	Pink
Bu	Blue	R	Red
G	Green	V	Violet
Gr	Gray	W	White
Lb	Light Blue	Y	Yellow
Lg	Light Green		

WIRING DIAGRAM (NC700/750SD)