MODEL APPLICATION

Year	Model	Beginning Frame No.
2001	ER500-C1	JKAER500ACA051001, or JKAERVC1□1A000001
2001	ER500-D1	JKAER500ADA051001
2002	ER500-C2	JKAERVC1□2A003001
2003	ER500-C3	JKAERVC1□3A005001, or JKAER500ACA067001
2004	ER500-C4	JKAERVC1□4A007001, or JKAER500ACA072001
2005	ER500-C5	JKAERVC1□5A009001, or JKAER500ACA082001

□:This digit in the frame number changes from one machine to another.

Kawasaki
KAWASAKI HEAVY INDUSTRIES, LTD.
Consumer Products & Machinery Company

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Kawasaki

ER-5

Motorcycle Service Manual

Quick Reference Guide

LIST OF ABBREVIATIONS

A	ampere(s)	lb	pound(s)
ABDC	after bottom dead center	m	meter(s)
AC	alternating current	min	minute(s)
ATDC	after top dead center	N	newton(s)
BBDC	before bottom dead center	Pa	pascal(s)
BDC	bottom dead center	PS	horsepower
BTDC	before top dead center	psi	pound(s) per square inch
°C	degree(s) Celsius	r	revolution
DC	direct current	rpm	revolution(s) per minute
F	farad(s)	TDC	top dead center
°F	degree(s) Fahrenheit	TIR	total indicator reading
ft	foot, feet	V	volt(s)
g	gram(s)	W	watt(s)
h	hour(s)	Ω	ohm(s)
L	liter(s)		

Read OWNER’S MANUAL before operating.

Foreword

This manual is designed primarily for use by trained mechanics in a properly equipped shop. However, it contains enough detail and basic information to make it useful to the owner who desires to perform his own basic maintenance and repair work. A basic knowledge of mechanics, the proper use of tools, and workshop procedures must be understood in order to carry out maintenance and repair satisfactorily. Whenever the owner has insufficient experience or doubts his ability to do the work, all adjustments, maintenance, and repair should be carried out only by qualified mechanics.

In order to perform the work efficiently and to avoid costly mistakes, read the text, thoroughly familiarize yourself with the procedures before starting work, and then do the work carefully in a clean area. Whenever special tools or equipment are specified, do not use makeshift tools or equipment. Precision measurements can only be made if the proper instruments are used, and the use of substitute tools may adversely affect safe operation.

For the duration of the warranty period, we recommend that all repairs and scheduled maintenance be performed in accordance with this service manual. Any owner maintenance or repair procedure not performed in accordance with this manual may void the warranty.

To get the longest life out of your vehicle:

- Follow the Periodic Maintenance Chart in the Service Manual.
- Be alert for problems and non-scheduled maintenance.
- Use proper tools and genuine Kawasaki Motorcycle parts. Special tools, gauges, and testers that are necessary when servicing Kawasaki motorcycles are introduced by the Special Tool Catalog or Manual. Genuine parts provided as spare parts are listed in the Parts Catalog.
- Follow the procedures in this manual carefully. Don't take shortcuts.
- Remember to keep complete records of maintenance and repair with dates and any new parts installed.

How to Use This Manual

In this manual, the product is divided into its major systems and these systems make up the manual's chapters.

The Quick Reference Guide shows you all of the product's system and assists in locating their chapters. Each chapter in turn has its own comprehensive Table of Contents.

For example, if you want ignition coil information, use the Quick Reference Guide to locate the Electrical System chapter. Then, use the Table of Contents on the first page of the chapter to find the ignition coil section.

Whenever you see these WARNING and CAUTION symbols, heed their instructions! Always follow safe operating and maintenance practices.

⚠ WARNING

This warning symbol identifies special instructions or procedures which, if not correctly followed, could result in personal injury, or loss of life.

CAUTION

This caution symbol identifies special instructions or procedures which, if not strictly observed, could result in damage to or destruction of equipment.

This manual contains four more symbols (in addition to WARNING and CAUTION) which will help you distinguish different types of information.

NOTE

○ *This note symbol indicates points of particular interest for more efficient and convenient operation.*

- ● Indicates a procedural step or work to be done.
- ○ Indicates a procedural sub-step or how to do the work of the procedural step it follows. It also precedes the text of a NOTE.
- ★ Indicates a conditional step or what action to take based on the results of the test or inspection in the procedural step or sub-step it follows.

In most chapters an exploded view illustration of the system components follows the Table of Contents. In these illustrations you will find the instructions indicating which parts require specified tightening torque, oil, grease or a locking agent during assembly.

General Information

Table of Contents

1-2 GENERAL INFORMATION

Before Servicing

Before starting to perform an inspection service or carry out a disassembly and reassembly operation on a motorcycle, read the precautions given below. To facilitate actual operations, notes, illustrations, photographs, cautions, and detailed descriptions have been included in each chapter wherever necessary. This section explains the items that require particular attention during the removal and reinstallation or disassembly and reassembly of general parts.

Especially note the following:

(1) Dirt

Before removal and disassembly, clean the motorcycle. Any dirt entering the engine will shorten the life of the motorcycle. For the same reason, before installing a new part, clean off any dust or metal filings.

(2) Battery Ground

Disconnect the ground (–) wire from the battery before performing any disassembly operations on the motorcycle. This prevents the engine from accidentally turning over while work is being carried out, sparks from being generated while disconnecting the wires from electrical parts, as well as damage to the electrical parts themselves. For reinstallation, first connect the positive wire to the positive (+) terminal of the battery

(3) Installation, Assembly

Generally, installation or assembly is the reverse of removal or disassembly. However, if installation or assembly sequence is given in this Service Manual, follow it. Note parts locations and cable, wire, and hose routing during removal or disassembly so they can be installed or assembled in the same way. It is preferable to mark and record the locations and routing whenever possible.

(4) Tightening Sequence

When installing bolts, nuts, or screws for which a tightening sequence is given in this Service Manual, make sure to follow the sequence. When installing a part with several bolts, nuts, or screws, start them all in their holes and tighten them to a snug fit, thus ensuring that the part has been installed in its proper location. Then, tighten them to the specified torque in the tightening sequence and method indicated. If tightening sequence instructions are not given, tighten them evenly in a cross pattern. Conversely, to remove a part, first loosen all the bolts, nuts, or screws that are retaining the part a 1/4-turn before removing them.

(5) Torque

When torque values are given in this Service Manual, use them. Either too little or too much torque may lead to serious damage. Use a good quality, reliable torque wrench.

(6) Force

Common sense should dictate how much force is necessary in assembly and disassembly. If a part seems especially difficult to remove or install, stop and examine what may be causing the problem. Whenever tapping is necessary, tap lightly using a wooden or plastic-faced mallet. Use an impact driver for screws (particularly for the removing screws held by non-permanent locking agent) in order to avoid damaging the screw heads.

(7) Edges

Watch for sharp edges, as they could cause injury through careless handling, especially during major engine disassembly and assembly. Use a clean piece of thick cloth when lifting the engine or turning it over.

(8) High-Flash Point Solvent

A high-flash point solvent is recommended to reduce fire danger. A commercial solvent commonly available in North America is standard solvent (generic name). Always follow manufacturer and container directions regarding the use of any solvent.

(9) Gasket, O-ring

Replace a gasket or an O-ring with a new part when disassembling. Remove any foreign matter from the mating surface of the gasket or O-ring to ensure a perfectly smooth surface to prevent oil or compression leaks.

Before Servicing

(10)Liquid Gasket, Locking Agent

Clean and prepare surfaces where liquid gasket or non-permanent locking agent will be used. Apply them sparingly. Excessive amount may block engine oil passages and cause serious damage.

(11) Press

When using a press or driver to install a part such as a wheel bearing, apply a small amount of oil to the area where the two parts come in contact to ensure a smooth fit.

(12)Ball Bearing and Needle Bearing

Do not remove a ball bearing or a needle bearing unless it is absolutely necessary. Replace any ball or needle bearings that were removed with new ones. Install bearings with the manufacturer and size marks facing out, applying pressure evenly with a suitable driver. Apply force only to the end of the race that contacts the press fit portion, and press it evenly over the base component.

(13)Oil Seal and Grease Seal

Replace any oil or grease seals that were removed with new ones, as removal generally damages seals. Oil or grease seals should be pressed into place using a suitable driver, applying a force uniformly to the end of seal until the face of the seal is even with the end of the hole, unless instructed otherwise. When pressing in an oil or grease seal which has manufacturer's marks, press it in with the marks facing out.

(14)Circlip, Retaining Ring, and Cotter Pin

When installing circlips and retaining rings, take care to compress or expand them only enough to install them and no more. Install the circlip with its chamfered side facing load side as well.

Replace any circlips, retaining rings, and cotter pins that were removed with new ones, as removal weakens and deforms them. If old ones are reused, they could become detached while the motorcycle is driven, leading to a major problem.

(15)Lubrication

Engine wear is generally at its maximum while the engine is warming up and before all the sliding surfaces have an adequate lubricative film. During assembly, make sure to apply oil to any sliding surface or bearing that has been cleaned. Old grease or dirty oil could have lost its lubricative quality and may contain foreign particles that act as abrasives; therefore, make sure to wipe it off and apply fresh grease or oil. Some oils and greases in particular should be used only in certain applications and may be harmful if used in an application for which they are not intended.

(16)Direction of Engine Rotation

To rotate the crankshaft manually, make sure to do so in the direction of positive rotation. Positive rotation is counterclockwise as viewed from the left side of the engine. To carry out proper adjustment, it is furthermore necessary to rotate the engine in the direction of positive rotation as well.

(17)Replacement Parts

When there is a replacement instruction, replace these parts with new ones every time they are removed.

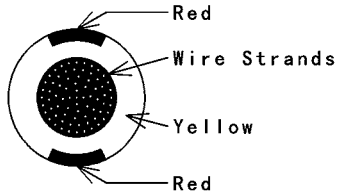
Replacement parts will be damaged or lose their original function once they are removed. Therefore, always replace these parts with new ones every time they are removed. Although the previously mentioned gasket, O-ring, ball bearing, needle bearing, grease seal, oil seal, circlip, and cotter pin have not been so designated in their respective text, they are replacement parts.

(18)Electrical Wires

All the electrical wires are either one-color or two-color. A two-color wire is identified first by the primary color and then the stripe color. For example, a yellow wire with thin red stripes is referred to as a "yellow/red" wire; it would be a "red/yellow" wire if the colors were reversed. Unless instructed otherwise, electrical wires must be connected to wires of the same color.

Before Servicing

Two-Color Electrical

Wire(cross-section)	Color Indicated on the Wire	Color Indicated on the Wiring Diagram
	Yellow/Red	Y/R

GB02060IWI C

(19)Inspection

When parts have been disassembled, visually inspect these parts for the following conditions or other damage. If there is any doubt as to the condition of them, replace them with new ones.

Abrasion	Crack	Hardening	Warp
Bent	Dent	Scratch	Wear
Color change	Deterioration	Seizure	

(20)Specifications

Specification terms are defined as follows:

"Standards" show dimensions or performances which brand-new parts or systems have.

"Service Limits" indicate the usable limits. If the measurement shows excessive wear or deteriorated performance, replace the damaged parts.

Model Identification

ER500-C1, D1 Left Side View

ER500-C1, D1 Right Side View

General Specifications

Items	EN500-C1 ~ C2	EN500-C3 ~	EN500-D1
Dimensions			
Overall Length	2 070 mm (81.5 in.)	←	←
Overall Width	730 mm (28.74 in.)	←	←
Overall Height	1 070 mm (42.13 in.)	←	←
Wheelbase	1 430 mm (56.3 in.)	←	←
Road Clearance	125 mm (4.92 in.)	←	←
Seat Height	800 mm (31.5 in.)	←	←
Dry Weight	179 kg (395 lb.)	←	←
Curb Weight:			
Front	92 kg (203 lb.)	←	←
Rear	107 kg (236 lb.)	←	←
Fuel tank Capacity	17 L (4.5 US gal.)	←	←
Performance			
Minimum Turning Radius	2.5 m (8.2 ft.)	←	←
Engine			
Type	4-stroke, DOHC, 2-cylinder	←	←
Cooling System	Liquid-cooled	←	←
Bore and Stroke	74.0 × 58.0 mm (2.91 × 2.28 in.)	←	←
Displacement	498 mL (30.39 cu in.)	←	←
Compression Ratio	9.8:1	←	←
Maximum Horsepower	37 kW (50.3 PS) @9 000 r/min (rpm)	←	25 kW (34 PS) @8 000 r/min (rpm)
Maximum Torque	45 N·m (4.6 kgf·m, 33 ft·lb) @7 200 r/min (rpm)	←	37 N·m (3.8 kgf·m, 27 ft·lb) @4 500 r/min (rpm)
Carburetion System	Carburetors, Keihin CVK34 × 2	←	←
Starting System	Electric starter	←	←
Ignition System	Battery and coil (transistorized)	←	←
Timing Advance	Electronically Advanced (digital)	←	←
Ignition Timing	From 10° BTDC @1 200 r/min (rpm) to 37.5° BTDC @10 000 r/min (rpm)	←	←
Spark Plugs	NGK DR9EA or ND X27ESR-U	←	←
Cylinder Numbering Method	Left to right, 1-2	←	←
Firing Order	1-2	←	←
Valve Timing:			
Inlet			
Open	31° BTDC	←	←
Close	51° ABDC	←	←
DuRation	262°	←	←
Exhaust			
Open	56° BBDC	←	←
Close	26° ATDC	←	←
DuRation	262°	←	←

General Specifications

Items	EN500-C1 ~ C2	EN500-C3 ~	EN500-D1
Lubrication System	Forced lubrication	←	←
Engine Oil:			
Grade	API SE, SF, SG or API SH or SJ with JASO MA	←	←
Viscosity	SAE10W-40	←	←
Capacity	3.4 L (3.6 us at)	←	←
Drive Train			
Primary Reduction System:			
Type	Chain	←	←
Reduction Ratio	2.652 (61/23)	←	←
Clutch Type	Wet multi disc	←	←
Transmission:			
Type	6-speed constant mesh, return shift	←	←
Gear Ratios:			
1st	2.571 (36/14)	←	←
2nd	1.722 (31/18)	←	←
3rd	1.333 (28/21)	←	←
4th	1.125 (27/24)	←	←
5th	0.961 (25/26)	←	←
6th	0.851 (23/27)	←	←
Final Drive System:			
Type	Chain drive	←	←
Reduction Ratio	2.470 (42/17)	←	←
Overall Drive Ratio	5.581 @Top gear	←	←
Frame			
Type	Tubular, double cradle	←	←
Caster (rake angle)	27°	←	←
Trail	102 mm (4.02 in.)	←	←
Front Tire:			
Type	Tubeless	←	←
Size	110/70-17 54H	110/70-17 M/C 54H	110/70-17 54H
Rear Tire:			
Type	Tubeless	←	←
Size	130/70-17 62H	130/70-17 M/C 62H	130/70-17 62H
Front Suspension:			
Type	Telescopic fork	←	←
Wheel Travel	125 mm (4.92 in.)	←	←
Rear Suspension:			
Type	Swingarm	←	←
Wheel Travel	114 mm (4.49 in.)	←	←
Brake Type:			
Front	Single disc	←	←
Rear	Drum	←	←

General Specifications

Items	EN500-C1 ~ C2	EN500-C3 ~	EN500-D1
Electrical Equipment			
Battery	12 V 10 Ah	←	←
Headlight:			
Type	Semi-sealed beam	←	←
Bulb	12 V 60/55 W (quartz-halogen)	←	←
Tail/brake Light	12 V 5/21 W × 2	←	←
Alternator:			
Type	Three-phase AC	←	←
Rated output	17 A × 14 V @6 000 r/min (rpm)	←	←

Specifications subject to change without notice, and may not apply to every country.

Periodic Maintenance Chart

The scheduled maintenance must be done in accordance with this chart to keep the motorcycle in good running condition. **The initial maintenance is vitally important and must not be neglected.**

FREQUENCY	Whichever comes first ➡	* ODOMETER READING × 1 000 km (× 1 000 mile)							
	⬇	1	6	12	18	24	30	36	Remarks
INSPECTION	Every	(0.6)	(4)	(7.5)	(12)	(15)	(20)	(24)	
Throttle cable - inspect †		●		●		●		●	
Idle speed - inspect †		●		●		●		●	
Carburetor synchronization - inspect †				●		●		●	
Air cleaner element - clean† #				●		●		●	
Fuel hoses, connections - inspect †			●	●	●	●	●	●	
Coolant filter - clean	years								
Radiator hoses, connections - inspect †		●							
Air suction valve - inspect †			●	●	●	●	●	●	
Valve clearance - inspect †				●		●		●	before 2005 model
						●			after 2005 model
Clutch adjust - inspect †		●	●	●	●	●	●	●	
Tire wear - inspect †			●	●	●	●	●	●	
Drive chain wear - inspect †#			●	●	●	●	●	●	
Drive chain - lubricate #	600 km								
Drive chain slack - inspect †#	1000 km								
Brake Play - inspect †#		●	●	●	●	●	●	●	
Brake fluid level - inspect †	month	●	●	●	●	●	●	●	
Brake hoses, connections - inspect †			●	●	●	●	●	●	
Brake lining or pad wear - inspect †#			●	●	●	●	●	●	
Brake light switch - inspect †		●	●	●	●	●	●	●	
Front fork oil leak - inspect †				●		●		●	
Rear shock absorber oil leak - inspect †				●		●		●	
Swingarm pivot - lubricate				●		●		●	
Steering - inspect †		●	●	●	●	●	●	●	
Steering stem bearing - lubricate	2 years					●			
Spark plug - clean and gap †			●	●	●	●	●	●	
General lubrication - perform				●		●		●	
Nut, bolts, and fasteners tightness - inspect †		●		●		●		●	
Coolant - change	2 years					●			

Periodic Maintenance Chart

FREQUENCY / INSPECTION	Whichever comes first ➡ / ⬇ Every	* ODOMETER READING × 1 000 km (× 1 000 mile) 1 (0.6)	6 (4)	12 (7.5)	18 (12)	24 (15)	30 (20)	36 (24)	Remarks
Engine oil - change #	year	●	●	●	●	●	●	●	
Oil filter - replace		●		●		●		●	
Brake fluid - change	2 years					●			
Brake master cylinder cup and dust seal - replace	4 years								
Caliper piston seal and dust seal - replace	4 years								
Front Fork oil - change	2 years					●			

#: Service more frequently when operating in severe conditions; dusty, wet, muddy, high speed, or frequent starting/stopping.

*: For higher odometer readings, repeat at the frequency interval established here.

†: Replace, add, adjust, clean, or torque if necessary.

Torque and Locking Agent

Tighten all bolts and nuts to the proper torque using an accurate torque wrench. An insufficiently tightened bolt or nut may become damaged or fall off, possibly resulting in damage to the motorcycle and injury to the rider. A bolt or nut which is overtightened may become damaged, strip an internal thread, or break and then fall out. The following table lists the tightening torque for the major bolts and nuts, and the parts requiring use of a non-permanent locking agent or liquid gasket.

When checking the tightening torque of the bolts and nuts, first loosen the bolt or nut by half a turn and then tighten it to the specified torque.

Letters used in the "Remarks" column mean:
- L: Apply a non-permanent locking agent to the threads.
- LG: Apply liquid gasket to the threads.
- Lh: Left-hand threads.
- M: Apply molybdenum disulfide grease.
- O: Apply an oil to the threads and seating surface.
- R: Replacement parts.
- S: Tighten the fasteners following the specified sequence.
- SS: Apply silicone sealant to the threads.
- St: Stake the fasteners to prevent loosening.

The table relating tightening torque to thread diameter, lists the basic torque for the bolts and nuts. Use this table for only the bolts and nuts which do not require a specific torque value. All of the values are for use with dry solvent-cleaned threads.

Basic Torque for General Fasteners

Threads dia. (mm)	Torque		
	N·m	kgf·m	ft·lb
5	3.4 ~ 4.9	0.35 ~ 0.50	30 ~ 43 in·lb
6	5.9 ~ 7.8	0.60 ~ 0.80	52 ~ 69 in·lb
8	14 ~19	1.4 ~1.9	10.0 ~ 13.5
10	25 ~ 34	2.6 ~ 3.5	19.0 ~ 25
12	44 ~ 61	4.5 ~ 6.2	33 ~ 45
14	73 ~ 98	7.4 ~ 10.0	54 ~ 72
16	115 ~ 155	11.5 ~ 16.0	83 ~ 115
18	165 ~ 225	17.0 ~ 23.0	125 ~ 165
20	225 ~ 325	23 ~ 33	165 ~ 240

Fastener	Torque			Remarks
	N·m	kgf·m	ft·lb	
Fuel System				
Fuel Tap Plate Screws	0.8	0.08	7 in·lb	
Fuel Tap Diaphragm Chamber Screws	1.0	0.10	9 in·lb	
Fuel Tap Mounting Bolts	2.5	0.25	22 in·lb	
Fuel Level Sensor Bolts	6.9	0.7	61 in·lb	
Cooling System				
Radiator Hose Clamp Screws	2.5	0.25	22 in·lb	
Fan Switch	18	1.8	13	
Thermostat Housing Bolts	11	1.1	95 in·lb	
Water Temperature Sensor	7.8	0.8	69 in·lb	SS
Water Pump Cover Bolts	11	1.1	95 in·lb	
Water Pump Shaft	25	2.5	18	Lh
Water Pump Impeller	9.8	1.0	87 in·lb	Lh

Torque and Locking Agent

Fastener	Torque			Remarks
	N·m	kgf·m	ft·lb	
Water Pipe Bolts	9.8	1.0	87 in·lb	L
Cylinder Head Jacket Plug	9.8	1.0	87 in·lb	L
Air Suction Valve Cover Bolts	11	1.1	95 in·lb	
Coolant Drain Plug	11	1.1	95 in·lb	
Engine Top End				
Spark Plugs	14	1.4	10	
Cylinder Head Cover Bolts	9.8	1.0	87 in·lb	
Camshaft Cap Bolts	12	1.2	8.5	S
Rocker Shafts	39	4.0	29	
Valve Adjuster Locknuts	25	2.5	18	
Camshaft Sprocket Bolts	15	1.5	11	L
Cylinder Head Bolts (10 mm)	51	5.2	38	S
Cylinder Head Bolts (6 mm)	9.8	1.0	87 in·lb	S
Cam Chain Tensioner Mounting Bolts	11	1.1	95 in·lb	
Cam Chain Tensioner Cap Bolt	13	1.3	9.5	
Main Oil Pipe Upper Banjo Bolts M8	12	1.2	8.5	
Main Oil Pipe Lower Banjo Bolt M10	20	2.0	14.5	
Water Pipe Bolts	9.8	1.0	87 in·lb	L
Oil Pipe Bolts (in the cylinder head)	11	1.1	95 in·lb	
Oil Pipe Mounting Bolt	11	1.1	95 in·lb	
Clutch				
Oil Filler Plug	1.5	0.15	13 in·lb	
Clutch Hub Nut	132	13.5	98	
Clutch Spring Bolts	9.3	0.95	82 in·lb	
Clutch Cable Holder Bolt	11	1.1	95 in·lb	
Clutch Cover Bolts	11	1.1	95 in·lb	
Engine Lubrication System				
Oil Filler Plug	1.5	0.15	13 in·lb	
Oil Passage Plug	18	1.8	13	
Oil Filter Mounting Stud	25	2.5	18	L (Planted side)
Oil Filter (Cartridge Type)	17	1.75	12.5	
Oil Pipe for Balancer Shaft Banjo Bolt	20	2.0	14.5	
Oil Pipe for Drive Shaft Upper Banjo Bolt M6	7.8	0.8	69 in·lb	
Oil Pipe for Drive Shaft Lower Banjo Bolt M8	12	1.2	8.5	
Oil Pipe for Output Shaft Upper Banjo Bolt M6	7.8	0.8	69 in·lb	
Oil Pipe for Output Shaft Lower Banjo Bolt M8	12	1.2	8.5	
Oil Pipe for Output Shaft Mounting Bolt	11	1.1	95 in·lb	L
Oil Pump Pipe Mounting Bolts	11	1.1	95 in·lb	L
Relief Valve	15	1.5	11	L
Oil Pressure Switch Terminal Bolt	15	0.15	13 in·lb	
Oil Pressure Switch	15	1.5	11	SS

Torque and Locking Agent

Fastener	Torque			Remarks
	N·m	kgf·m	ft·lb	
Engine Oil Drain Plug	29	3.0	22	
Oil Pan Mounting Bolts	11	1.1	95 in·lb	
Oil Pump Mounting Bolts	11	1.1	95 in·lb	
Breather Body Bolt	5.9	0.6	52 in·lb	
Engine Removal/Installation				
Downtube Bolts	44	4.5	33	
Engine Mounting Bolts and Nuts	44	4.5	33	
Engine Mounting Bracket Bolts	25	2.5	18	
Crankshaft/Transmission				
Crankcase Bolts (8 mm)	27	2.8	20	S
Crankcase Bolts (6 mm)	12	1.2	8.5	S
Upper Primary Chain Guide Mounting Nut	11	1.1	95 in·lb	L
Lower Primary Chain Guide Mounting Bolt	11	1.1	95 in·lb	L
Connecting Rod Big End Nuts	36	3.7	27	
Return Spring Pin	20	2.0	14.5	L
Gear Positioning Lever Pivot Stud	–	–	–	L (planted side)
Gear Positioning Lever Nut	11	1.1	95 in·lb	
Shift Pedal Mounting Bolt	12	1.2	8.5	
Shift Drum Bearing Holder Bolts	11	1.1	95 in·lb	L
Shift Drum Cam Pin Plate Screw	–	–	–	L
Engine Sprocket Nut	127	13	94	O
External Shift Mechanism Cover Bolts	11	1.1	95 in·lb	
Neutral Switch	15	1.5	11	
Wheels/Tires				
Front Axle Nut	88	9.0	65	
Front Axle Clamp Bolt	20	2.0	14.5	
Rear Axle Nut	98	10	72	
Final Drive				
Torque Link Nuts	34	3.5	25	
Engine Sprocket Nut	127	13	94	O
Rear Sprocket Nuts	59	6.0	43	
Rear Coupling Studs	–	–	–	L (planted side)
Engine Axle Nut	98	10	72	
Drive Chain Guide Bolts	11	1.1	95 in·lb	
Brakes				
Brake Hose Banjo Bolts	25	2.5	18	
Reservoir Cap Screws	1.5	0.15	13 in·lb	
Brake Lever Pivot Bolt	1.0	0.10	9 in·lb	
Brake Lever Pivot Locknut	5.9	0.60	52 in·lb	
Master Cylinder Clamp Bolts	8.8	0.9	78 in·lb	S

Torque and Locking Agent

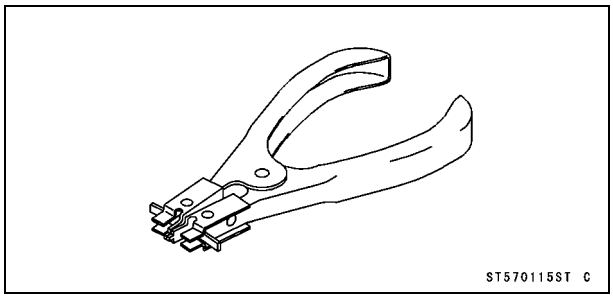
Fastener	Torque			Remarks
	N·m	kgf·m	ft·lb	
Front Brake Light Switch Mounting Screw	1.2	0.12	10 in·lb	
Caliper Mounting Bolts	34	3.5	25	
Caliper Bleed Valves	7.8	0.8	69 in·lb	
Brake Disc Mounting Bolts	27	2.8	20	L
Brake Pedal Bolt	8.8	0.9	78 in·lb	
Torque Link Nuts	34	3.5	25	
Brake Cam Lever Bolt	19	1.9	13.5	
Suspension				
Front Fork Upper Clamp Allen Bolts	20	2.0	14.5	
Front Fork Lower Clamp Allen Bolts	35	3.6	26	
Front Fork Bottom Allen Bolt	20	2.0	14.5	L
Front Axle Clamp Bolt	20	2.0	14.5	
Rear Shock Absorber Bolts and Nuts	34	3.5	25	
Swing Arm Pivot Nut	88	9.0	65	
Steering				
Handlebar Clamp Bolts	25	2.5	18	S
Handlebar Weight Allen Bolts	–	–	–	L
Handlebar Switch Housing Screws	3.4	0.35	30 in·lb	
Steering Stem Head Bolt	44	4.5	33	
Steering Stem Nut	Hand -Tighten (about 4.9)	Hand -Tighten (about 0.5)	Hand -Tighten (about 43 in·lb)	
Frame				
Tail Grip Bolts	25	2.5	18	
Footpeg Bracket Bolts	34	3.5	25	
Sidestand Bolt and Nut	44	4.5	33	
Center Stand Bolt and Nut	44	4.5	33	
Electrical System				
Pickup Coil Mounting Allen Bolts	8.3	0.85	74 in·lb	L
Timing Inspection Plug	2.5	0.25	22 in·lb	
Alternator Rotor Bolt Plug	1.5	0.15	13 in·lb	
Alternator Cover Bolts	11	1.1	95 in·lb	
Alternator Cover Allen Bolt	13	1.3	9.5	
Alternator Lead Clamp Screws	2.9	0.30	26 in·lb	
Spark Plug	14	1.4	10	
Alternator Stator Allen Bolts	12	1.2	8.5	
Alternator Rotor Bolt	69	7.0	51	
Starter Motor Mounting Bolts	11	1.1	95 in·lb	
Starter Chain Guide Screws	4.9	0.5	43 in·lb	L
Starter Motor Through Bolts	6.9	0.7	65 in·lb	
Starter Motor Terminal Nut	4.9	0.5	43 in·lb	
Starter Motor Lead Clamp Nut	4.9	0.5	43 in·lb	

Torque and Locking Agent

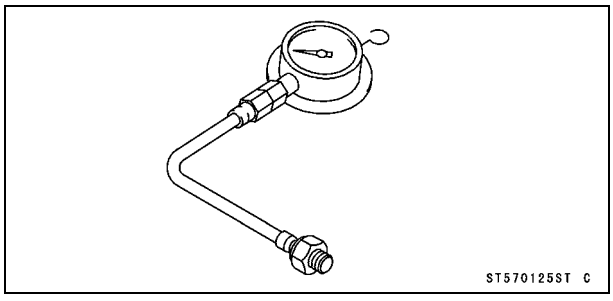
Fastener	Torque			Remarks
	N·m	kgf·m	ft·lb	
Starter Clutch Allen Bolts	34	3.5	25	L
Sidestand Switch Mounting Screw	3.9	0.4	35 in·lb	L
Sidestand Mounting Bolt	44	4.5	33	
Starter Motor Terminal Locknut	6.9	0.70	61 in·lb	
Starter Relay Terminal Bolt	4.9	0.50	43 in·lb	
Headlight Body Screws	2.9	0.30	26 in·lb	
Handlebar Switch Housing Screws	3.4	0.35	30 in·lb	
Radiator Fan Switch	18	1.8	13	
Meter Reset Knob Screw	–	–	–	L
Water Temperature Switch	7.8	0.80	69 in·lb	SS
Oil Pressure Switch Terminal Bolt	1.5	0.15	13 in·lb	
Oil Pressure Switch	15	1.5	11	SS
Neutral Switch	15	1.5	11	
Tail Light Mounting Nut	5.9	0.6	52 in·lb	

Special Tools and Sealants

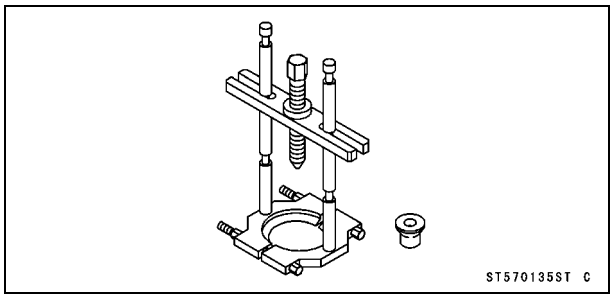
Piston Ring Pliers:
57001-115



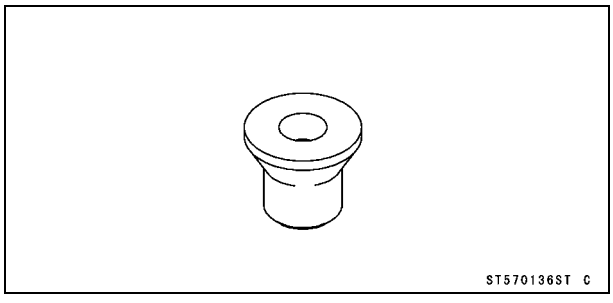
Oil Pressure Gauge, 5 kgf/cm²:
57001-125



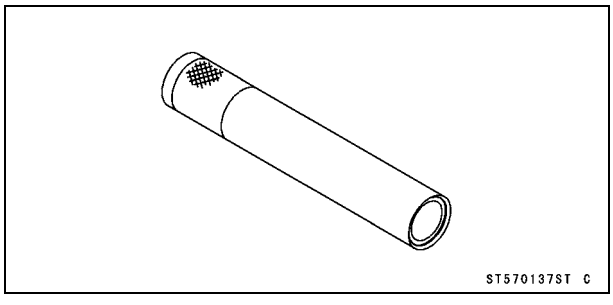
Bearing Puller:
57001-135



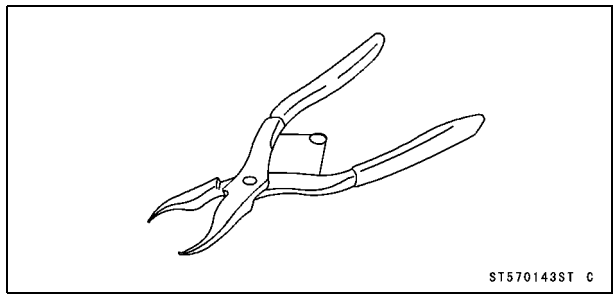
Bearing Puller Adapter:
57001-136



Steering Stem Bearing Driver:
57001-137



Inside Circlip Pliers:
57001-143



Outside Circlip Pliers:
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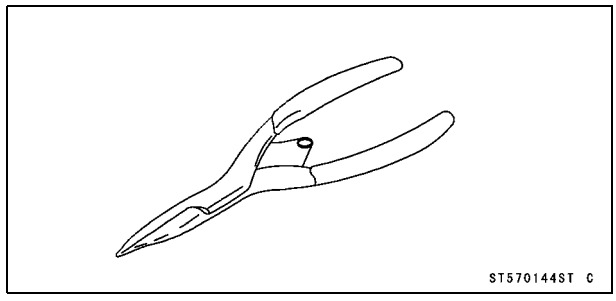
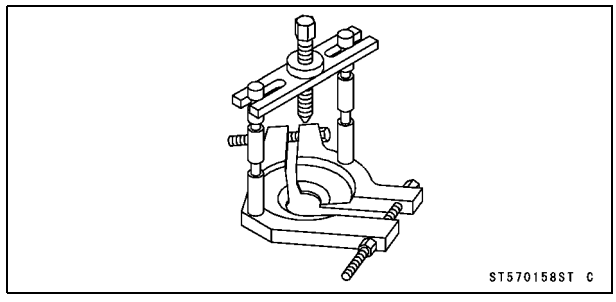
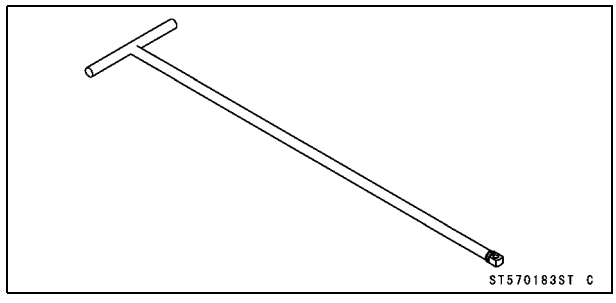


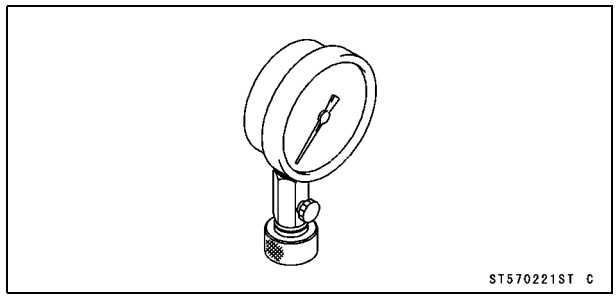
Bearing Puller:
57001-158



Fork Cylinder Holder Handle:
57001-183

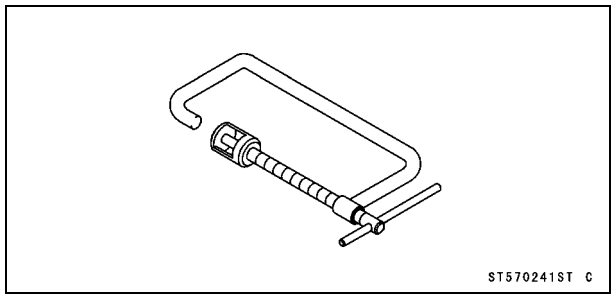


Compression Gauge, 20 kgf/cm²:
57001-221

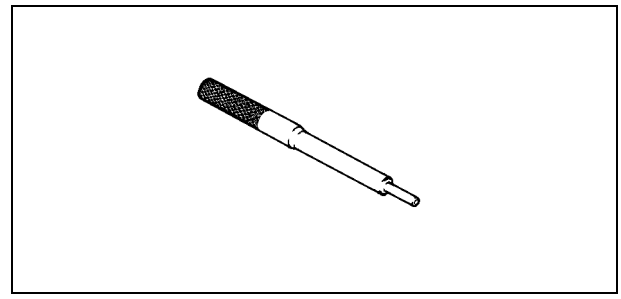


Special Tools and Sealants

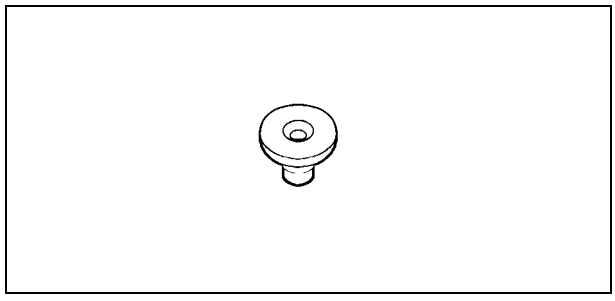
Valve Spring Compressor Assembly:
57001-241



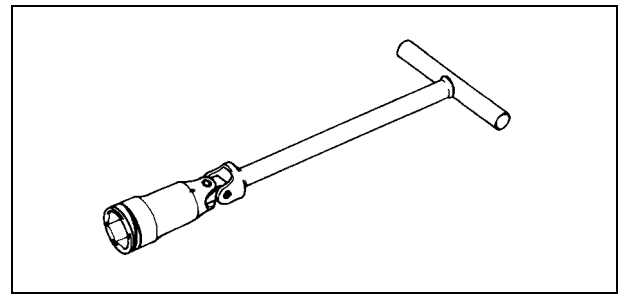
Valve Guide Arbor, ϕ5.5:
57001-1021



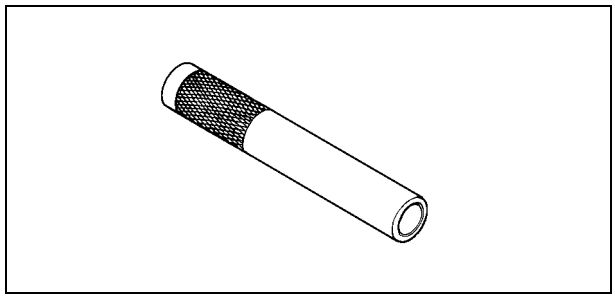
Bearing Puller Adapter:
57001-317



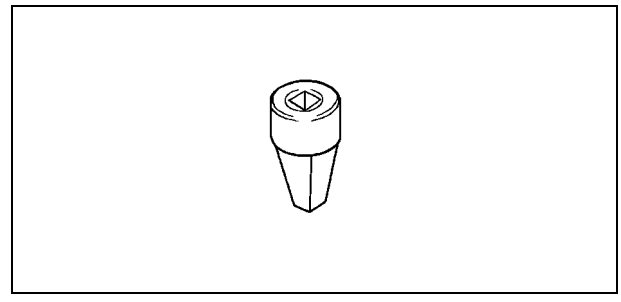
Spark Plug Wrench, Hex 18:
57001-1024



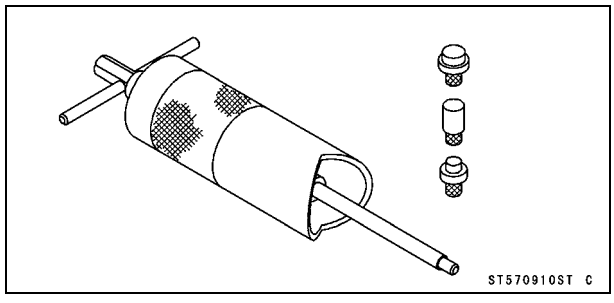
Bearing Driver, ϕ32:
57001-382



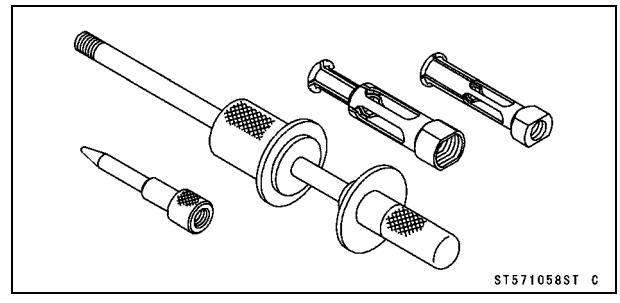
Fork Cylinder Holder Adapter:
57001-1057



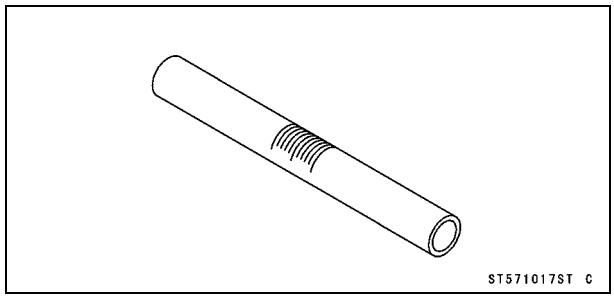
Piston Pin Puller Assembly:
57001-910



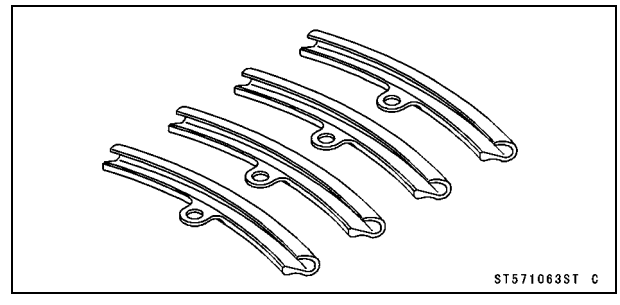
Oil Seal & Bearing Remover:
57001-1058



Fuel Level Gauge:
57001-1017

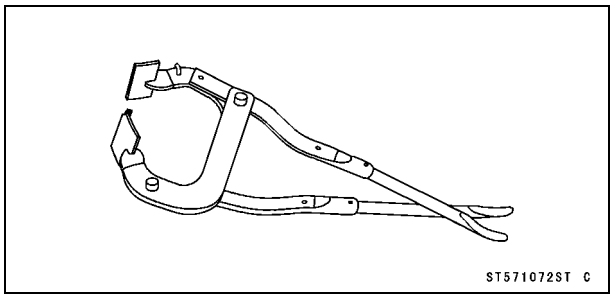


Rim Protector:
57001-1063

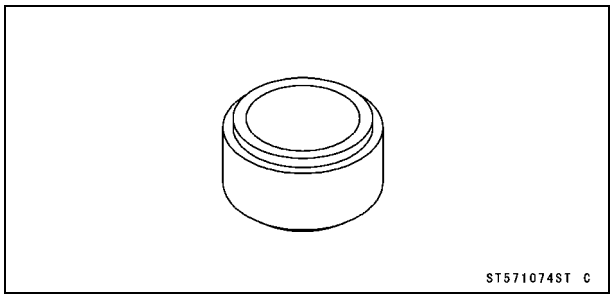


Special Tools and Sealants

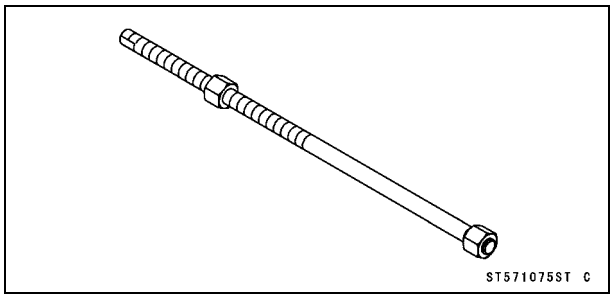
Bead Breaker Assembly:
57001-1072



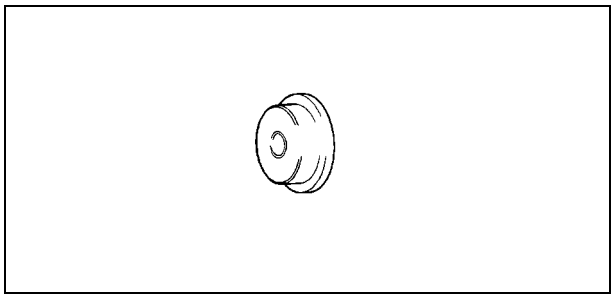
Steering Stem Bearing Driver Adapter, ϕ34.5:
57001-1074



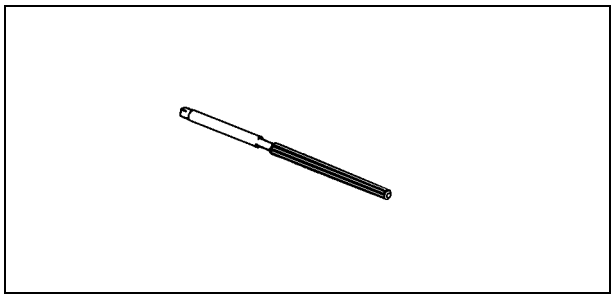
Head Pipe Outer Race Press Shaft:
57001-1075



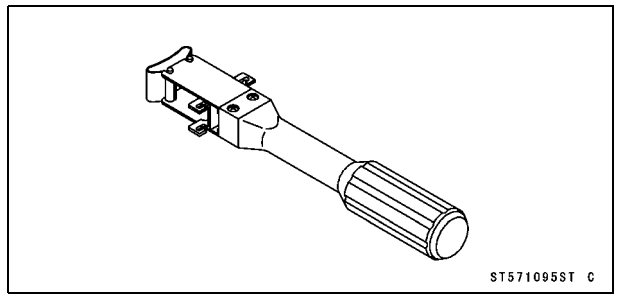
Head Pipe Outer Race Driver, ϕ51.5:
57001-1076



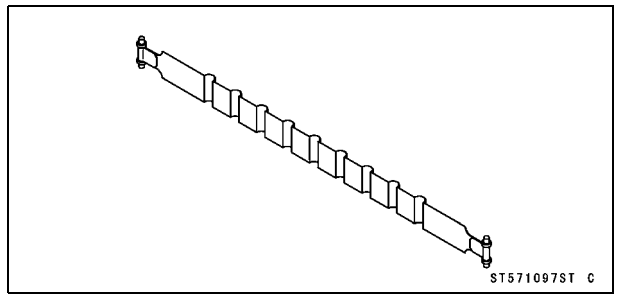
Valve Guide Reamer, ϕ5.5:
57001-1079



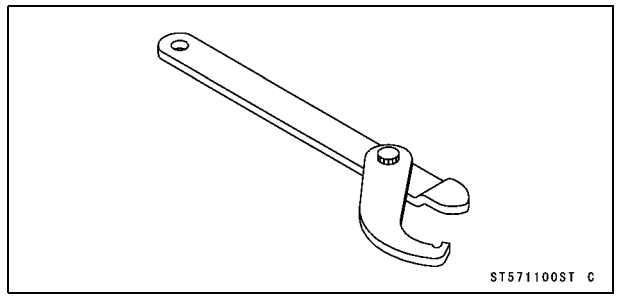
Piston Ring Compressor Grip:
57001-1095



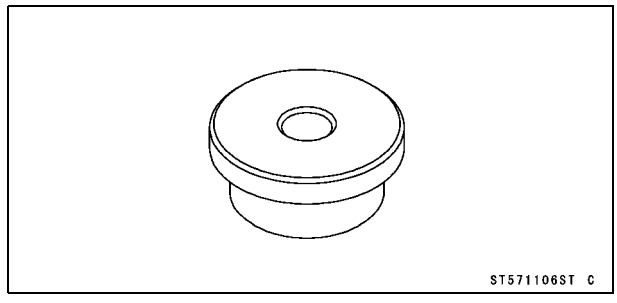
Piston Ring Compressor Belt, ϕ67 ~ ϕ79:
57001-1097



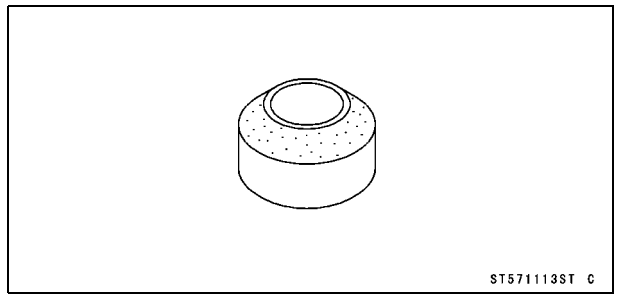
Steering Stem Nut Wrench:
57001-1100



Head Pipe Outer Race Driver, ϕ46.5:
57001-1106

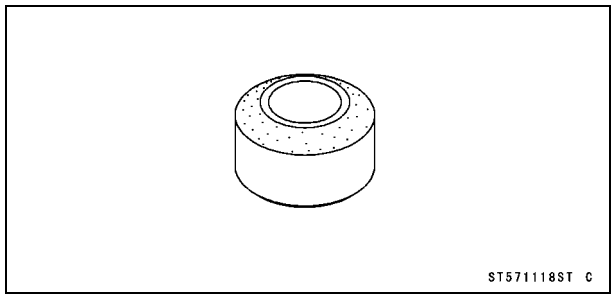


Valve Seat Cutter, 45° - ϕ24.5:
57001-1113

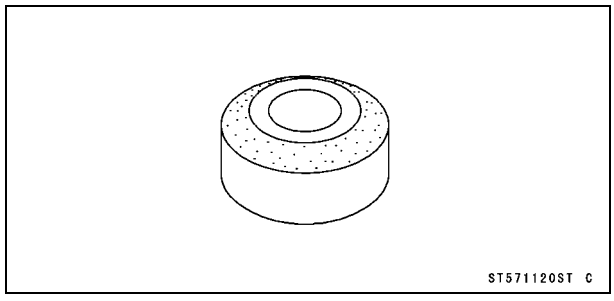


Special Tools and Sealants

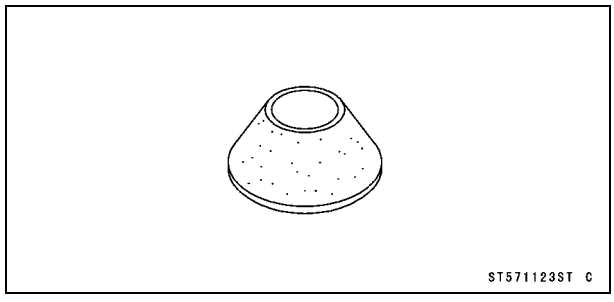
Valve Seat Cutter, 32° - ϕ25:
57001-1118



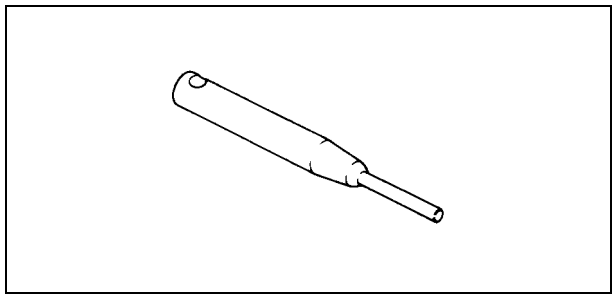
Valve Seat Cutter, 32° - ϕ30:
57001-1120



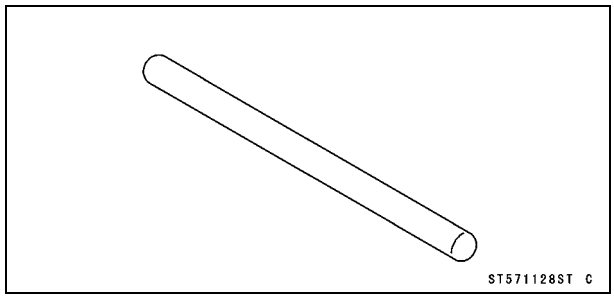
Valve Seat Cutter, 60° - ϕ30:
57001-1123



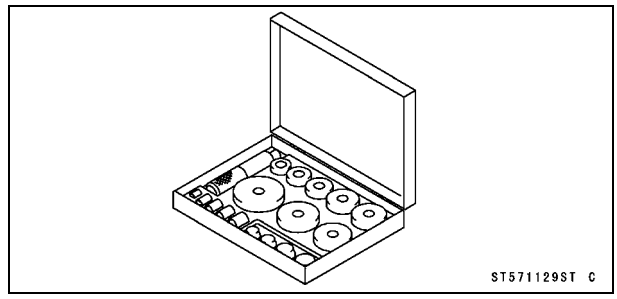
Valve Seat Cutter Holder, ϕ5.5:
57001-1125



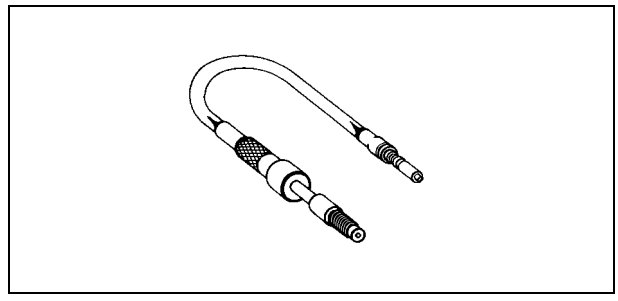
Valve Seat Cutter Holder Bar:
57001-1128



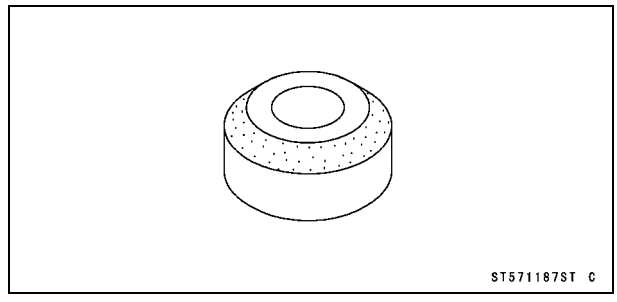
Bearing Driver Set:
57001-1129



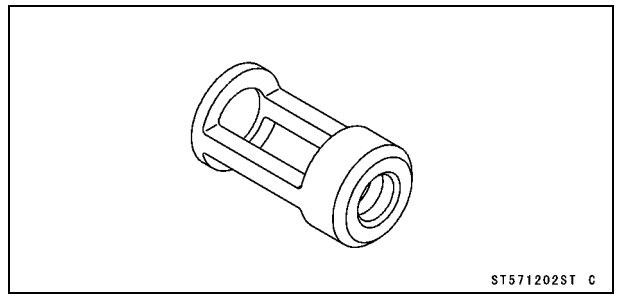
Compression Gauge Adapter, M12 × 1.25:
57001-1183



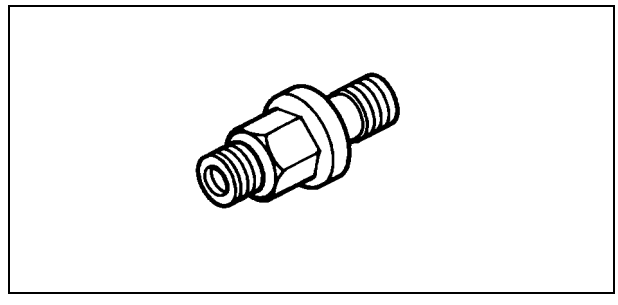
Valve Seat Cutter, 45° - ϕ30:
57001-1187



Valve Spring Compressor Adapter, ϕ22:
57001-1202

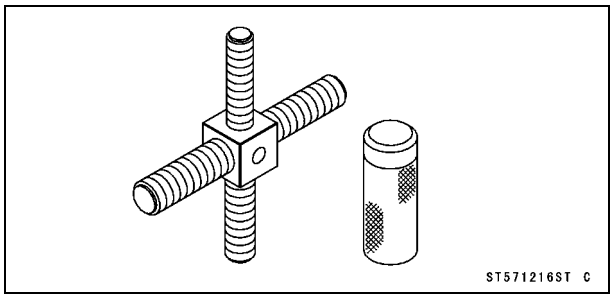


Oil Pressure Gauge Adapter, M14 × 1.5:
57001-1209

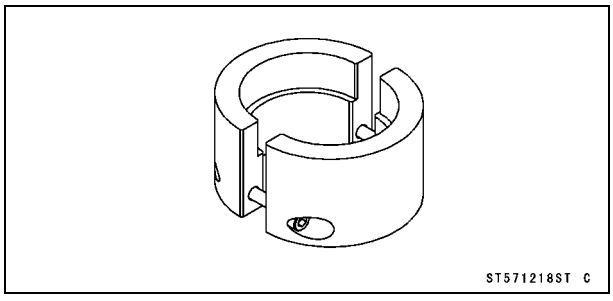


Special Tools and Sealants

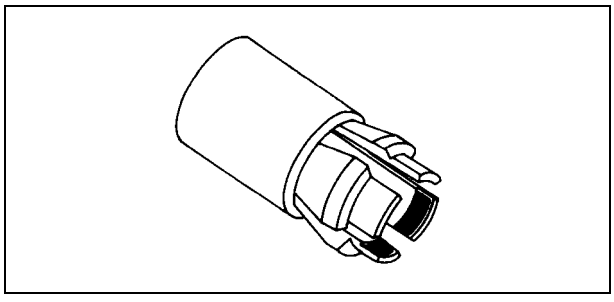
Rotor Puller, M16/M18/M20/M22 × 1.5:
57001-1216



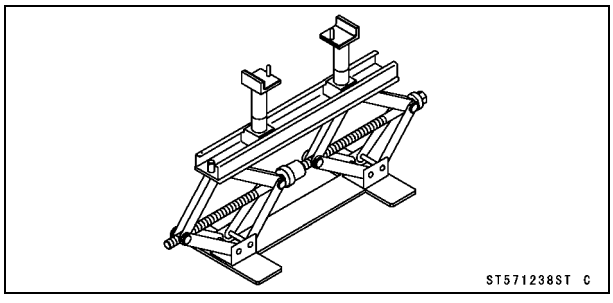
Fork Outer Tube Weight:
57001-1218



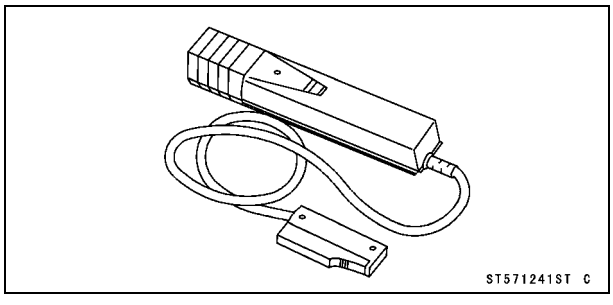
Front Fork Oil Seal Driver:
57001-1219



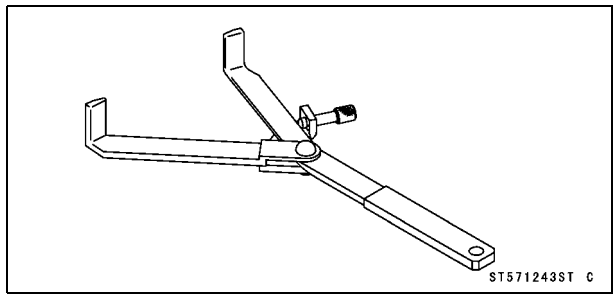
Jack:
57001-1238



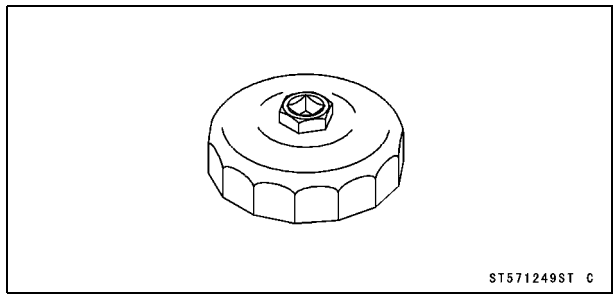
Timing Light:
57001-1241



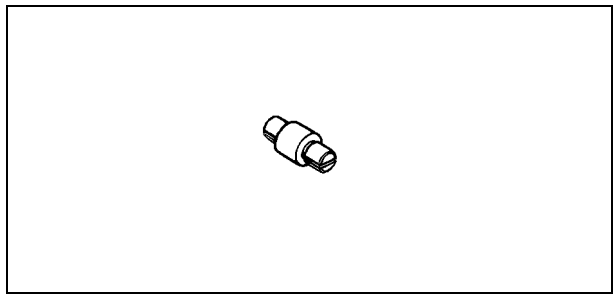
Clutch Holder:
57001-1243



Oil Filter Wrench:
57001-1249

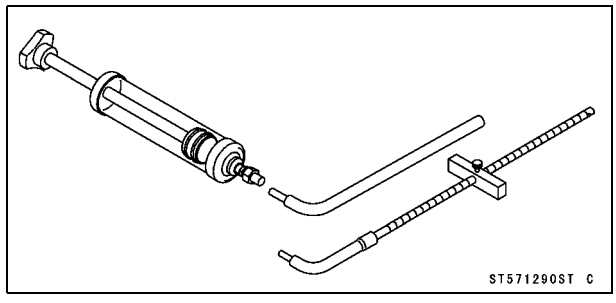


Bearing Remover Head, ϕ15 × ϕ17:
57001-1267

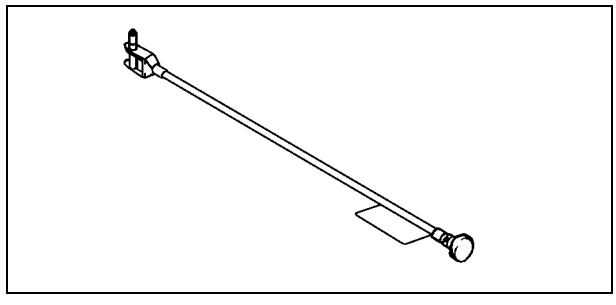


Carburetor Drain Plug Wrench, Hex 3:
57001-1269

Fork Oil Level Gauge:
57001-1290

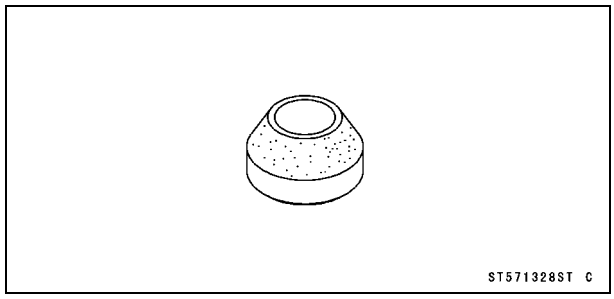


Pilot Screw Adjuster, C:
57001-1292

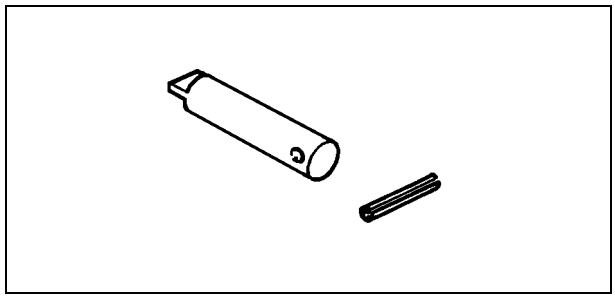


Special Tools and Sealants

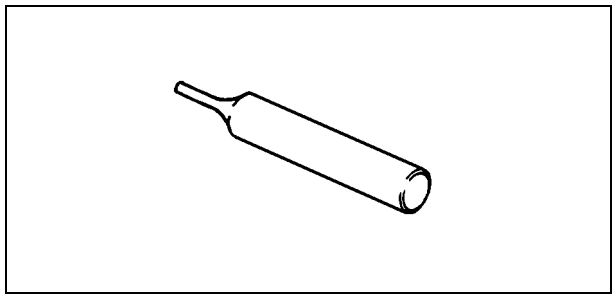
Valve Seat Cutter, 60° - ϕ25:
57001-1328



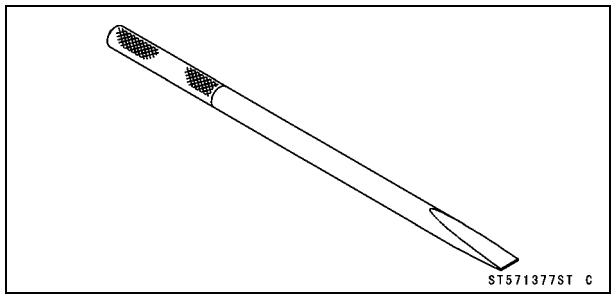
Pilot Screw Adjuster Adapter, ϕ5:
57001-1372



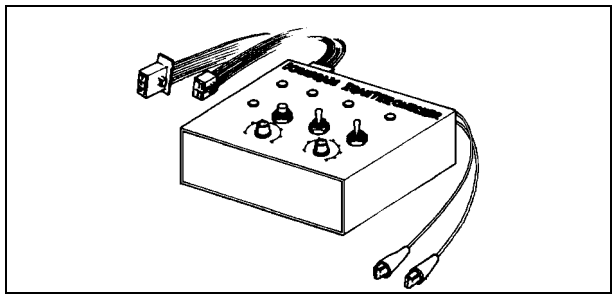
Pilot Screw Adjuster Driver:
57001-1373



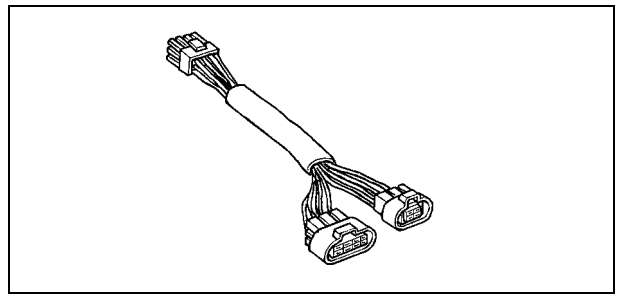
Bearing Remover Shaft, ϕ13:
57001-1377



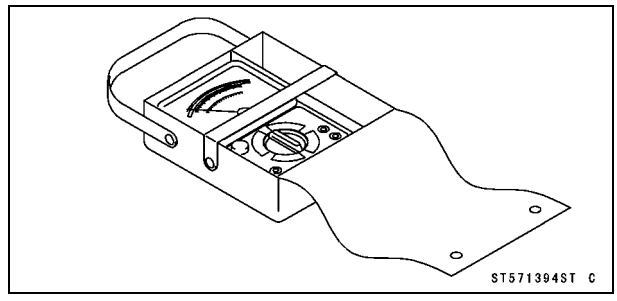
Igniter Checker Assembly:
57001-1378



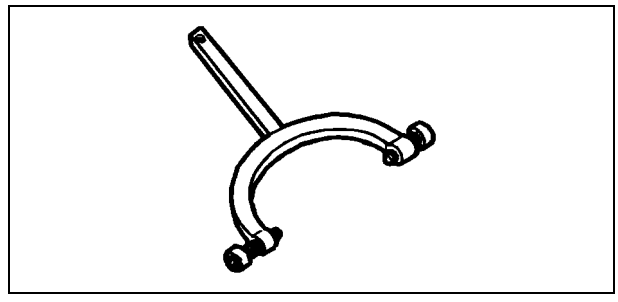
Harness Adapter #1:
57001-1381



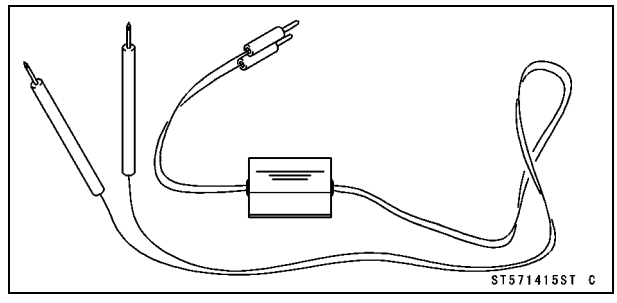
Hand Tester:
57001-1394



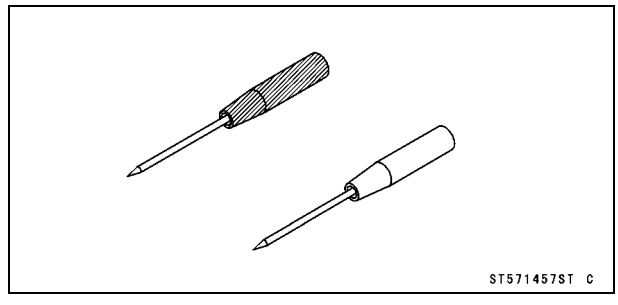
Flywheel Holder:
57001-1410



Peak Voltage Adapter:
57001-1415

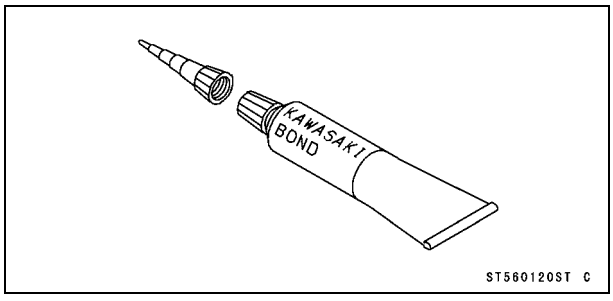


Needle Adapter Set:
57001-1457

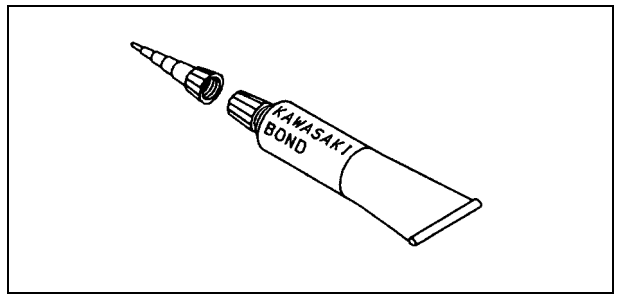


Special Tools and Sealants

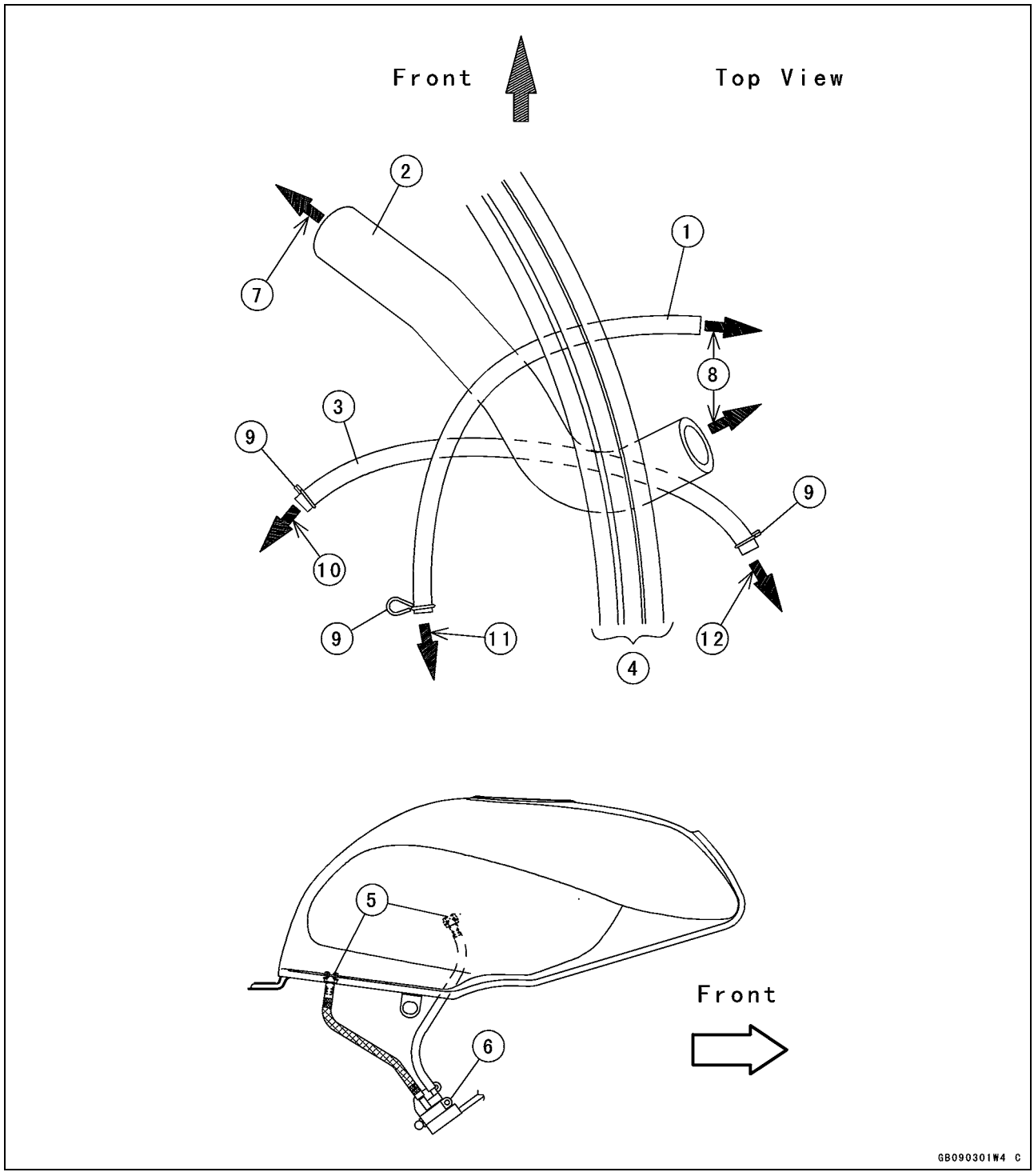
Kawasaki Bond (Silicone Sealant): 56019-120



Kawasaki Bond (Liquid Gasket - Black) TB1105: 92104-1003

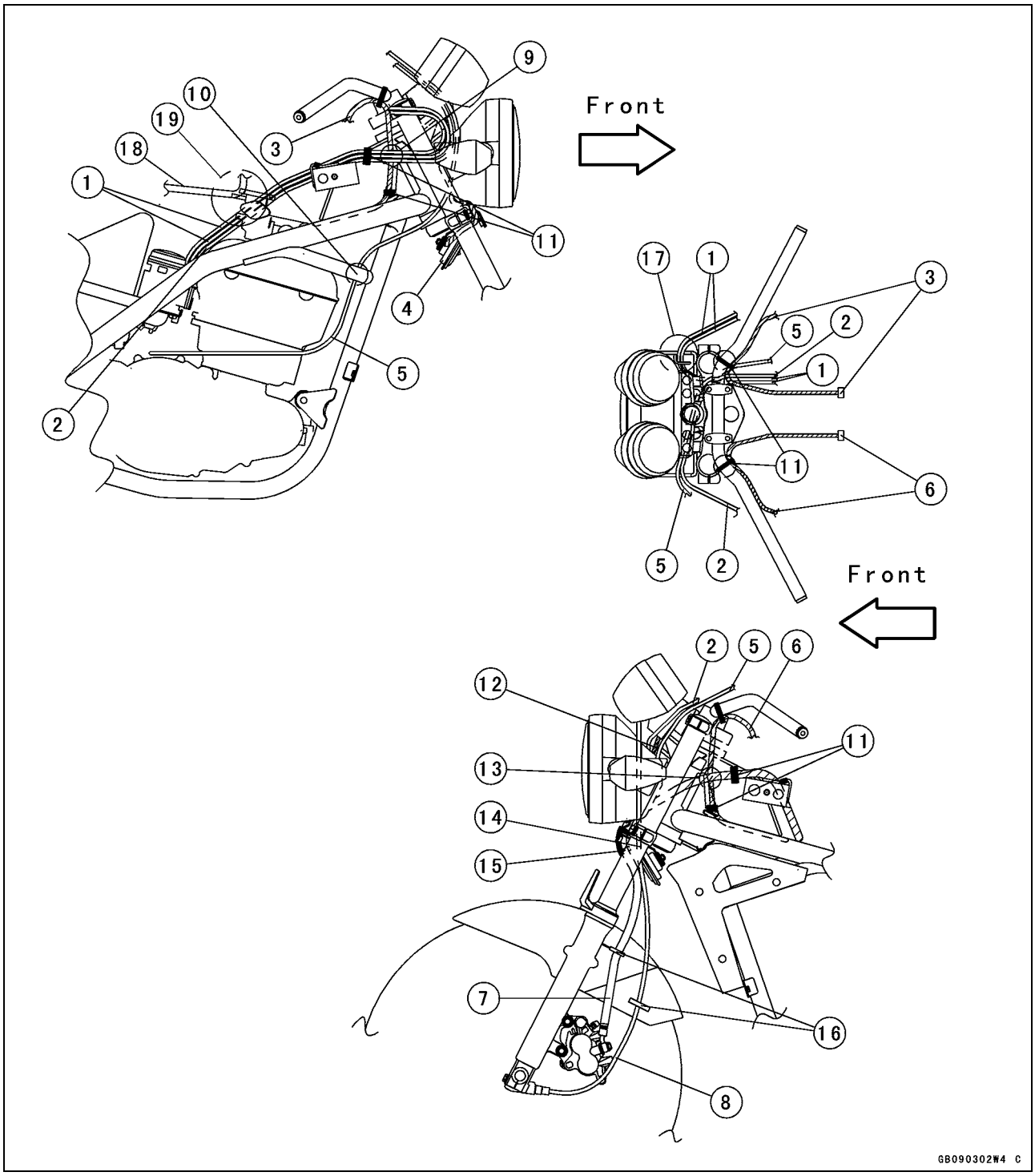


Cable, Wire, and Hose Routing



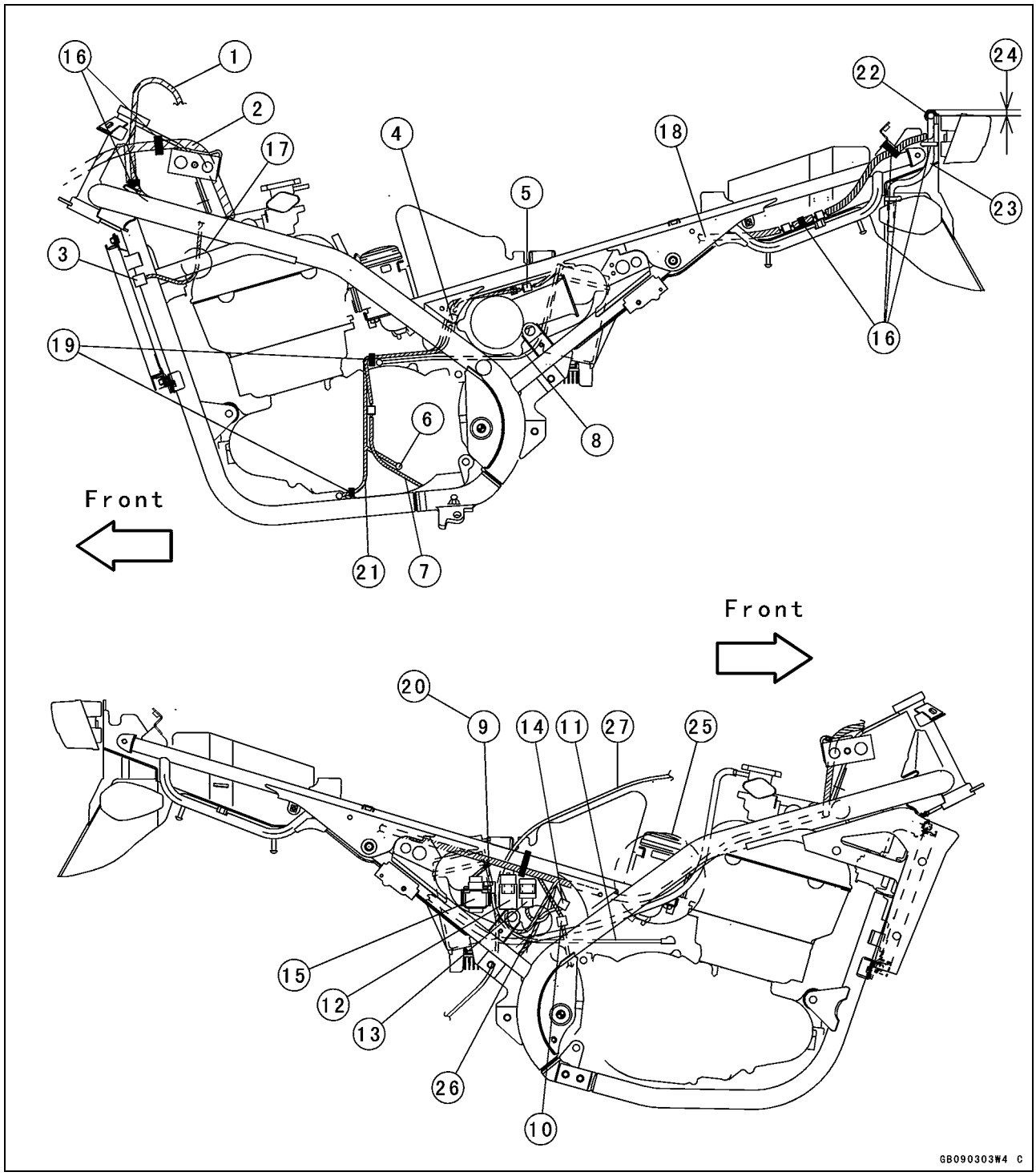
1. Vacuum Hose
2. Air Hose
3. Fuel Hose
4. Throttle and Choke Cables
5. Fuel Filters
6. Fuel Tap
7. To the air suction valve.
8. To the vacuum switch valve.
9. Clamp
10. To the fuel tap.
11. To the left carburetor.
12. To the right carburetor.

Cable, Wire, and Hose Routing



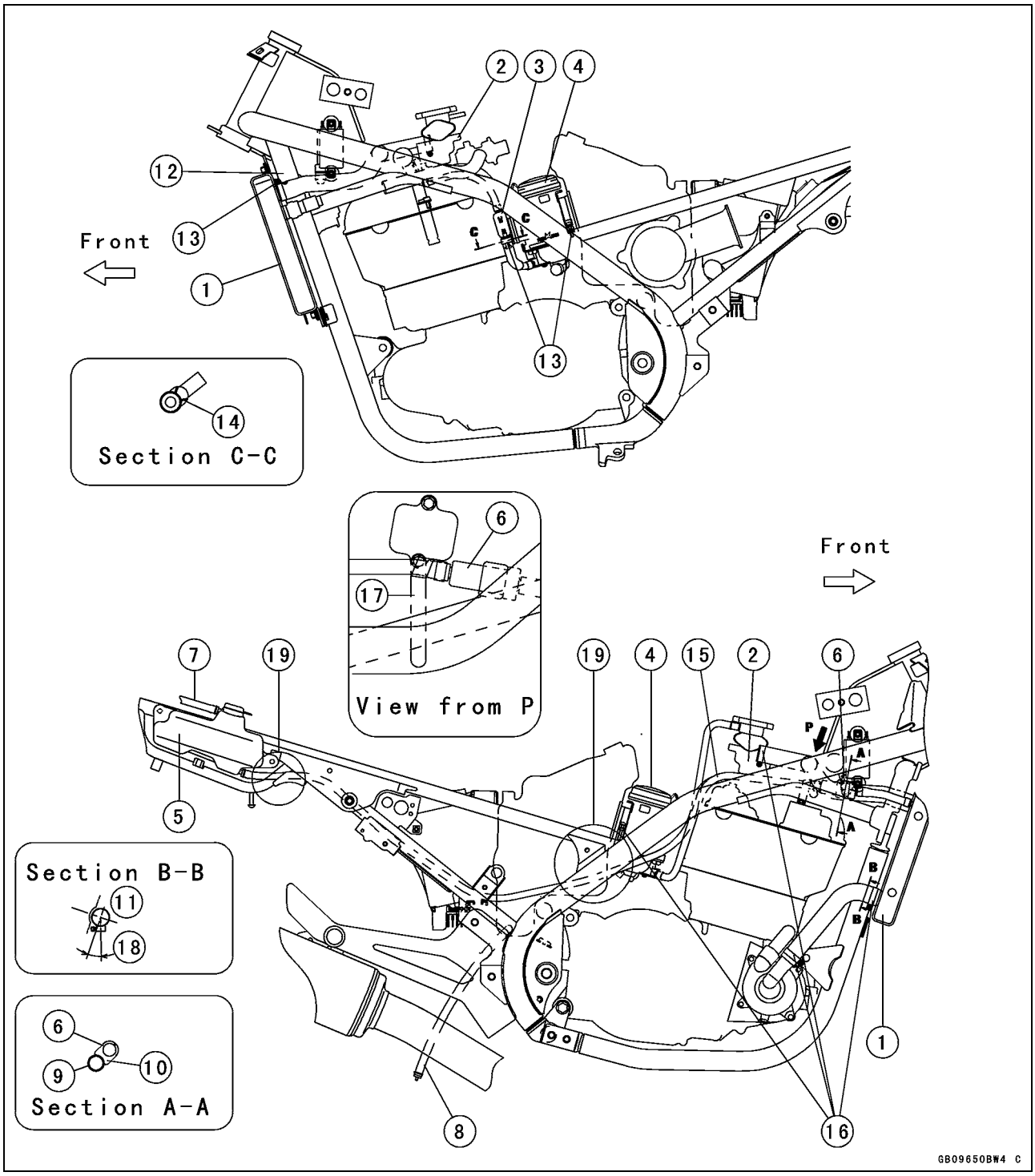
1. Throttle Cables
2. Choke Cable
3. Right Handlebar Switch Leads
4. Horn
5. Clutch Cable
6. Left Handlebar Switch Leads
7. Brake Hose
8. Speedometer Cable
9. Run the cables outside.
10. Run the clutch cable inside the cross pipe.
11. Bands
12. Run the ignition switch lead behind and then under the choke cable and above the clutch cable into the right hole of the headlight housing.
13. Run the main harness outside.
14. Run the meter cable inside the clamp
15. Clamp
16. Holders
17. Run the throttle cables through inside of the bracket.
18. Drain Hose
19. Run the drain hose above the throttle cable and choke cable at the fuel tank installation.

Cable, Wire, and Hose Routing



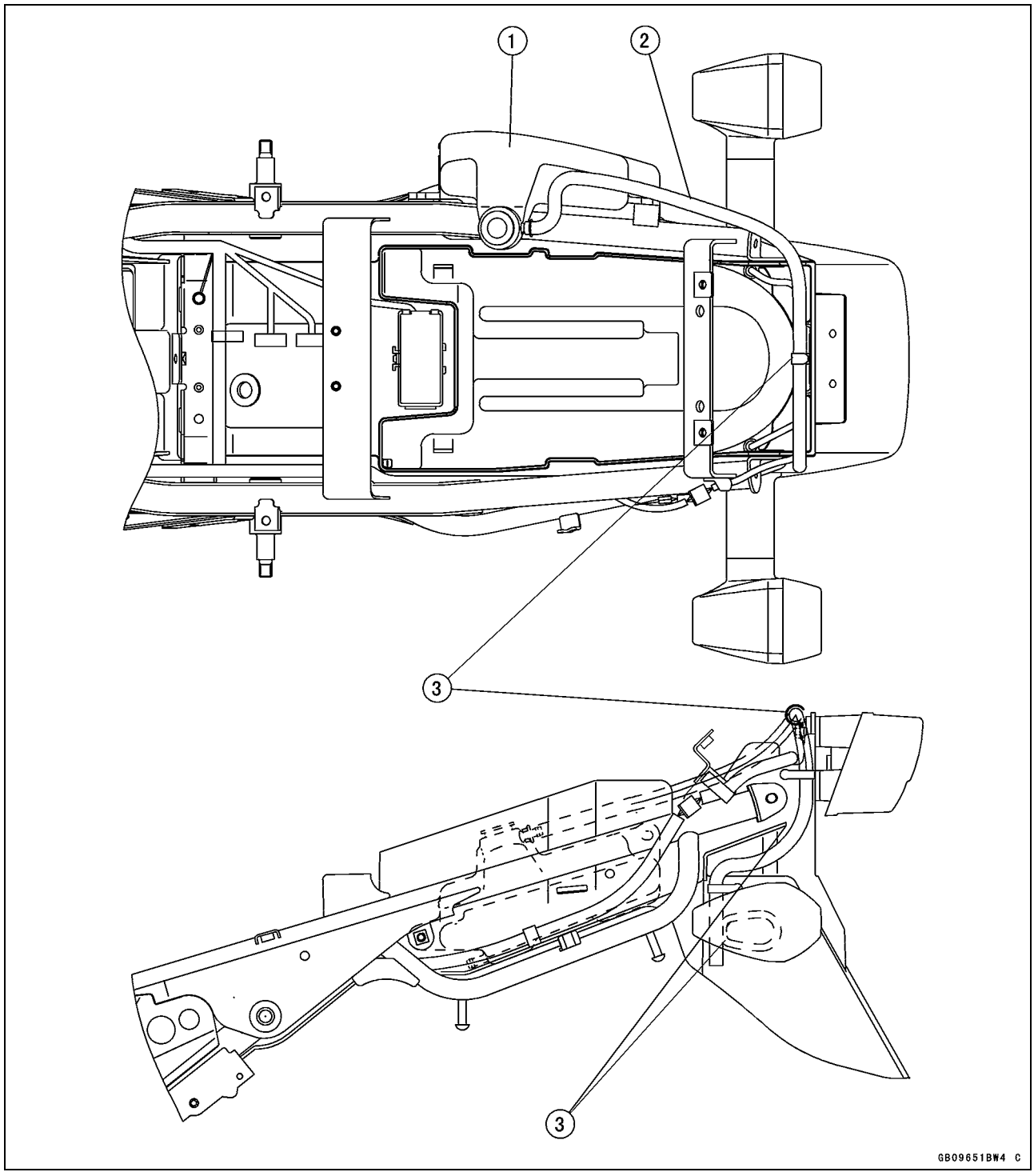
1. Handlebar Switch Harness
2. Main Harness
3. Radiator Fan Switch
4. Alternator Connector
5. Pickup Coil Connector
6. Neutral Switch Lead
7. Sidestand Switch Lead
8. Battery Negative Lead
9. Battery Positive Lead
10. Rear Brake Light Switch Connector
11. Starter Lead
12. Starter Circuit Relay
13. Turn Signal Relay
14. Regulator/rectifier Connector
15. Starter Relay
16. Bands
17. Run the leads inside the cross pipe.
18. Run the harness inside the frame.
19. Clamps
20. Run the lead under the starter lead.
21. Oil Pressure Switch Lead
22. Clamp
23. Radiator Reservoir Tank Hose
24. 5 mm (0.2 in.) or less
25. Run the harness over the cooling hose.
26. Run the regulator lead between the starter circuit relay lead and turn signal relay lead.
27. Cooling Hose

Cable, Wire, and Hose Routing



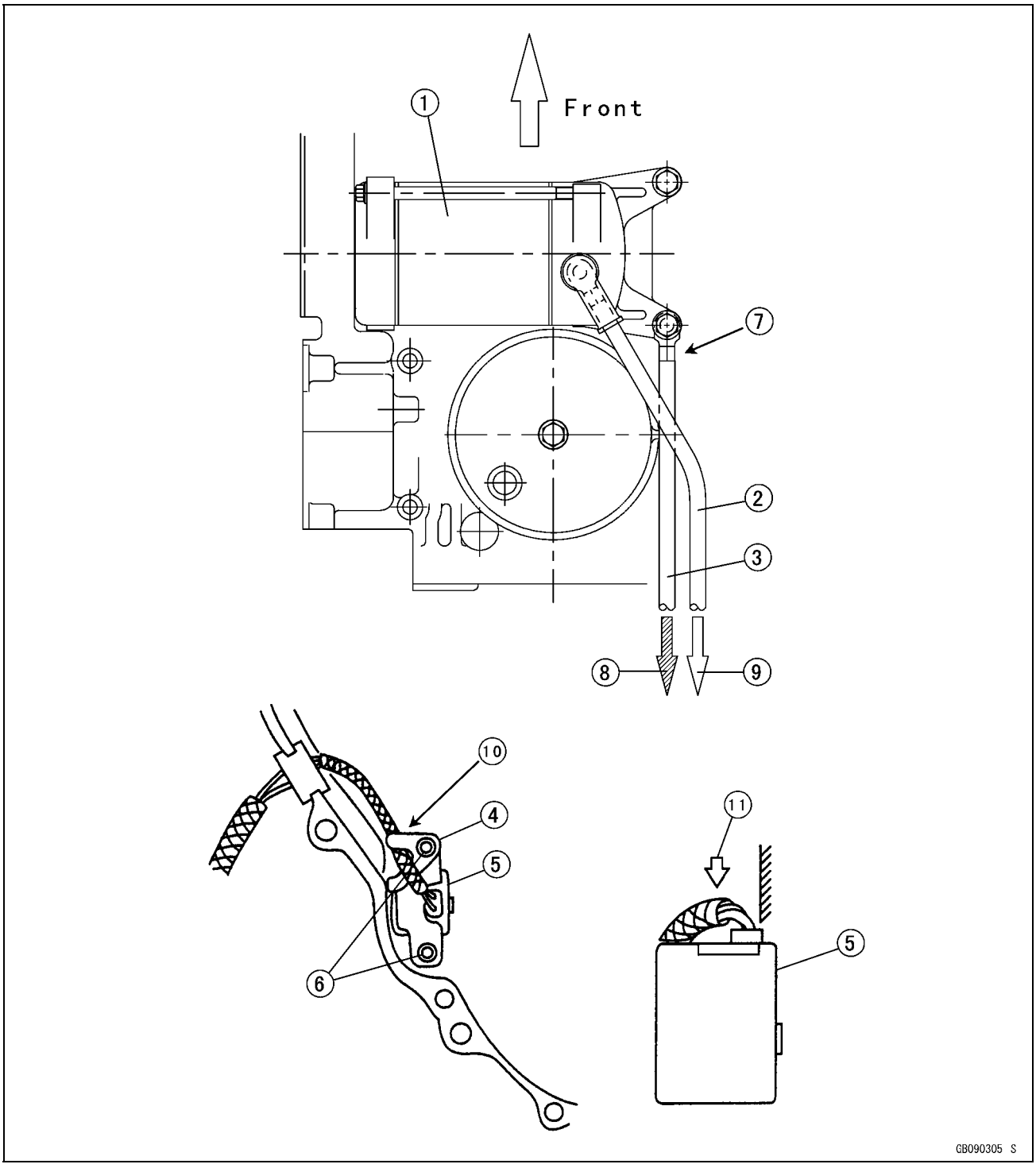
1. Radiator
2. Thermostat Housing
3. Coolant Filter
4. Carburetor
5. Reserve Tank
6. Coolant Valve
7. Reserve Tank Overflow Hose
8. Air Cleaner Drain Hose
9. Cross Pipe
10. Damper
11. Radiator Cover
12. Face the white mark upward and to the radiator.
13. Face the head of the clamp screw upward.
14. Place the clamp tab as shown.
15. Run the hose above the engine.
16. Face the head of the clamp screw as shown.
17. Clamp
18. About 20°
19. Run the hose inside of the frame.

Cable, Wire, and Hose Routing



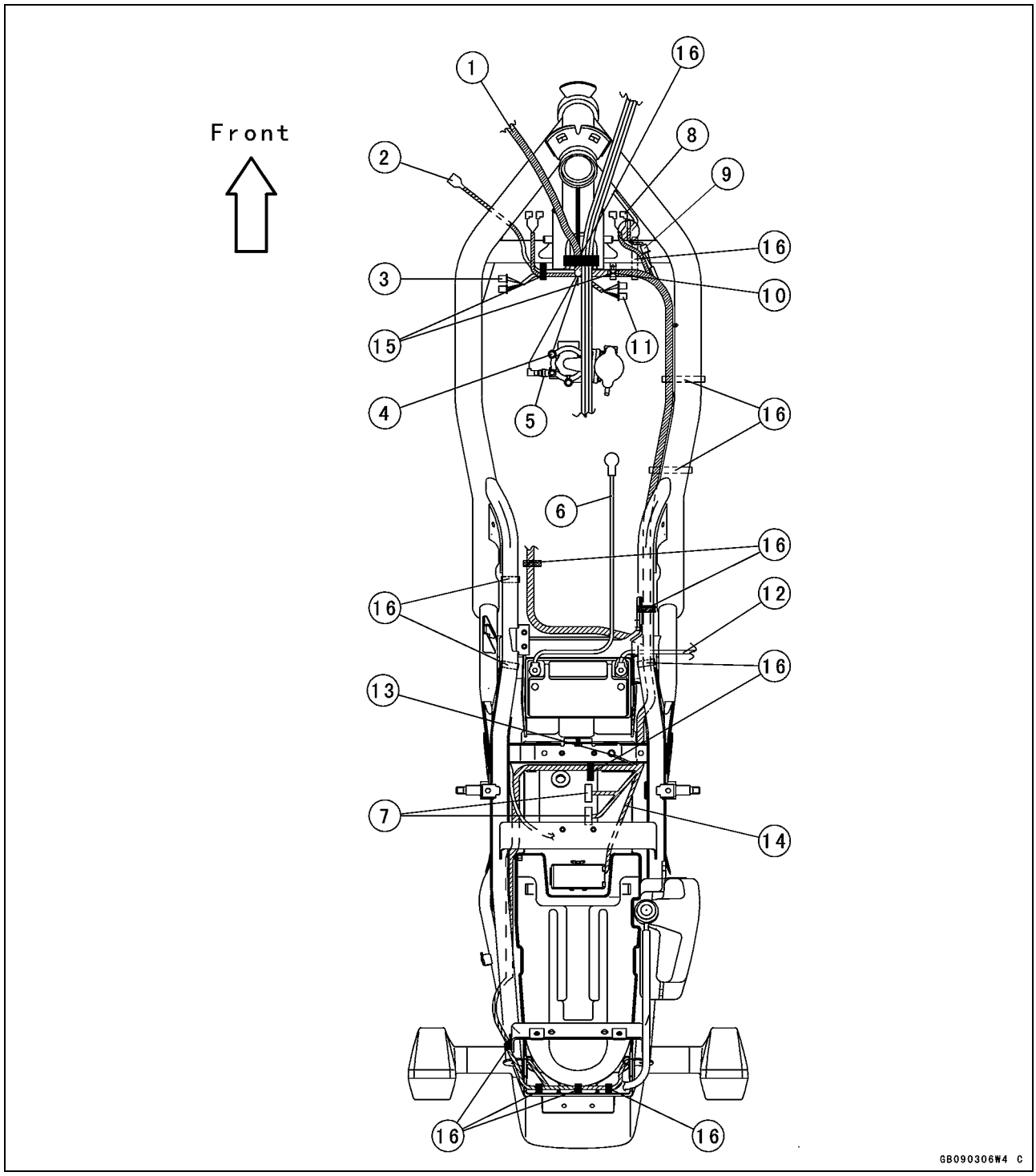
1. Reserve Tank
2. Reserve Tank Overflow Hose
3. Clamps

Cable, Wire, and Hose Routing



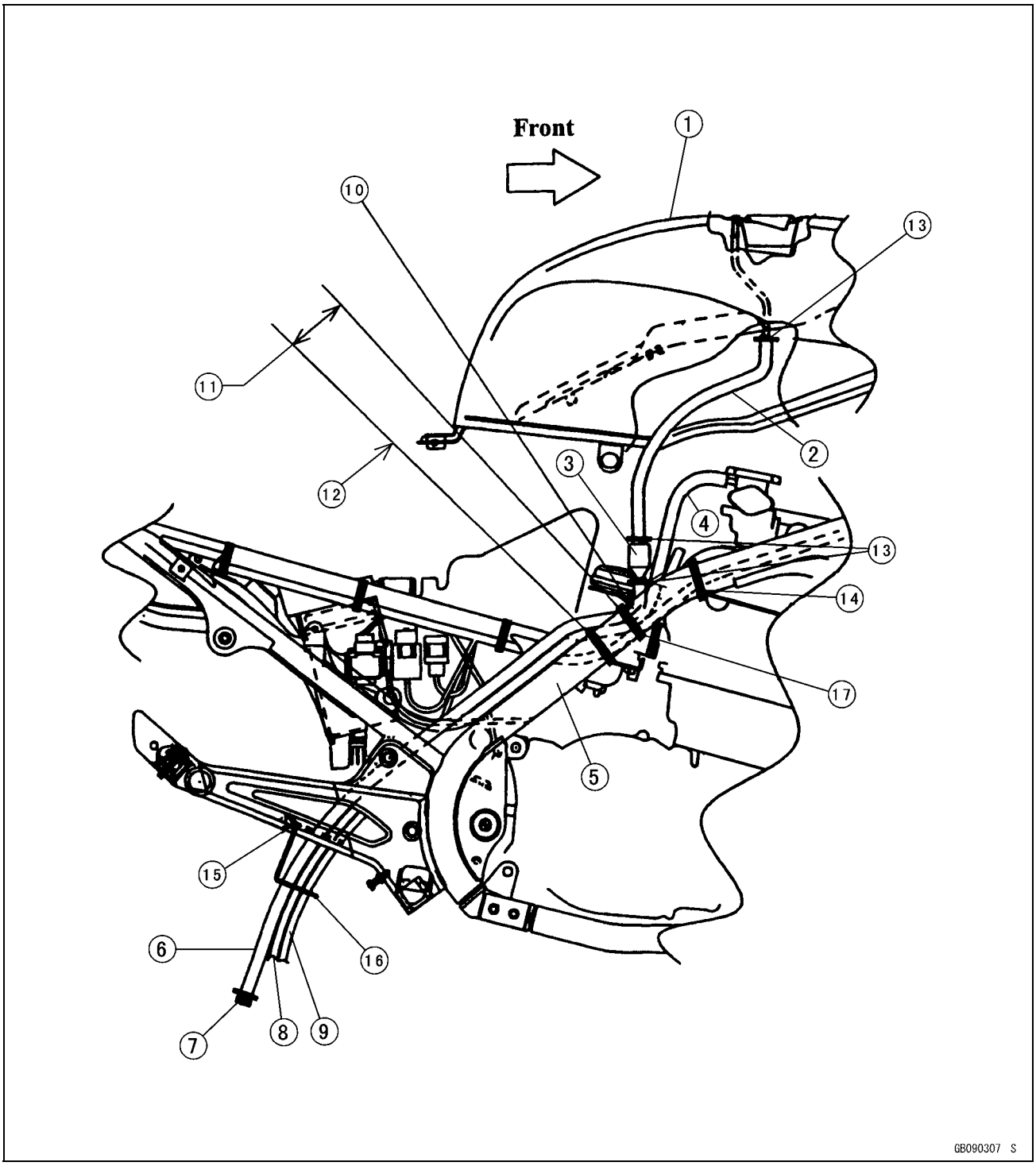
1. Starter Motor
2. Positive Lead
3. Negative Lead
4. Plate
5. Pickup Coil
6. Pickup Coil Mounting Bolts
7. Tighten the starter motor negative lead terminal with the rear starter mounting bolt.
8. To the battery negative terminal.
9. To the starter relay.
10. Hold the lead with the plate.
11. Bend and run the lead as shown so it does not touch the alternator rotor.

Cable, Wire, and Hose Routing



1. #1 Ignition Coil Connectors
2. Radiator Fan Switch Connector
3. Left Handlebar Switch Connectors
4. Water Temperature Switch Ground Terminal
5. Water Temperature Switch
6. Battery Negative Lead
7. Igniter Connectors
8. #2 Ignition Coil Connectors
9. Radiator Fan Connector
10. White Tape (position here)
11. Right Handlebar Switch Connectors
12. Battery Positive Lead
13. Ground Terminal
14. Fuse Box Lead
15. Fit the bands into gusset.
16. Bands

Cable, Wire, and Hose Routing



1. Fuel Tank
2. Fuel Tank Upper Drain Hose
3. Catch Tank
4. Reserve Tank Hose
5. Main Harness
6. Fuel Tank Lower Drain Hose
7. Plug
8. Reserve Tank Overflow Hose
9. Air Cleaner Drain Hose
10. Bind the edge of the hose bend
11. About 70 mm
12. Frame Corner
13. Clips
14. Band
15. Bolt
16. Holder
17. Bolt (Bind [4],[5],[6])

Fuel System

Table of Contents