Periodic Maintenance

Table of Contents

Periodic Maintenance Chart

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

FREQUENCY / OPERATION	First Service		Regular Service				see page
	After 20 h, or 200 km of use	After 50 h, or 1 000 km of use	Every 50 h, or 1 000 km of use	Every 100 h, or 2 000 km of use	Every 200 h, or 4 000 km of use	Every year of use	
ENGINE							
Throttle pedal play-inspect		●				●	2-15
Fuel system cleanliness-inspect *	●			●			2-17
Fuel hoses and connections-inspect				●			2-18
Fuel hose-replace	4 years						2-19
Choke knob play-inspect	●			●			2-16
Idle speed-inspect		●			●		2-16
Spark plug-clean and gap inspect	●				●		2-47
Air cleaner-inspect *	●		●				2-17
Valve clearance-inspect	First 2 000 km; thereafter every 4 000 km						2-24
Spark arrester-clean				●			2-26
Engine oil-change *	●	6 month					2-31
Oil filter-replace *	●					●	2-32
Front and rear final gear case oil-change	●					●	2-33
Radiator-clean *	●			●			2-19
Water hoses and connections-check *						●	2-20
Coolant-change *	2 years						2-20
Converter drive belt wear-inspect *					●		2-27
Converter drive belt deflection-inspect *					●		2-29
Differential shift lever play-inspect		●			●		2-33
Engine brake control lever-inspect *					●		2-30
CHASSIS							
Rear brake plates-replace *	every 10 000 km						2-45
Front brake pad wear-inspect *	●		●				2-43
Brake light switch - inspect	●				●		2-47
Brake fluid - change	2 years						2-35
Brake master cylinder cup and dust seal - replace	2 years						2-37
Rear brake master cylinder cup, O-ring, and boot-replace *	2 years						2-38
Front brake caliper piston seal and dust seal-replace	2 years						2-44
Brake hose - replace	4 years						2-41
Brake fluid level - inspect	●				●		2-35
Brake pedal play - inspect *		●			●		2-37

2-4 PERIODIC MAINTENANCE

Periodic Maintenance Chart

FREQUENCY / OPERATION	First Service		Regular Service				
	After 20 h, or 200 km of use	After 50 h, or 1 000 km of use	Every 50 h, or 1 000 km of use	Every 100 h, or 2 000 km of use	Every 200 h, or 4 000 km of use	Every year of use	see page
Brake hose and pipe - inspect		●			●		2-40
Parking brake pedal - inspect		●			●		2-43
Tire wear-inspect *		●			●		2-32
Wheel nuts tightness - inspect		●			●		2-33
Joint boots - inspect	●		●				2-48
Steering-inspect		●			●		2-45
Steering joint dust boots - inspect		●			●		2-46
General lubrication - perform *					●		2-49
Bolts, nuts, and fasteners tightness - inspect		●		●			2-51
Seat belt - inspect					●		2-46
Cables - inspect					●		2-50

*: Service more frequently when operated in mud, dust, or other harsh riding conditions, or when carrying heavy loads or pulling a trailer.

●: Clean, adjust, lubricate, torque, or replace parts as necessary.

Torque and Locking Agent

The following tables list the tightening torque for the major fasteners, and the parts requiring use of a non-permanent locking agent or liquid gasket.

Letters used in the “Remarks” column mean:
L: Apply a non-permanent locking agent.
LB: Apply a non-permanent locking agent (Three Bond TB2471, Blue).
Lh: Left-hand Threads
MO: Apply molybdenum disulfide oil (mixture of the engine oil and molybdenum disulfide grease in a weight ratio: 10 : 1).
R: Replacement Parts
S: Follow the specific tightening sequence.
SS: Apply silicone sealant (Kawasaki Bond: 56019-120).

Fastener	Torque			Remarks
	N·m	kgf·m	ft·lb	
Fuel System				
Throttle Cable Locknut	4.4	0.45	39 in·lb	
Fuel Pump Bracket Bolts	8.8	0.90	78 in·lb	
Fuel Pump Mounting Bolts	8.8	0.90	78 in·lb	
Element Holder Screws	4.5	0.46	40 in·lb	
Element Cover Screw	4.5	0.46	40 in·lb	
Air Cleaner Mounting Bolts, L=28.7 mm (1.13 in.)	8.8	0.90	78 in·lb	
Air Cleaner Mounting Bolts, L=27.5 mm (1.08 in.)	8.8	0.90	78 in·lb	
Cooling System				
Shroud Mounting Screws	4.0	0.40	35 in·lb	
Radiator Screen Mounting Bolts	8.8	0.90	78 in·lb	
Radiator Mounting Bolts	8.8	0.90	78 in·lb	
Radiator Fan Switch	18	1.8	13	
Radiator Cover Bolts	8.3	0.85	73 in·lb	
Radiator Fan Assembly Bolts	8.3	0.85	73 in·lb	
Thermostat Housing Cover Bolts	8.8	0.90	78 in·lb	
Water Temperature Switch	7.8	0.80	69 in·lb	SS
Water Pipe Mounting Bolts, L = 20 mm (0.79 in.)	8.8	0.90	78 in·lb	
Water Pipe Mounting Bolts, L = 12 mm (0.47 in.)	8.8	0.90	78 in·lb	
Water Pump Impeller	7.8	0.80	69 in·lb	
Water Pump Cover Bolts	8.8	0.90	78 in·lb	
Coolant Drain Plug (Water Pump)	8.8	0.90	78 in·lb	
Coolant Drain Plug (Cylinder)	8.8	0.90	78 in·lb	
Engine Top End				
Valve Adjusting Cap Bolts	8.8	0.90	78 in·lb	
Rocker Case Bolts, L= 55 mm (2.2 in.)	8.8	0.90	78 in·lb	S
Rocker Case Bolts, L= 130 mm (5.1 in.)	9.8	1.0	87 in·lb	
Rocker Case Bolts, L= 30 mm (1.2 in.)	9.8	1.0	87 in·lb	
Rocker Case Bolts, L= 25 mm (1.0 in.)	9.8	1.0	87 in·lb	
Cylinder Head Bolts (M10), first torque	25	2.5	18	S, MO
Cylinder Head Bolts (M10), final torque	49	5.0	36	S
Cylinder Head Bolts (M6)	9.8	1.0	87 in·lb	
Water Pipe Mounting Bolts	8.8	0.90	78 in·lb	

Torque and Locking Agent

Fastener	Torque			Remarks
	N·m	kgf·m	ft·lb	
Valve Adjusting Screw Locknuts	12	1.2	104 in·lb	
Rocker Shaft Bolts	22	2.2	16	
Camshaft Sprocket Bolts	12	1.2	104 in·lb	L
Chain Tensioner Cap Bolt	22	2.2	16	
Chain Tensioner Mounting Bolts	8.8	0.90	78 in·lb	
Front Cylinder Camshaft Chain Guide Bolt	20	2.0	14	
Position Plate Bolts	8.8	0.90	78 in·lb	
Intermediate Shaft Chain Guide Bolts	8.8	0.90	78 in·lb	
Intermediate Shaft Chain Tensioner Bolts	8.8	0.90	78 in·lb	
Rear Cylinder Camshaft Chain Guide Bolt	20	2.0	14	
Cylinder Bolts, L= 30 mm (1.2 in.)	9.8	1.0	87 in·lb	
Cylinder Bolts, L= 40 mm (1.6 in.)	9.8	1.0	87 in·lb	
Coolant Drain Plug (Cylinder)	8.8	0.90	78 in·lb	
Exhaust Pipe Nuts	17	1.7	12	
Exhaust Pipe Cover Bolts	8.8	0.90	78 in·lb	
Muffler Clamp Bolts	15	1.5	11	
Muffler Mounting Bolts	17	1.7	12	
Spark Arrester Mounting Bolts	8.8	0.90	78 in·lb	
Converter System				
Drive Pulley Bolt	93	9.5	69	R, Lh
Drive Pulley Cover Bolt	13	1.3	113 in·lb	
Ramp Weight Nuts	7	0.7	62 in·lb	
Spider	275	28	203	
Driven Pulley Nut	93	9.5	69	R
Engine Brake Actuator Mounting Bolts	8.8	0.90	78 in·lb	S
Engine Brake Actuator Cover Bolt	8.8	0.90	78 in·lb	S
Belt Inspection Opening Cover Bolts	8.8	0.90	78 in·lb	
Converter Cover Bolts	8.8	0.90	78 in·lb	S
Converter Cover Drain Bolt	20	2.0	14	
Joint Duct Bolts	8.8	0.90	78 in·lb	
Engine Lubrication System				
Oil Filter	17.5	1.8	13	R
Oil Pressure Switch	15	1.5	11	SS
Oil Pipe Bolts	8.8	0.90	78 in·lb	
Engine Oil Drain Plug	20	2.0	14	
Oil Pressure Relief Valve	15	1.5	11	L
Oil Pump Bolts	8.8	0.90	78 in·lb	
Chain Guide Bolts	8.8	0.90	78 in·lb	
Oil Pump Drive Chain Tensioner Bolt	25	2.5	18	
Oil Filter Mounting Bolt	25	2.5	18	L (15 mm)
Plate Bolts	8.8	0.90	78 in·lb	
Engine Removal/Installation				
Engine Bracket Pipe Mounting Nuts	42	4.3	31	

Torque and Locking Agent

Fastener	Torque			Remarks
	N·m	kgf·m	ft·lb	
Engine Mounting Bolt	62	6.3	46	
Engine Mounting Nut	62	6.3	46	
Crankshaft/Transmission				
Connecting Rod Big End Cap Nuts	34.3	3.5	25	MO
Engine Oil Drain Plug	20	2.0	14	
Crankcase Bolts (M8), L= 75 mm (2.95 in.)	20	2.0	14	S
Crankcase Bolts (M8), L= 110 mm (4.33 in.)	20	2.0	14	S
Crankcase Bolt (M8),L= 110 mm (4.33 in.)	20	2.0	14	S, L (1)
Crankcase Bolts (M6),L= 40 mm (1.57 in.)	9.8	1.0	87 in·lb	
Crankcase Bolts (M6),L= 65 mm (2.56 in.)	9.8	1.0	87 in·lb	
Bearing Position Plate Screws	4.9	0.50	43 in·lb	L
Rear Cylinder Camshaft Chain Guide Bolt	20	2.0	14	
Grip Hold Nut	9.8	1.0	87 in·lb	
Tie-rod End Locknut	19.6	2.0	14	
Shift Lever Assembly Nut	19.6	2.0	14	
Tie-rod End Bolt	9.8	1.0	87 in·lb	
Tie-rod End Front Locknut	9.8	1.0	87 in·lb	Lh
Tie-rod End Rear Locknut	9.8	1.0	87 in·lb	
Tie-rod End Nut	19.6	2.0	14	
Shift Shaft Lever Bolt	13.5	1.4	10	
Shift Shaft Cover Bolts	8.8	0.90	78 in·lb	
Shift Shaft Positioning Bolt	25	2.5	18	
Neutral Position Switch	15	1.5	11	
Reverse Position Switch	15	1.5	11	
Shift Shaft Spring Bolt	25	2.5	18	L
Wheel/Tires				
Front Axle Nuts	266	27	196	
Wheel Nuts	137.3	14	101	
Tie-rod End Locknuts	44	4.5	32	
Rear Axle Nuts	266	27	196	
Final Drive				
(Output Bevel Gears)				
Rotor Mounting Bolts	12	1.2	104 in·lb	
Output Driven Bevel Gear Housing Bolts	26	2.7	20	
Pinion Gear Bearing Holder Nut	200	20	148	LB
Bearing Holder (M64)	120	12	87	L
Bearing Holder (M75)	250	25	184	L
Output Shaft Holder Nut	200	20	148	L
Output Drive Bevel Gear Housing Bolts	26	2.7	20	
Output Drive Bevel Gear Cover Bolts	8.8	0.90	78 in·lb	
Forward/Reverse Detecting Sensor Mounting Bolt	14.9	1.5	11	
(Front Final Gear Case)				
Output Drive Bevel Gear Cover Bolts	8.8	0.90	78 in·lb	

Torque and Locking Agent

Fastener	Torque			Remarks
	N·m	kgf·m	ft·lb	
Differential Control Shift Shaft Lever Nut	8.8	0.90	78 in·lb	
Differential Shift Cable Holder Bolt	8.8	0.90	78 in·lb	
Front Final Gear Case Oil Filler Cap	29	3.0	22	
Front Final Gear Case Oil Drain Plug	15	1.5	11	
2WD/4WD Shift Cable Holder Bolts	8.8	0.90	78 in·lb	L
2WD/4WD Shift Shaft Cover Bolts	8.8	0.90	78 in·lb	L
2WD/4WD Shift Shaft Lever Nut	20	2.0	14	
Pinion Gear Bearing Holder Nut	200	20	148	LB
Pinion Gear Bearing Holder	250	25	184	L
Coupling Nut	35	3.6	26	
Front Final Gear Case Center Cover Bolts (M8)	24	2.4	18	L
Front Final Gear Case Center Cover Bolts (M10)	49	5.0	36	L
Ring Gear Bolts	57	5.8	42	LB
Front Final Gear Case Left Cover Bolts (M6, 35 mm)	8.8	0.90	78 in·lb	
Front Final Gear Case Left Cover Bolts (M6, 40 mm)	8.8	0.90	78 in·lb	
Front Final Gear Case Mounting Nuts	91	9.3	67	
Front Final Gear Case Bracket Bolts	91	9.3	67	
Differential Shift Cable Locknuts	10.8	1.1	95 in·lb	
2WD/4WD Shift Cable Locknuts	4.4	0.45	39 in·lb	
4WD Position Switch	15	1.5	11	
Vacuum Actuator Bracket Bolts	8.8	0.90	78 in·lb	
Vacuum Actuator Mounting Bolts	8.8	0.90	78 in·lb	
Solenoid Valve Bracket Bolts	8.8	0.90	78 in·lb	
(Rear Final Gear Case)				
Rear Master Cylinder Mounting Bolts	27	2.8	20	L
Rear Master Cylinder Bleed Valve	5.4	0.55	48 in·lb	
Rear Final Gear Case Front Cover Bolts	24	2.4	18	
Spring Bracket Bolt	8.8	0.90	78 in·lb	L
Rear Final Gear Case Gasket Screws	1.3	0.13	12 in·lb	
Pinion Gear Bearing Holder	450	46	332	L
Pinion Gear Bearing Holder Nut	200	20	148	LB
Rear Final Gear Case Oil Drain Plug	15	1.5	11	
Rear Final Gear Case Oil Filler Cap	29	3.0	22	
Rear Final Gear Case Right Cover Bolts (M10)	49	5.0	36	L
Rear Final Gear Case Right Cover Bolts (M12)	94	9.6	69	L
Rear Final Gear Case Mounting Nuts	91	9.3	67	
Rear Final Gear Case Bracket Bolts	91	9.3	67	
Heat Guard Bolts	8.8	0.90	78 in·lb	
Brakes				
Front Master Cylinder Reservoir Cap	3.4	0.35	30 in·lb	
Reservoir Clamp Bolt	6.2	0.63	55 in·lb	
Piston Stop Bolt	8.8	0.90	78 in·lb	
Brake Pipe Nipples	17.5	1.8	13	

Torque and Locking Agent

Fastener	Torque			Remarks
	N·m	kgf·m	ft·lb	
Brake Hose Banjo Bolts	25	2.5	18	
Front Master Cylinder Mounting Bolts	25	2.5	18	
Master Cylinder Bolt	25	2.5	18	
Push Rod Locknut	18	1.8	13	
Parking Brake Pedal Assy Mounting Bolts	42	4.3	31	
Front Brake Pad Mounting Bolts	17	1.7	13	
Caliper Bleed Valves	5.4	0.55	48 in·lb	
Brake Hose Clamp Bolts	8.8	0.90	78 in·lb	
Caliper Holder Shaft	17	1.7	13	
Brake Caliper Mounting Bolts	33	3.5	25	
Front Brake Disc Mounting Bolts	42	4.3	31	L
Parking Brake Indicator Light Switch Screws	0.4	0.04	3.5 in·lb	
Brake Hose Banjo Bolts	25	2.5	18	
Brake Pipe Nipples	17.5	1.8	13	
Rear Master Cylinder Bleed Valve	5.4	0.55	48 in·lb	
Rear Master Cylinder Mounting Bolts	27	2.8	20	L
Rear Final Gear Case Front Cover Bolts	24	2.4	18	
Spring Bracket Bolt	8.8	0.90	78 in·lb	L
Rear Final Gear Case Gasket Screws	1.3	0.13	12 in·lb	
Suspension				
Front Shock Absorber Mounting Nuts	58	5.9	43	
Front Suspension Arm Pivot Nuts	88	9.0	65	
Steering Knuckle Joint Nuts	47	4.8	35	
Rear Shock Absorber Mounting Nuts	96	9.8	71	
Rear Suspension Arm Pivot Nuts	88	9.0	65	
Rear Knuckle Mounting Nuts	58	5.9	43	
Stabilizer Joint Nuts	58	5.9	43	
Stabilizer Holder Bolts	32	3.3	24	L
Steering				
Steering Wheel Mounting Nut	54	5.5	40	
Steering Knuckle Joint Nuts	47	4.8	35	
Main Shaft Mounting Bolts	42	4.3	31	
Intermediate Shaft Clamp Bolts	23	2.3	17	
Steering Gear Assembly Nuts	96	9.8	71	
Tie-rod End Locknuts	44	4.5	32	
Tie-rod End Nuts	42	4.3	31	
Frame				
Right and Left Bar Mounting Bolts	98	10	72	
Upper Bar Mounting Bolts	47	4.8	35	
Back Bar Mounting Bolts	47	4.8	35	
Seat Belt Case Mounting Nuts	47	4.8	35	
Seat Belt Mounting Bolts	42	4.3	31	
Seat Belt Buckle Mounting Bolts	47	4.8	35	

Torque and Locking Agent

Fastener	Torque			Remarks
	N·m	kgf·m	ft·lb	
Brake Pedal Bracket Mounting Bolts	34.3	3.5	25	
Center Bracket Mounting Bolts	22	2.3	17	
Bracket Bolts	47	4.8	35	
Right Frame Pipe Mounting Bolts	34.3	3.5	25	
Electrical System				
Starter Motor Mounting Bolts	8.8	0.90	78 in·lb	
Starter Motor Terminal Locknut	11	1.1	97 in·lb	
Starter Motor Cable Mounting Nut	6.8	0.69	60 in·lb	
Starter Motor Through Bolts	5.0	0.51	44 in·lb	
Starter Motor Clutch Bolts	34	3.5	25	L
Left Engine Cover Bolts	5.9	0.60	52 in·lb	
Alternator Rotor Bolt	127	13	94	
Alternator Cover Plugs	17.5	1.8	13	
Crankshaft Sensor Mounting Bolts	5.9	0.60	52 in·lb	
Alternator Stator Bolts	13.5	1.4	10	
Alternator Cover Bolts, L=55 mm (2.17 in.)	8.8	0.90	78 in·lb	
Alternator Cover Bolts, L=30 mm (1.18 in.)	8.8	0.90	78 in·lb	
Ignition Coil Mounting Bolts	6.9	0.70	61 in·lb	
Spark Plugs	13	1.3	113 in·lb	
Vacuum Actuator Bracket Bolts	8.8	0.90	78 in·lb	
Igniter Mounting Bolts	6.9	0.70	61 in·lb	
Engine Brake Actuator Mounting Bolts	8.8	0.90	78 in·lb	S
Engine Brake Actuator Cover Bolt	8.8	0.90	78 in·lb	S
Forward/Reverse Detecting Sensor Mounting Bolt	14.9	1.5	11	
Speed Sensor Mounting Bolt	8.8	0.90	78 in·lb	
Reverse Position Switch	15	1.5	11	
Neutral Position Switch	15	1.5	11	
4WD Position Switch	15	1.5	11	
Water Temperature Switch	7.8	0.80	69 in·lb	SS
Radiator Fan Switch	18	1.8	13	
Radiator Fan Assembly Bolts	8.3	0.85	73 in·lb	
Oil Pressure Switch	15	1.5	11	SS
Battery Holder Mounting Nuts	4.9	0.50	43 in·lb	
Regulator/Rectifier Mounting Bolts	8.8	0.90	78 in·lb	

Torque and Locking Agent

The tables below, 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 of Engine Parts

Threads dia. mm (in.)	Mark of bolt head	Torque		
		N·m	kgf·m	ft·lb
5 (0.20)	4T	2.2 ~ 2.6	0.22 ~ 0.27	19 ~ 23 in·lb
6 (0.24)	9T	12 ~ 15	1.2 ~ 1.5	104 ~ 130 in·lb
6 (0.24)	7T	7.8 ~ 9.8	0.8 ~ 1.0	69 ~ 87 in·lb
6 (0.24)	4T	3.9 ~ 4.9	0.4 ~ 0.5	35 ~ 43 in·lb
8 (0.31)	7T	18 ~ 22	1.8 ~ 2.2	13 ~ 16
8 (0.31)	4T	10 ~ 14	1.0 ~ 1.4	87 ~ 122 in·lb
10 (0.39)	7T	39 ~ 44	4.0 ~ 4.5	29 ~ 33
10 (0.39)	4T	20 ~ 24	2.0 ~ 2.4	14 ~ 17

Basic Torque for General Fasteners of Frame Parts

Threads dia. mm (in.)	Torque		
	N·m	kgf·m	ft·lb
5 (0.20)	3.4 ~ 4.9	0.35 ~ 0.50	2.5 ~ 3.6
6 (0.24)	5.9 ~ 7.8	0.60 ~ 0.80	4.3 ~ 5.8
8 (0.31)	14 ~ 19	1.40 ~ 1.90	10 ~ 13
10 (0.39)	25 ~ 34	2.60 ~ 3.50	19 ~ 25
12 (0.47)	44 ~ 61	4.50 ~ 6.20	33 ~ 45
14 (0.55)	73 ~ 98	7.40 ~ 10.0	54 ~ 72
16 (0.63)	115 ~ 155	11.5 ~ 16.0	83 ~ 115
18 (0.71)	165 ~ 225	17.0 ~ 23.0	125 ~ 165
20 (0.79)	225 ~ 325	23.0 ~ 33.0	165 ~ 240

Specifications

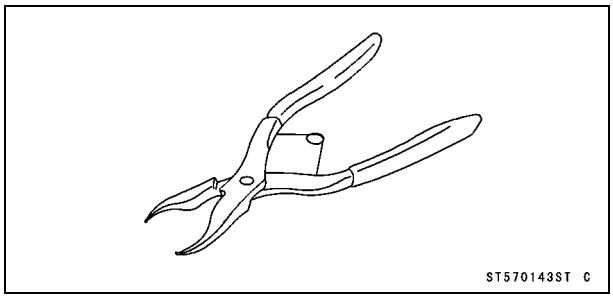
Item	Standard	Service Limit
Fuel System		
Throttle Pedal Free Play	5 ~ 10 mm (0.20 ~ 0.39 in.)	– – –
Choke Knob Free Play	0 ~ 1 mm (0 ~ 0.04 in.)	– – –
Idle Speed	1 250 ±50 r/min (rpm)	– – –
Air Cleaner Element Oil	High-quality foam air filter oil	– – –
Cooling System		
Coolant:		
Type (Recommended)	Permanent type of anitfreze (soft water and ethylene glycol plus corrosion and rust inhibitor chemicals for aluminum engines and radiators)	– – –
Color	Green	– – –
Mixed Ratio	Soft water 50%, Coolant 50%	– – –
Freezing Point	−35°C (−31°F)	– – –
Total Amount	3.1 L (3.3 US qt.)	– – –
Engine Top End		
Valve Clearance:		
Exhaust	0.20 ~ 0.25 mm (0.0079 ~ 0.0098 in.)	– – –
Inlet	0.10 ~ 0.15 mm (0.0039 ~ 0.0059 in.)	– – –
Converter System		
Belt Width	30.0 ~ 30.6 mm (1.181 ~ 1.205 in.)	28.3 mm (1.114 in.)
Belt Deflection	22 ~ 27 mm (0.87 ~ 1.06 in.)	– – –
Actuator Lever Guide Shoe Wear	– – –	6 mm (0.24 in.)
Engine Lubrication System		
Engine Oil:		
Type	API SF or SG	– – –
	API SH, SJ or SL with JASO MA	– – –
Viscosity	SAE10W-40	– – –
Capacity	2.1 L (2.2 US qt) (When filter is not removed)	– – –
	2.2 L (2.3 US qt) (When filter is removed)	– – –
	2.3 L (2.4 US qt) (When engine is completely dry)	– – –
Wheels/Tires		
Tire Tread Depth:		
Front	– – –	4 mm (0.16 in.)
Rear	– – –	4 mm (0.16 in.)
Standard tire:		
Front	26 × 8.00-12	– – –
	MAXXIS, M989, Tubeless	– – –
Rear	26 × 10.00-12	– – –
	MAXXIS, M990, Tubeless	– – –

Specifications

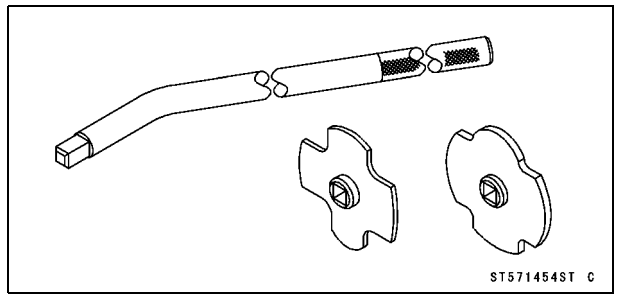
Item	Standard	Service Limit
Final Drive		
Front Final Gear Case:		
Gear Case Oil:		
Type	API SF or SG	– – –
	API SH, SJ or SL with JASO MA	– – –
Viscosity	SAE 10W-40	– – –
Oil Level	Filler opening bottom	– – –
Capacity	0.9 L (0.95 US qt)	– – –
Rear Final Gear Case:		
Gear Case Oil:		
Type	MOBIL FLUID 424, CITGO TRANSGARD TRACTOR HYDRAULIC FLUID, or EXXON HYDRAUL 560	– – –
Oil Level	Filler opening bottom	– – –
Capacity	1 L (1.06 US qt)	– – –
Brakes		
Brake Fluid:		
Type	DOT 3	– – –
Brake Pads:		
Pad Lining Thickness	3.9 mm (0.15 in.)	1 mm (0.04 in.)
Brake Pedal:		
Brake Pedal Free Play	2 ~ 10 mm (0.08 ~ 0.39 in.)	– – –
Steering		
Steering Wheel Free Play	0 ~ 20 mm (0 ~ 0.79 in.)	– – –
Electrical System		
Spark Plug Gap	0.7 ~ 0.8 mm (0.028 ~ 0.031 in.)	– – –
Rear Brake Light Switch Timing	ON after 10 mm (0.4 in.) of pedal travel	– – –

Special Tools

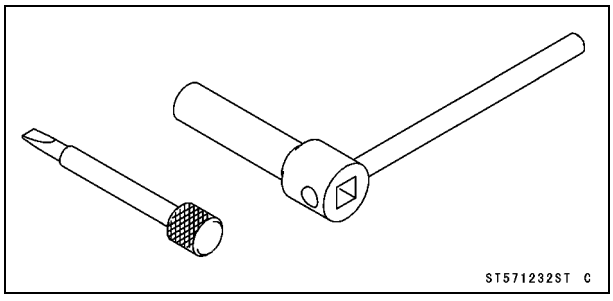
Inside Circlip Pliers:
57001-143



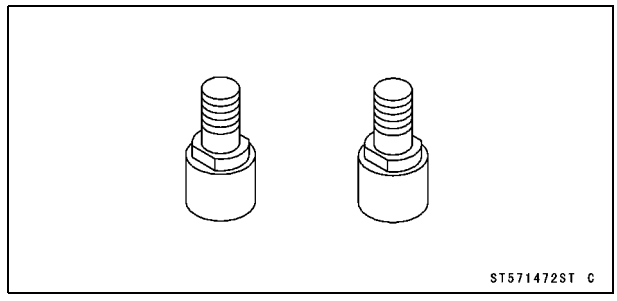
Filler Cap Driver:
57001-1454



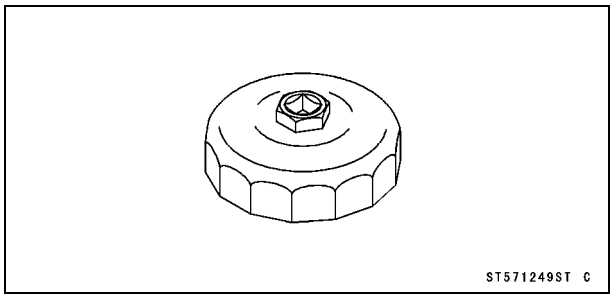
Valve Adjuster:
57001-1232



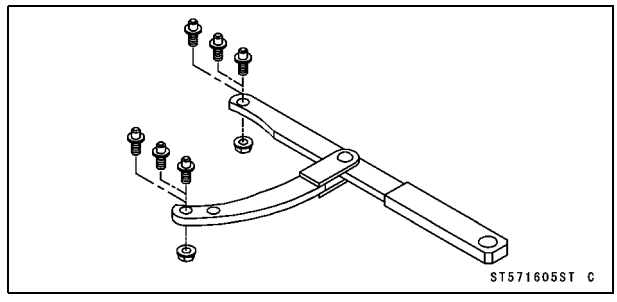
Pulley Holder Attachment:
57001-1472



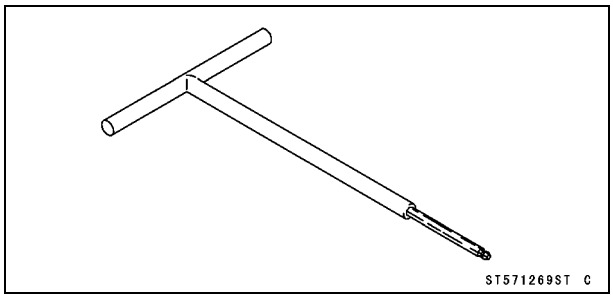
Oil Filter Wrench:
57001-1249



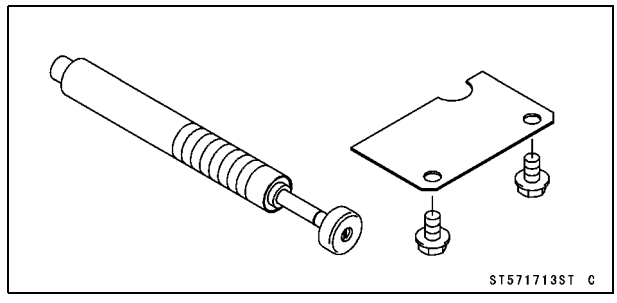
Flywheel & Pulley Holder:
57001-1605



Carburetor Drain Plug Wrench, Hex 3:
57001-1269



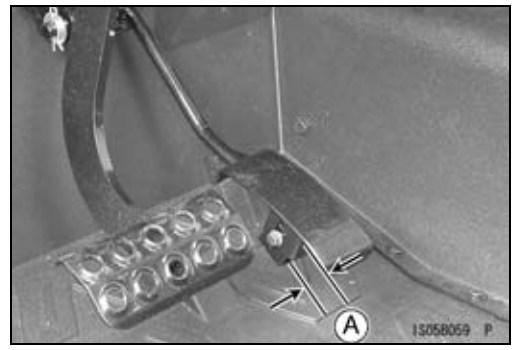
Belt Deflection Gauge:
57001-1713



Periodic Maintenance Procedures

Fuel System

Throttle Pedal Free Play Inspection



- Check that the throttle pedal moves smoothly from full open to close.

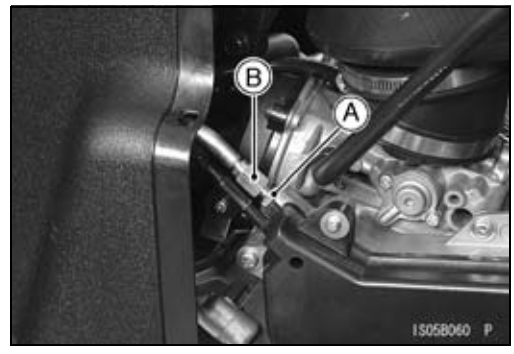
★If the throttle pedal does not return properly, lubricate the throttle cable (see Throttle Cable Lubrication in the Fuel System chapter).

- Check the throttle pedal play [A].

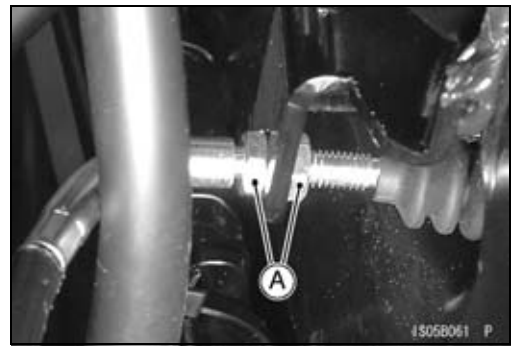
Throttle Pedal Play
Standard: 5 ~ 10 mm (0.20 ~ 0.39 in.)

★If the play is incorrect, adjust the throttle cable.

Throttle Pedal Play Adjustment



- Remove:
  Engine Upper Cover (see Engine Upper Cover Removal in the Frame chapter)
- Loosen the locknut [A] and turn the adjusting nut [B] on the throttle cable until the cable has proper amount of play.
- Tighten the locknut securely after adjustment.
- Install:
  Engine Upper Cover (see Engine Upper Cover Installation in the Frame chapter)



★If the free play cannot be adjusted by using the rear cable adjusting nut, use the cable adjusting nuts [A] at front of the floorboard and make the necessary free play.

- Start the engine.
- With the transmission in neutral, operate the throttle pedal a few times to make sure that the idle speed does not change.

★If the idle speed does change, the throttle cable may be improperly adjusted, incorrectly routed, or it may be damaged.

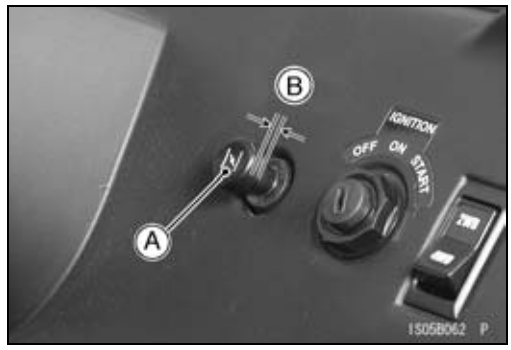
- Correct any of these conditions before operation.

⚠ WARNING

Operation with improperly adjusted, incorrectly routed, or a damaged cable could result in an unsafe operating condition.

Periodic Maintenance Procedures

Choke Knob Free Play Inspection



- Check that the choke knob [A] returns properly and that the inner cable slides smoothly.

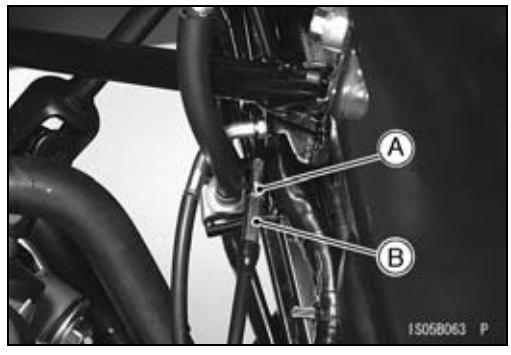
★If the choke knob does not return properly, lubricate the choke cable (see Lubrication).

- Make sure that the choke knob returns to its released position all the way.
- To determine the amount of choke cable play at the knob, pull the choke knob out until resistance is felt; the amount of choke knob travel is the amount of cable free play.
- The proper amount [B] of play is 0 ~ 1 mm (0 ~ 0.04 in.) at the choke knob.

★If there is too much or too little play, adjust the choke cable.

Choke Knob Free Play
Standard: 0 ~ 1 mm (0 ~ 0.04 in.)

Choke Knob Play Adjustment



- Loosen the locknut [A] and turn the adjuster [B] until the cable has the proper amount of play.
- Tighten the locknut securely after adjustment.

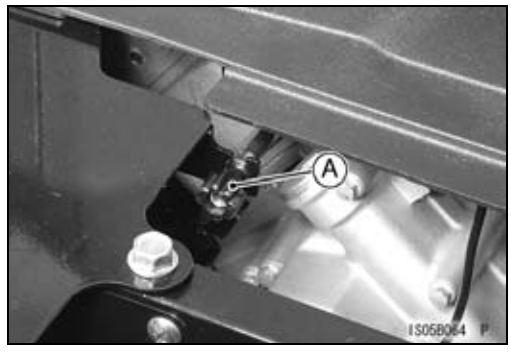
Idle Speed Inspection

- Start the engine and warm it up thoroughly.
- Check the idle speed with a suitable tachometer.

★If the idle speed is out of the specified range, adjust it.

Idle Speed
Standard: 1 250 ±50 r/min (rpm)

Idle Speed Adjustment



- Start the engine and warm it up thoroughly.
- Remove:
  Left Seat (see Seat Removal in the Frame chapter)
- Turn the idle adjusting screw [A] until the idle speed is correct.

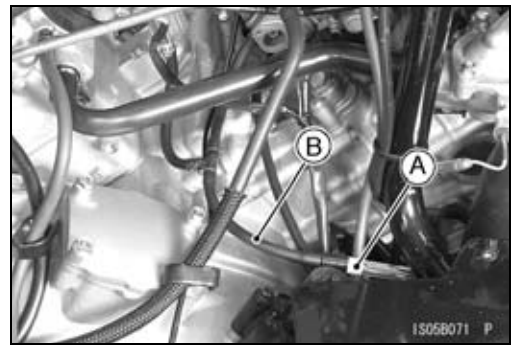
○Open and close the throttle a few times to make sure that the idle speed is within the specified range.

Periodic Maintenance Procedures

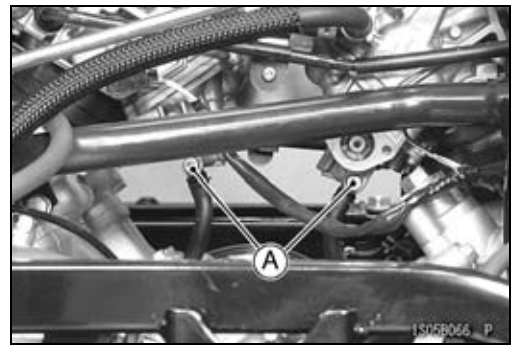
Fuel System Cleanliness Inspection

⚠ WARNING

Gasoline is extremely flammable and can be explosive under certain conditions. Turn the ignition switch OFF. Do not smoke. Make sure the area is well-ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.



- Remove:
  Engine Upper Cover (see Engine Upper Cover Removal in the Frame chapter)
- Remove the check valve [A] at the end of the carburetor overflow hose [B].
- Run the lower end of the carburetor overflow hose to a suitable container.



- Turn out the carburetor drain plugs [A] a few turns and drain the fuel.

Special Tool - Carburetor Drain Plug Wrench, Hex 3: 57001-1269

- Check to see if water or dirt comes out.
- Tighten the drain plugs.

★If any water or dirt appears during the above inspection, clean the fuel system (carburetor, fuel pump, fuel tank, fuel hose).

Air Cleaner Element Cleaning and Inspection

NOTE

○*In dusty areas, the element should be cleaned more frequently than the recommended interval.*

○*After riding through rain or muddy terrains, the element should be cleaned immediately.*

○*Also, if there is a break in the element material or any other damage to the element, replace the element with a new one.*

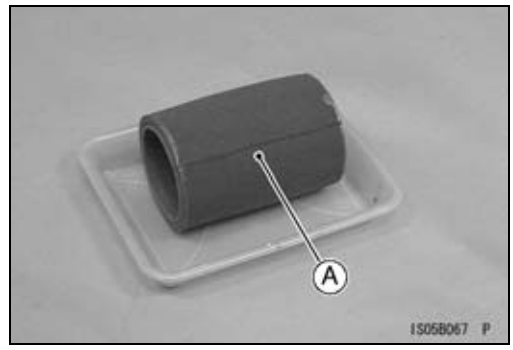
⚠ WARNING

Clean the element in a well-ventilated area, and take care that there are no sparks or flame anywhere near the working area; this includes any appliance with a pilot light. Because of the danger of highly flammable liquids, do not use gasoline or a low-flash point solvent to clean the foam element.

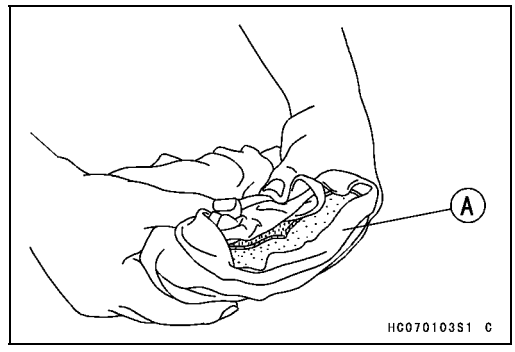
- Remove the air cleaner element (see Air Cleaner Element Removal in the Fuel System chapter).

Periodic Maintenance Procedures

● Clean the element [A] in a bath of high-flash point solvent.

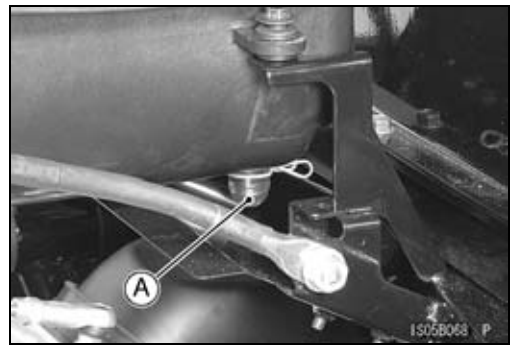


● Squeeze it dry in a clean towel [A]. Do not wring the element or blow it dry; the element can be damaged.
● Inspect the element for damage.
★If it is torn, punctured, or hardened, replace it.
● After cleaning, saturate the element with a high-quality foam-air-filter oil, squeeze out the excess oil, then wrap it in a clean rag and squeeze it as dry as possible. Be careful not to tear the element.



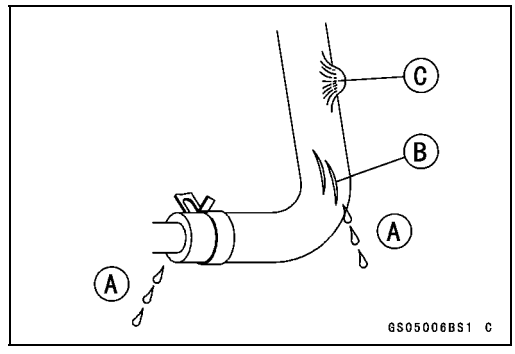
Air Cleaner Draining

● Remove:
Engine Upper Cover (see Engine Upper Cover Removal in the Frame chapter)
★If any water or oil accumulates in the drain boot [A] , drain it by removing the plug. After draining, be sure to install the drain boot and clamp firmly.



Fuel Hoses and Connections Inspection

○The fuel hoses are designed to be used throughout the vehicle life without any maintenance, however, if the vehicle is not properly handled, the pressure inside the fuel line can cause fuel to leak [A] or the hose to burst. Check the fuel hose.
★Replace the fuel hose if any fraying, cracks [B] or bulges [C] are noticed.
● Check that the hoses are securely connected and clamps are installed correctly.



● When installing the fuel hoses, route the hoses according to Cable, Wire, and Hose Routing section in the Appendix chapter.
● When installing the fuel hoses, avoid sharp bending, kinking, flattening or twisting, and route the fuel hoses with a minimum of bending so that the fuel flow will not be obstructed.
★Replace the hose if it has been sharply bent or kinked.

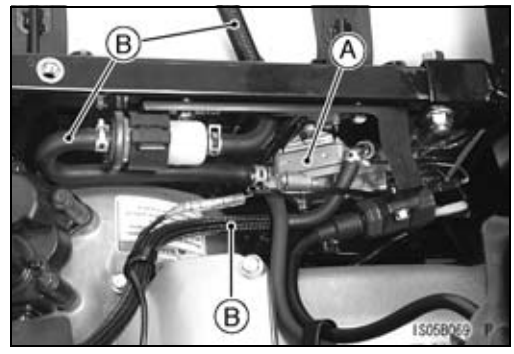
Periodic Maintenance Procedures

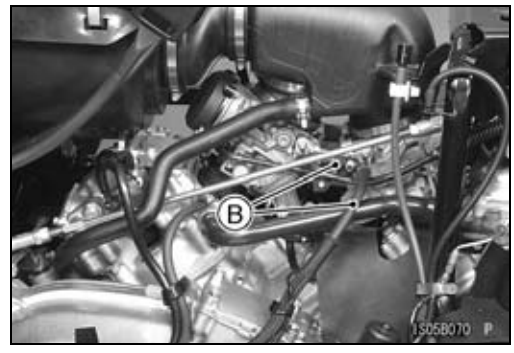
Fuel Hose Replacement

⚠ WARNING

Gasoline is extremely flammable and can be explosive under certain conditions. Turn the ignition switch OFF. Do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.

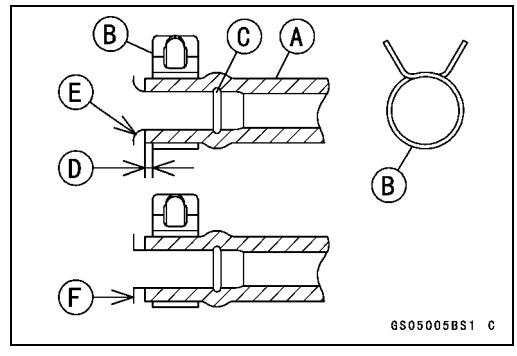
- Remove:
  Engine Upper Cover (see Engine Upper Cover Removal in the Frame chater)
  Fuel Pump [A] (see Fuel Pump Removal in the Fuel System chapter)
  Clamps
  Fuel Hoses [B]
- Replace the fuel hoses with new ones.
- When installing the fuel hose, route the hose according to Cable, Wire, and Hose Routing section in Appendix chapter.
- When installing the fuel hose, avoid sharp bending, kinking, flattening or twisting, and route the fuel hose with a minimum of bending so that the fuel flow will not be obstructed.





- Fit the fuel hose [A] onto the fitting fully and install the plate clamp [B] beyond the raised rib [C].
  1 ~ 2 mm (0.0039 ~ 0.0078 in.) [D]

○The hose end must reach the fillet [E] or be as near as possible to the step [F].



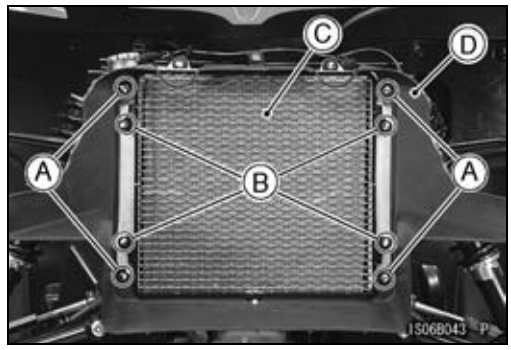
Cooling System

Radiator Cleaning

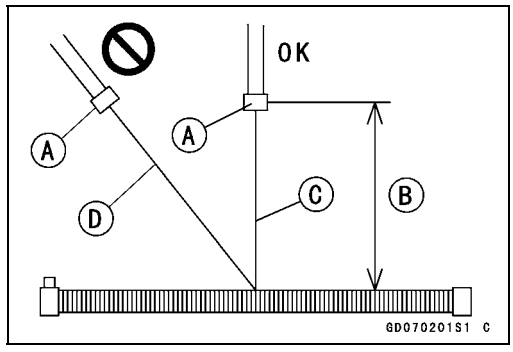
CAUTION

Clean the radiator screen and the radiator in accordance with the Periodic Maintenance Chart. In dusty areas, they should be cleaned more frequently than the recommended interval. After riding through muddy terrains, the radiator screen and the radiator should be cleaned immediately.

Periodic Maintenance Procedures



- Lift and hold the front fender (see Front Fender Removal in the Frame chapter).
- Remove:
  Front Guard (see Front Guard Removal in the Frame chapter)
  Shroud Mounting Screws [A]
  Radiator Screen Mounting Screws [B]
  Radiator Screen [C] and Shroud [D]
- Clean the radiator screen in a bath of tap water, and then dry it with compressed air or by shaking it.

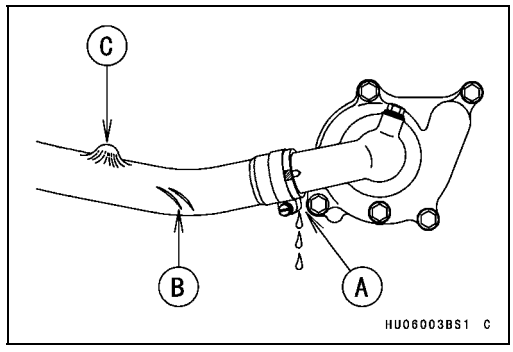


- Clean the radiator.

CAUTION

When cleaning the radiator with steam cleaner, be careful of the following to prevent radiator damage.
Keep the steam gun [A] away more than 0.5 m (20 in.) [B] from the radiator core.
Hold the steam gun perpendicular [C] (not oblique [D]) to the core surface.
Run the steam gun following the core fin direction.

Water Hoses and Connections Inspection



○The high pressure inside the water hose can cause coolant to leak [A] or the hose to burst if the line is not properly maintained. Visually inspect the hoses for signs of deterioration. Squeeze the hoses. A hose should not be hard and brittle, nor should it be soft or swollen.

★Replace the hose if any fraying, cracks [B] or bulges [C] are noticed.

- Check that the hoses are securely connected and clamps are tightened correctly.

Coolant Change

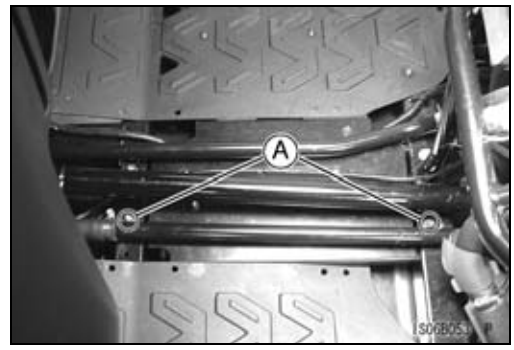
⚠ WARNING

To avoid burns, do not remove the radiator cap or try to change the coolant when the engine is still hot. Wait until it cools down.
Coolant on tires will make them slippery and can cause an accident and injury. Immediately wash away any coolant that spills on the frame, engine, or wheels.
Since coolant is harmful to the human body, do not use for drinking.

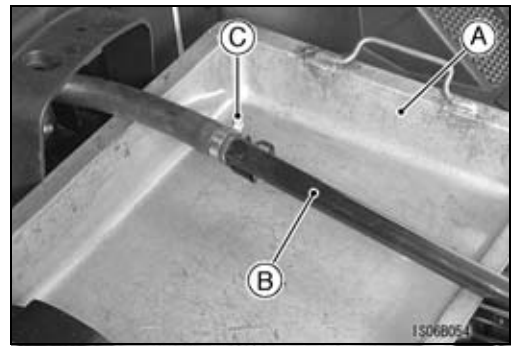
- Lift and hold the front fender (see Front Fender Removal in the Frame chapter).
- Remove:
  Engine Upper Cover (see Engine Upper Cover Removal in the Frame chapter)
  Seat Lower Cover (see Seat Lower Cover Removal in the Frame chapter)
  Seat Lower Plates (see Seat Lower Right Plate Removal in the Frame chapter)

Periodic Maintenance Procedures

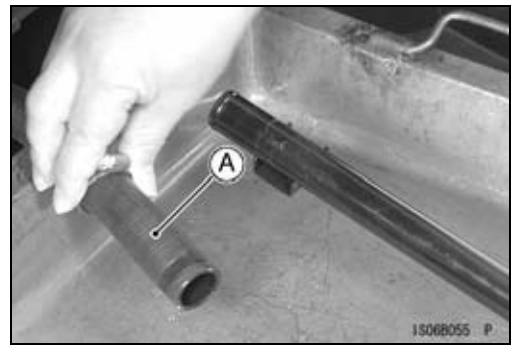
- Remove:
  Left Water Pipe Bolts [A]



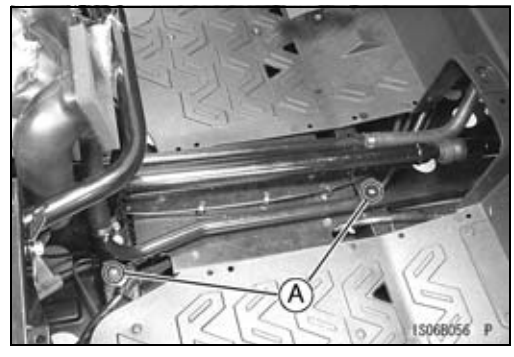
- Place a container [A] under the water pipe [B].
- Loosen the clamp screws [C].



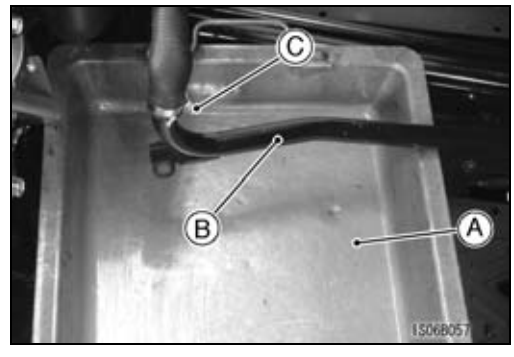
- Remove the water hose [A] from the water pipe and drain the coolant in the container.



- Remove:
  Right Water Pipe Bolts [A]



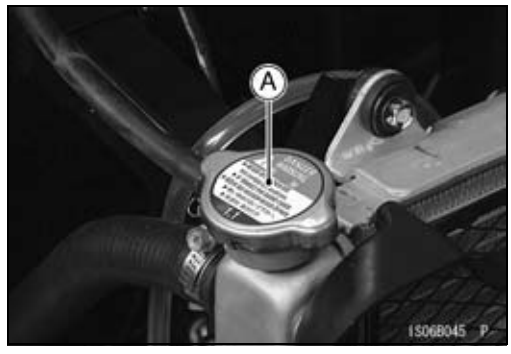
- Place a container [A] under the water pipe [B].
- Loosen the clamp screws [C].



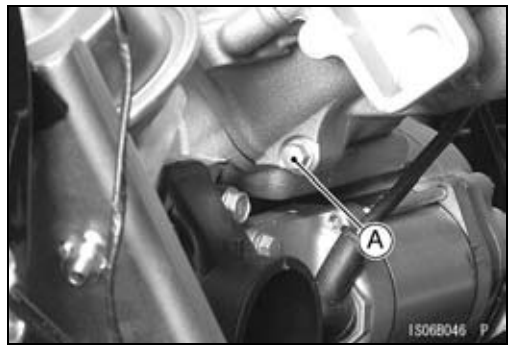
Periodic Maintenance Procedures

- Remove the water hose [A] from the water pipe and drain the coolant in the container.

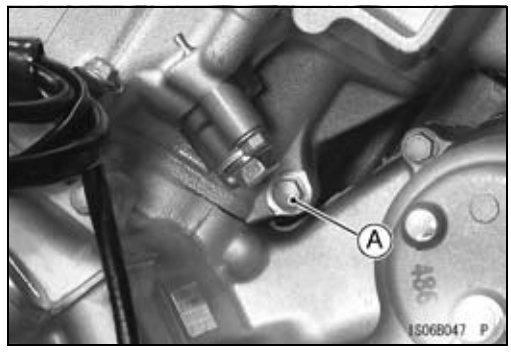
- Remove the radiator cap [A] in two steps. First, turn the cap counterclockwise to the first step. Then push and turn it further in the same direction and remove the cap.



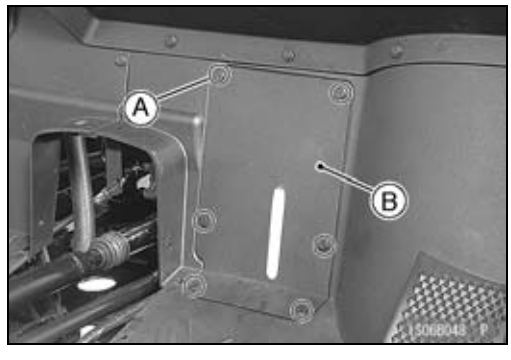
- Remove:
  Torque Converter Inlet Duct
- Place a container under the drain plug [A] at the front cylinder, then remove the drain plug.



- Place a container under the drain plug [A] at the rear cylinder, then remove the drain plug.

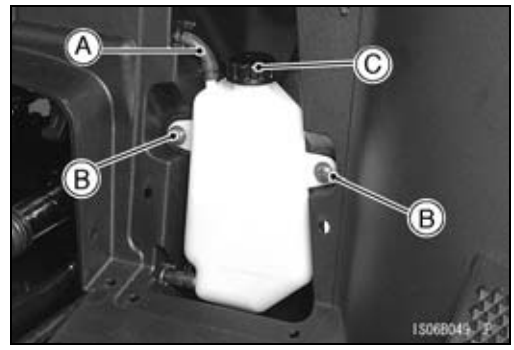


- Remove:
  Quick Rivets [A]
  Cover [B]



Periodic Maintenance Procedures

- Remove:
  Overflow Hose [A] and Clamp
  Screws [B]
- Remove the reserve tank cap [C], and pour the coolant into a container.

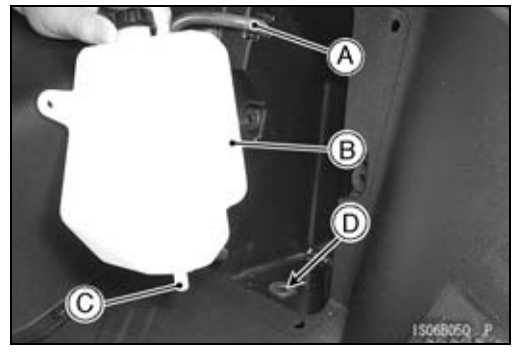


- Install the water hoses to the water pipes and tighten the clamp screw.

- Install:
  Overflow Hose [A] and Clamp
  Reserve Tank [B]

○Insert the projection [C] into the grommet [D].

- Tighten the screws.



- Fill the radiator up to the radiator filler neck [A] with coolant.

NOTE

○*Pour in the coolant slowly so that the air in the engine and radiator can escape.*

- Fill the reserve tank up to the F (Full) level line with coolant.

NOTE

○*Pour in the coolant slowly so that the air in the engine and radiator can escape.*

CAUTION

Soft or distilled water must be used with the antifreeze in the cooling system.
If hard water is used in the system, it causes scale accumulation in the water passages, considerably reducing the efficiency of the cooling system.

Water and Coolant Mixture Ratio (when shipping)

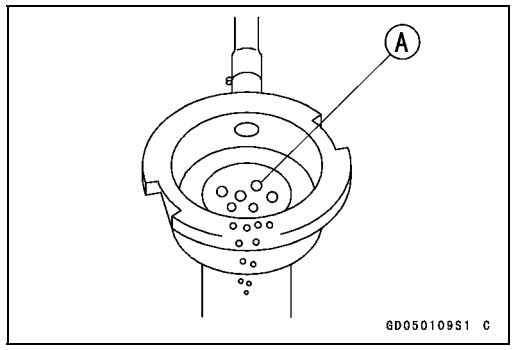
Soft Water:	**50%**
Coolant:	**50%**
Freezing Point:	**−35°C (−31°F)**
Total Amount:	**3.1 L (3.3 US qt)**

NOTE

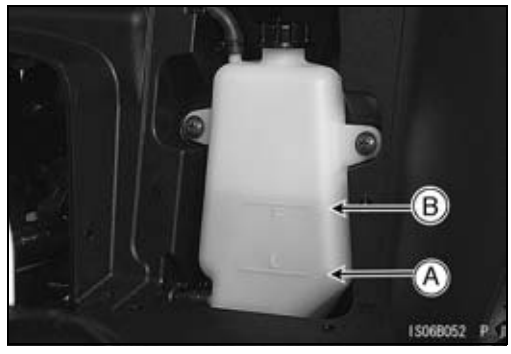
○*Choose a suitable mixture ratio by referring to the coolant manufacturer's directions.*

Periodic Maintenance Procedures

● Bleed the air from the cooling system as follows.
○Start the engine with the radiator cap removed and run it until no more air bubbles [A] can be seen in the coolant.
○Tap the radiator hoses to force any air bubbles caught inside.
○Stop the engine and add coolant up to the radiator filler neck.
● Install the radiator cap.



● Start the engine, warm it up thoroughly until the radiator fan turns on and then stop the engine.
● Check the coolant level in the reserve tank after the engine cools down.
★If the coolant level is lower than the L (Low) level line [A], add coolant to the F (Full) level line [B].



CAUTION
Do not add more coolant above the full level line.

● Install the reserve tank cap.

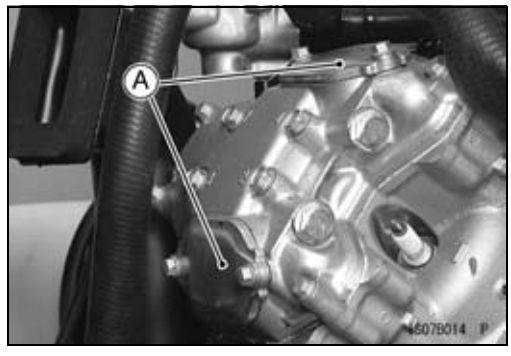
Engine Top End

Valve Clearance Inspection

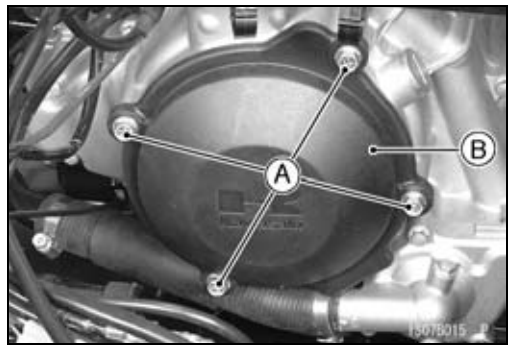
NOTE

○*Check the valve clearance only when the engine is cold (at room temperature).*

● Remove:
Seat Lower Cover (see Seat Lower Cover Removal in the Frame chapter)
Valve Adjusting Cap [A]



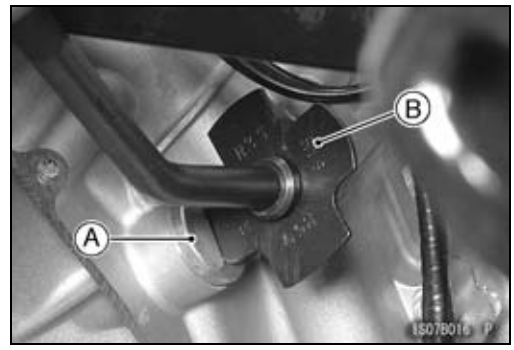
● Remove:
Left Cover (see Left Cover Removal in the Frame chapter)
Bolts [A] and Engine Left Cover [B]



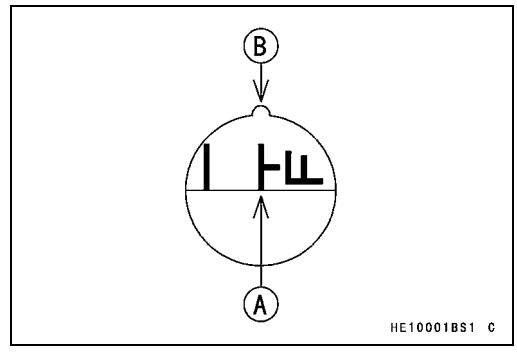
Periodic Maintenance Procedures

● Remove the timing inspection plug [A].

Special Tool - Filler Cap Driver [B]: 57001-1454



● Turn the crankshaft **counterclockwise** with a wrench on the alternator rotor bolt until “T-F” mark [A] on the alternator rotor aligns with the notch [B] as shown: the end of the compression stroke in the front cylinder head.



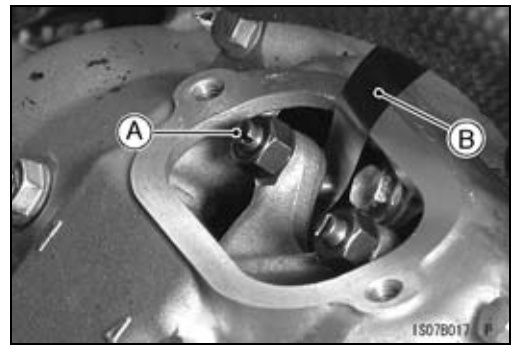
● Measure the clearance for all four valves, one at a time between the end of the valve stem and the adjusting screw [A] with the thickness gauge [B].

Valve Clearance (when cold)

Exhaust 0.20 ~ 0.25 mm (0.0079 ~ 0.0098 in.)

Inlet 0.10 ~ 0.15 mm (0.0039 ~ 0.0059 in.)

★If the valve clearance is not correct, adjust it (see Valve Clearance Adjustment).



● Then, turn the crankshaft **counterclockwise** with a wrench on the alternator rotor bolt until “T-R” mark [A] on the alternator rotor aligns with the notch [B] as shown: the end of the compression stroke in the rear cylinder head.

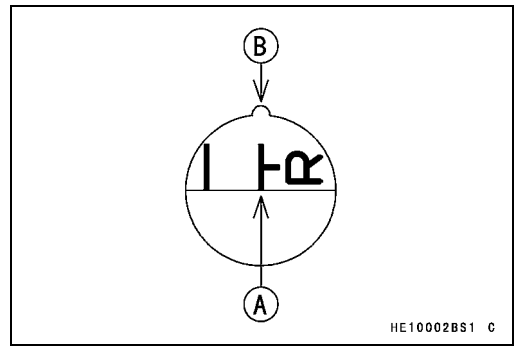
● Measure the clearance for all four valves, one at a time between the end of the valve stem and the adjusting screw with the thickness gauge.

Valve Clearance (when cold)

Exhaust 0.20 ~ 0.25 mm (0.0079 ~ 0.0098 in.)

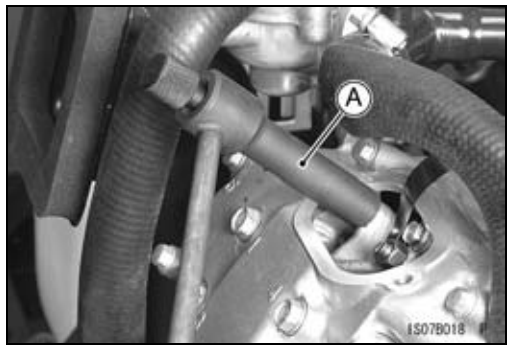
Inlet 0.10 ~ 0.15 mm (0.0039 ~ 0.0059 in.)

★If the valve clearance is not correct, adjust it (see Valve Clearance Adjustment).



Periodic Maintenance Procedures

Valve Clearance Adjustment



- Remove the valve adjusting caps.
- Loosen the locknut and turn the adjusting screw until the clearance is correct.
- Using the valve adjuster [A], hold the adjusting screw from turning and tighten the locknut.

Special Tool - Valve Adjuster: 57001-1232

Torque - Valve Adjusting Screw Locknuts: 12 N·m (1.2 kgf·m, 104 in·lb)

- Recheck the clearance.

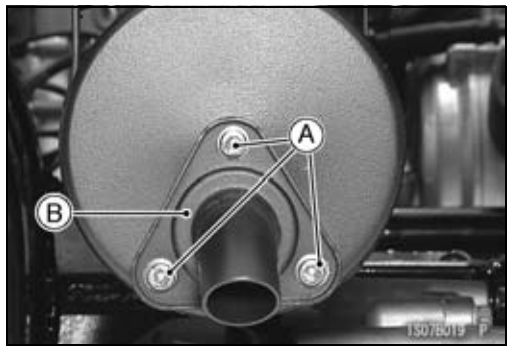
★If the clearance is incorrect, repeat the adjustment procedure.

★If the clearance is correct, perform the adjustment procedure on the other valve.

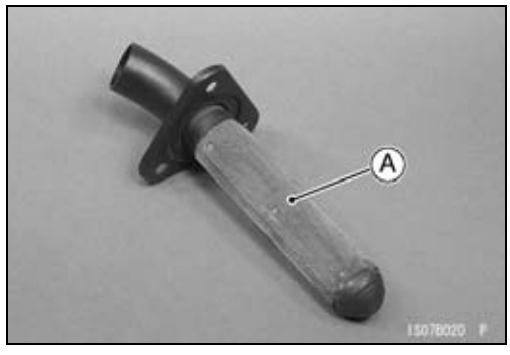
Spark Arrester Cleaning

⚠ WARNING

To avoid burns, wear gloves while cleaning the spark arrester. Since the engine must be run during this procedure, the muffler will become hot.



- Remove:
  Bolts [A]
  Spark Arrester [B]



- Clean the spark arrester [A] in a bath of high-flash point solvent and if necessary use a fine wire brush to gently remove any particles in the screen.

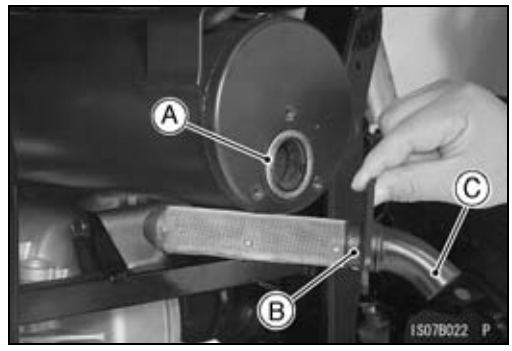
- In an open area away from combustible materials, start the engine with the transmission in neutral.
- Raise and lower engine speed while tapping on the muffler with a rubber mallet until carbon particles are purged from the muffler.

Periodic Maintenance Procedures

⚠ WARNING

Do not run the engine in a closed area. Exhaust gases contain carbon monoxide; a colorless, odorless, poisonous gas. Breathing exhaust gas leads to carbon monoxide poisoning, asphyxiation, and death.

- Stop the engine.



- Apply grease to the new gasket [A] and install it on the muffler.
- Install the spark arrester [B] so that the opening [C] of the pipe faces downward.
- Tighten:

Torque - Spark Arrester Mounting Bolts: 8.8 N·m (0.90 kgf·m,78 in·lb)

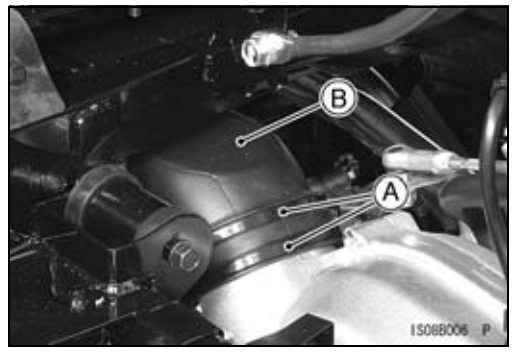
Converter System

Converter Drive Belt Wear Inspection

Inspection of the drive belt is required at least every 200 hours, 6 months of vehicle use or 4 000 km (2 500 mi.) whichever comes first. An average day of use is calculated as 20 km (13 mi.) per day or 1.1 hours. More frequent inspection is necessary if the vehicle is subjected to hard usage.

⚠ WARNING

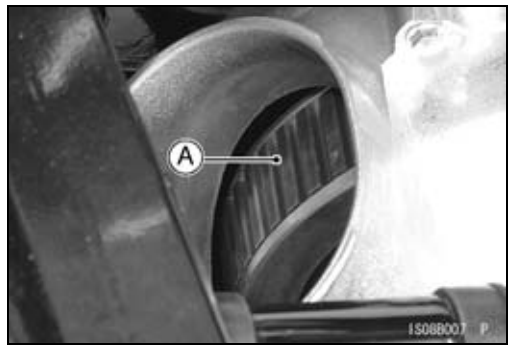
Neglect, abuse, or failure to maintain the transmission can result in a severely worn or damaged drive belt locking up the transmission and wheels. This can cause the operator to lose control and have an accident resulting in injury or death.



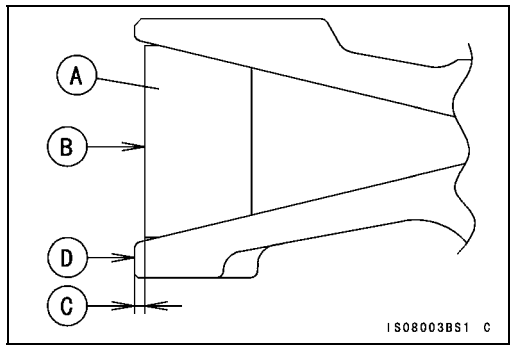
- Remove:
  Engine Upper Cover (see Engine Upper Cover Removal in the Frame chapter)
  Bands [A] (cut)
  Air Outlet Duct [B]

Periodic Maintenance Procedures

● Check the belt [A] for breaks.
★If necessary, replace the belt.



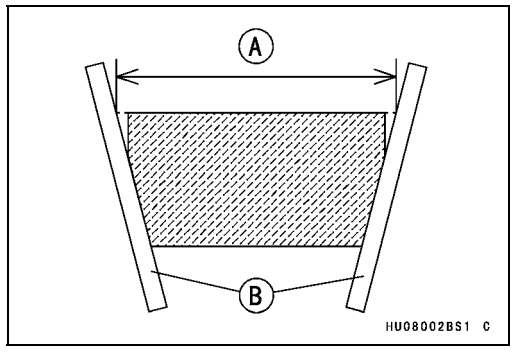
● Push the drive belt [A] between the driven sheaves and check the belt position in the driven sheaves.
★If the upper surface [B] of the drive belt is lowered 1.5 mm (0.059 in.) [C] or more from the edge [D] of sheaves, check the belt wear as follows.



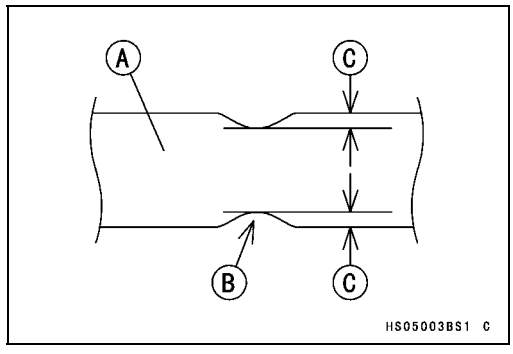
● Remove the torque converter cover (see Torque Converter Cover Removal in the Converter System chapter).
● Measure the width [A] of the belt at several locations with a pair of suitable straightedges [B] as shown.
★If any measurements exceed the service limit, replace the belt.

Belt Width

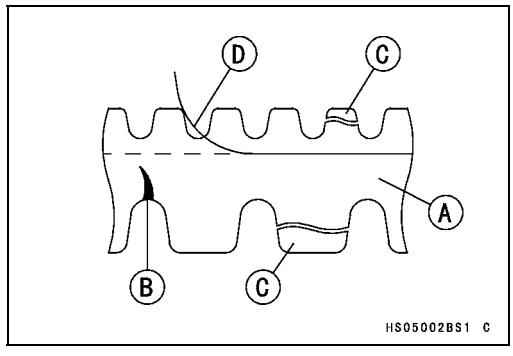
Standard:	**30.0 ~ 30.6 mm (1.181 ~ 1.205 in.)**
Service Limit:	**28.3 mm (1.114 in.)**



● Check the belt [A] for abnormal wear [B].
○Measure the width [C] of the belt at abnormal wear point.
★If any measurements exceed 0.5 mm (0.02 in.), replace the belt.



● Check the belt for cracks, breaks, or peeling.
★If necessary, replace the belt.
Belt [A]
Crack [B]
Broken [C]
Peeling [D]



Periodic Maintenance Procedures

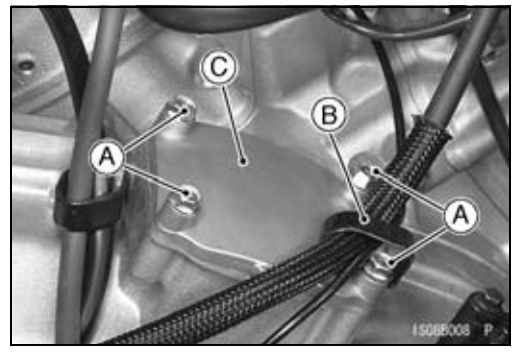
NOTE

○*Whenever the belt is replaced, inspect the drive and the driven pulleys.*

- Install the air outlet duct (see Torque Converter Cover Installation in the Converter System chapter

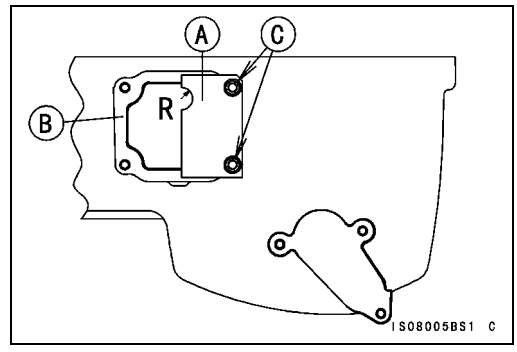
Drive Belt Deflection Inspection

- Put the transmission in neutral and rotate the driven pulley by hand to make sure the belt is shifted all the way to the top of the driven pulley.
- Remove:
  Engine Upper Cover (see Engine Upper Cover Removal in the Frame chapter)
  Bolts [A]
  Clamp [B]
  Cover [C]



- Set the cover plate [A] on the torque converter cover [B] with two bolts [C].

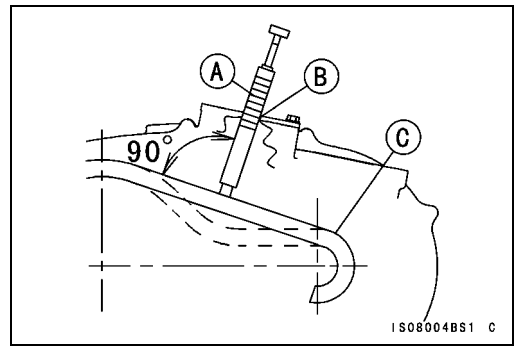
Special Tools - Belt Deflection Gauge: 57001-1713



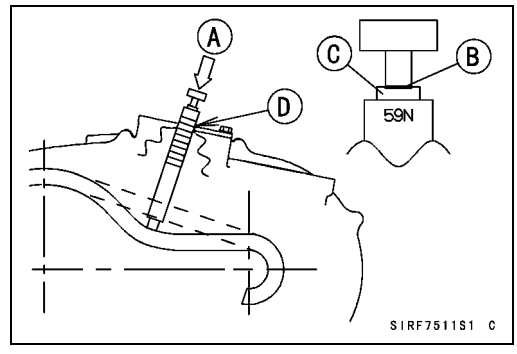
- Set the belt deflection gauge [A] along with the semi-circle cutout [B] in the cover plate and put the flat end of the gauge at right angle on the belt [C].

NOTE

○*Take care not to drop the gauge in the converter cover.*



- Make a mark on the gauge outside to match the upper surface of the cover plate.
- Press [A] the gauge head until the 59 N scale line [B] comes to the top surface of the stopper [C].
- Make a mark [D] on the gauge outside to match the upper surface of the cover plate.
- Remove the gauge and measure the distance between the two marks. The distance is the belt deflection.



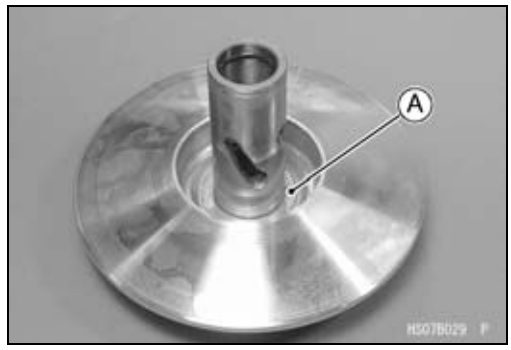
Belt Deflection
Standard: 22 ~ 27 mm (0.87 ~ 1.06 in.)

★If the belt deflection is not within the specified range, adjust the deflection by adding or removing spacers on the fixed sheave of the driven pulley.

- When adjusting the deflection, less is better than more. Less deflection will maintain better performance for more time as the belt width decreases by normal wear, which causes the deflection to increase with usage.

Periodic Maintenance Procedures

Converter Drive Belt Deflection Adjustment



- Disassemble the driven pulley (see Driven Pulley Disassembly in the Converter System chapter).

★If the belt deflection is more than 27 mm (1.06 in.), remove the spacers to decrease it.

○The rule-of-thumb is: 0.1 mm (0.004 in.) change in spacer thickness equals about 1.3 mm (0.051 in.) change in belt deflection.

★If the adjustment cannot be done within the specified range even if the shim is removed, replace the drive belt.

★If the belt deflection is less than 22 mm (0.87 in.), add the spacers [A] to increase it.

○The rule-of-thumb is: 0.1 mm (0.004 in.) change in spacer thickness equals about 1.6 mm (0.063 in.) change in belt deflection.

NOTE

○*When using the plural spacers, install the thick spacer to the movable sheave side and thin spacer to the fixed sheave side.*

Spacers

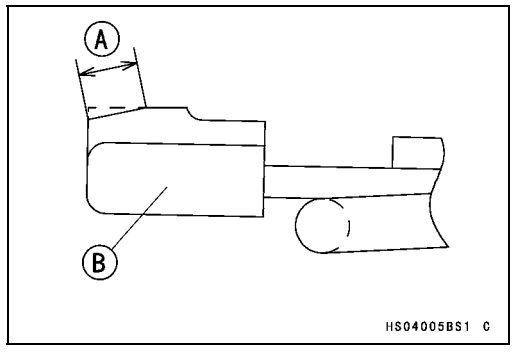
Part No.	Thickness
92026-0034	0.3 mm (0.012 in.)
92026-1569	0.6 mm (0.024 in.)
92026-1617	0.8 mm (0.031 in.)
92026-1565	1.0 mm (0.039 in.)
92026-1570	1.4 mm (0.055 in.)

- Assemble the driven pulley (see Driven Pulley Assembly in the Converter System chapter).
- With the transmission in neutral, rotate the driven pulley to allow the belt to return to the top of the sheaves before measuring the belt deflection.
- Measure the belt deflection again and repeat the above procedures until it is within the standard range.
- Using the flywheel & pulley holder and pulley holder attachment, tighten the driven pulley nut.

Special Tools - Flywheel & Pulley Holder: 57001-1605
Pulley Holder Attachment: 57001-1472

Torque - Driven Pulley Nut: 93 N·m (9.5 kgf·m, 69 ft·lb)

Actuator Lever (Engine Brake Control Lever) Assembly Inspection



- Remove the torque converter cover (see Torque Converter Cover Removal in the Converter System chapter).
- Measure the width [A] of the plastic guide shoe [B] of the actuator lever assembly.

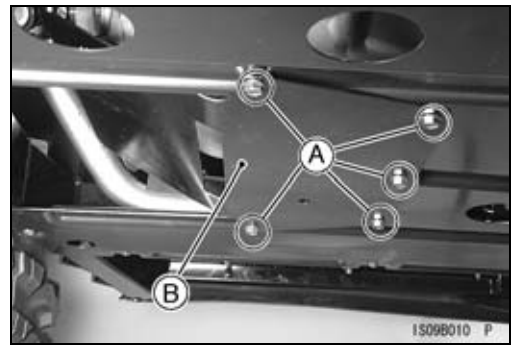
★If the guide contact area width is greater than the service limit, replace the actuator lever assembly.

Actuator Lever Guide Shoe
Service Limit: 6 mm (0.24 in.)

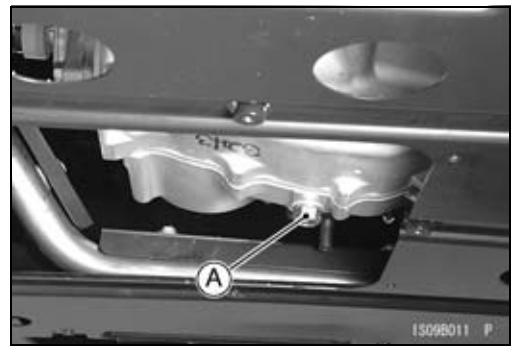
Periodic Maintenance Procedures

Engine Lubrication System

Engine Oil Change



- Remove:
  Bottom Guard Bolts [A]
  Bottom Guard [B]

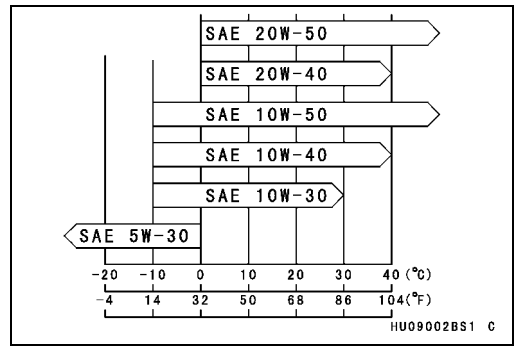


- Support the vehicle so that it is level, both side to side and front to rear after warming up the engine.
- Remove the engine oil drain plug [A] to drain the oil.

○The oil in the filter can be drained by removing the filter (see Oil Filter Change).

- Replace the oil drain plug gasket with a new one.
- Tighten:

Torque - Engine Oil Drain Plug: 20 N·m (2.0 kgf·m, 14 ft·lb)



- Pour in the specified type and amount of oil.

Engine Oil

Type:	**API SF or SG**
	API SH, SJ or SL with JASO MA
Viscosity:	**SAE 10W-40**
Amount:	**2.1 L (2.2 US qt)**
	(When filter is not removed)
	2.2 L (2.3 US qt)
	(When filter is removed)
	2.3 L (2.4 US qt)
	(When engine is completely dry)

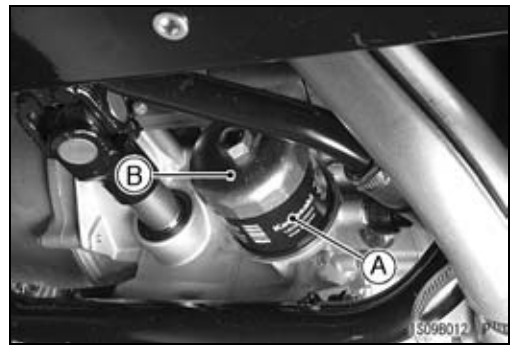
NOTE

○*Although 10W-40 engine oil is the recommended oil for most conditions, the oil viscosity may need to be changed to accommodate atmospheric conditions in your riding area.*

- Install:
  Bottom Guard (see Engine Bottom Guard Installation in the Frame chapter)

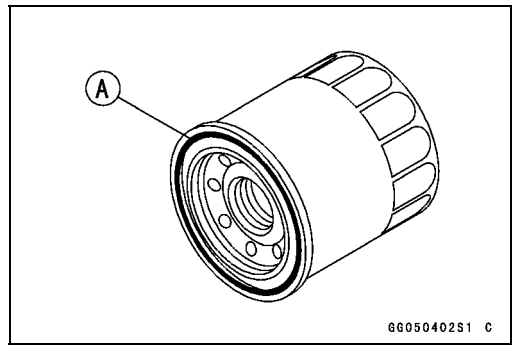
Periodic Maintenance Procedures

Oil Filter Replacement



- Remove:
  Engine Bottom Cover (see Engine Bottom Cover Installation in the Frame chapter)
- Drain the engine oil.
- Remove the oil filter [A] with the oil filter wrench [B].

Special Tool - Oil Filter Wrench: 57001-1249



- Replace the filter with a new one.
- When installing the oil filter, be careful of the following.

○Apply oil to the gasket [A] before installation.
○Tighten the filter with the oil filter wrench.

Special Tool - Oil Filter Wrench: 57001-1249

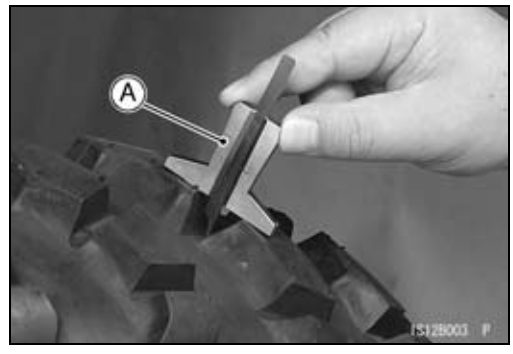
Torque - Oil Filter: 17.5 N·m (1.8 kgf·m, 13 ft·lb)

○Pour in the specified type and amount of oil.

- Install:
  Engine Bottom Cover (see Engine Bottom Cover Installation in the Frame chapter)

Wheels/Tires

Tire Inspection



- Examine the tire for damage and wear.

★If the tire is cut or cracked, replace it.
○Lumps or high spots on the tread or sidewalls indicate internal damage requiring tire replacement.
○Remove any foreign objects from the tread. After removal, check for leaks with a soap and water solution.

- Measure the tread depth at the center of the tread with a depth gauge [A]. Since the tire may wear unevenly, take measurements at several places.

★If any measurements are less than the service limit, replace the tire.

Tire Tread Depth
Service Limit:

Front	**4 mm (0.16 in.)**
Rear	**4 mm (0.16 in.)**

Standard Tire

Front:	**26 × 8.00 - 12**
	MAXXIS, M989, Tubeless
Rear:	**26 × 10.00 - 12**
	MAXXIS, M990, Tubeless

Periodic Maintenance Procedures

Wheels Nuts Tightness Inspection

- Check the tightness of all the wheel nuts.

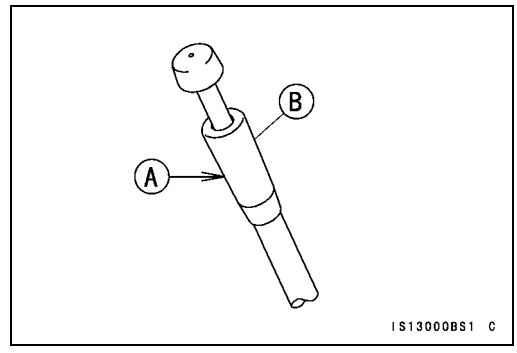
★If there are loose nut, first loosen by 1/2 turn, then re-torque them to the specified torque.

Torque - Wheel Nuts: 137.3 N·m (14 kgf·m, 101 ft·lb)

○Tighten the wheel nuts [1] ~ [4] in a criss-cross pattern.

Final Drive

Differential Shift Lever Play Inspection



- Check the differential shift lever travel by feeling clicks.
- Push the center [A] of the damper [B] with 98 N (10 kgf, 22 lbf) of force.

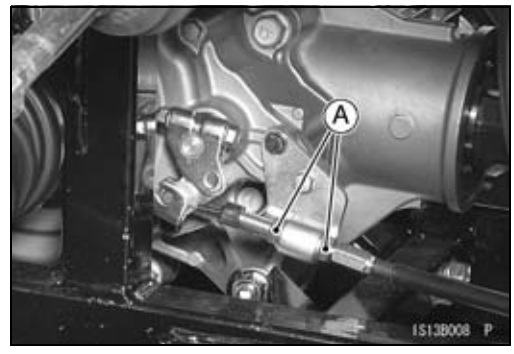
○The differential shift lever travel should be about 5 notches (clicks).

Differential Shift Lever Travel

Standard:	**about 5 notches (clicks) at 98 N (10 kgf, 22 lbf)**

★If the lever travel is more than 9 notches (clicks) at 98 N (10 kgf, 22 lbf), adjust the cable.

Differential Shift Lever Play Adjustment



- Loosen the differential shift cable locknuts [A] at the front final gear case.
- Turn the nuts to obtain the correct amount of travel.
- Tighten:

Torque - Differential Shift Cable Locknuts: 10.8 N·m (1.1 kgf·m, 95 in·lb)

Front Final Gear Case Oil Change

- Warm up the oil by running the vehicle so that the oil will pick up any sediment and drain easily. Then stop the vehicle.
- Park the vehicle so that it is level, both side-to-side and front-to-rear.
- Place an oil pan beneath the front final gear case and remove the oil drain plug [A].

⚠ WARNING

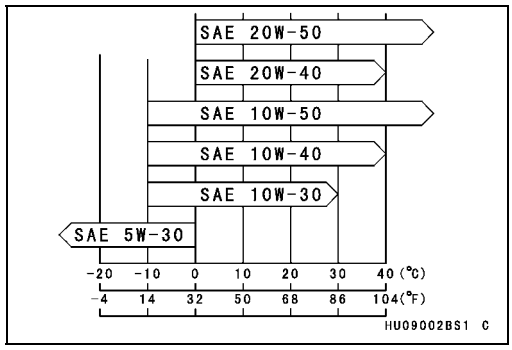
When draining or filling the final gear case, be careful that no oil gets on the tire or rim. Clean off any oil that inadvertently gets on them with a high-flash point solvent.

- After the oil has completely drained out, install the oil drain plug with a new aluminum gasket, and tighten it.

Torque - Front Final Gear Case Oil Drain Plug: 15 N·m (1.5 kgf·m, 11 ft·lb)

Periodic Maintenance Procedures

● Fill the gear case up to the bottom of filler opening with the oil specified below.



Front Final Gear Case Oil

Type:	**API SF or SG**
	API SH, SJ or SL with JASO MA
Viscosity:	**SAE 10W-40**
Capacity:	**0.9 L (0.95 US qt)**

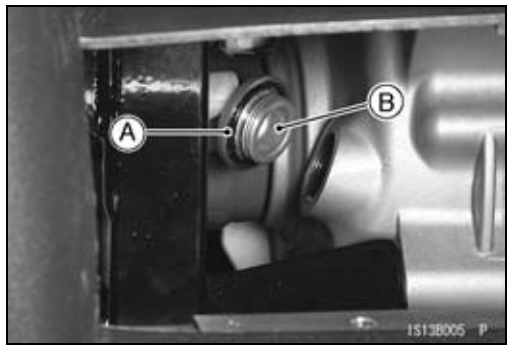
NOTE

○*Depending on the atmospheric temperature of your riding area, the engine oil viscosity should be changed according to the chart.*

● Be sure the O-ring [A] is in place, and tighten the filler cap [B].

○Apply grease to the O-ring.

Torque - Oil Filler Cap: 29 N·m (3.0 kgf·m, 22 ft·lb)

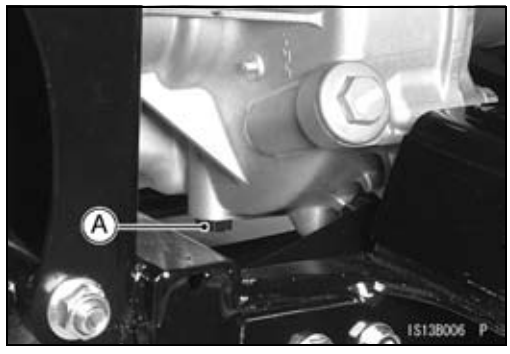


Rear Final Gear Case Oil Change

● Warm up the oil by running the vehicle so that the oil will pick up any sediment and drain easily. Then stop the vehicle.

● Park the vehicle so that it is level, both side-to-side and front-to-rear.

● Place an oil pan beneath the rear final gear case and remove the oil drain plug [A].



⚠ WARNING

When draining or filling the final gear case, be careful that no oil gets on the tire or rim because oil will deteriorate the tire. Clean off any oil that inadvertently gets on them with a high-flash point solvent.

● After the oil has completely drained out, install the oil drain plug with a new aluminum gasket.

Torque - Rear Final Gear Case Oil Drain Plug: 15 N·m (1.5 kgf·m, 11 ft·lb)

● Fill the final gear case up to the bottom of filler opening with the oil specified below.

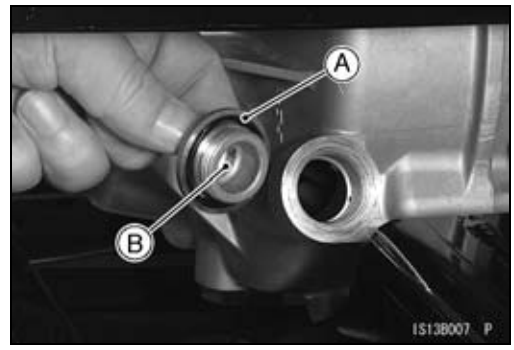
Rear Final Gear Case Oil

Type:	**MOBIL FLUID 424, CITGO TRANSGARD TRACTOR HYDRAULIC FLUID or EXXON HYDRAUL 560**
Capacity:	**1 L (1.06 US qt)**

○Do not use mixing the above oils.

● Be sure the O-ring [A] is in place, and tighten the filler cap [B].
○Apply grease to the O-ring.

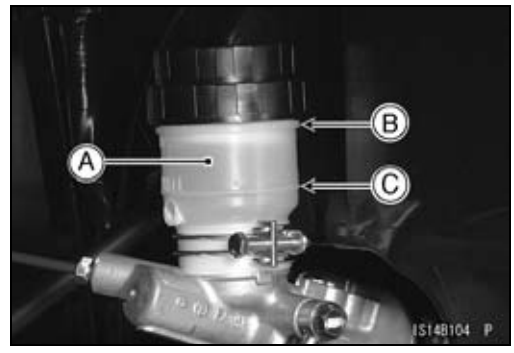
Torque - Oil Filler Cap: 29 N·m (3.0 kgf·m, 22 ft·lb)



Brakes

Brake Fluid Level Inspection

● With the vehicle on level ground, check that the fluid level in the reservoir [A] is between the upper and lower level lines.
Upper Level ine (MAX) [B]
Upper Level ine (MIN) [C]
★If the fluid level is lower than the lower level line, check for fluid leaks in the brake lines, and fill the reservoir to the upper level line.



⚠ WARNING

Change the fluid in the brake system completely if the fluid level is low but the type and brand of the fluid already in the reservoir are unknown.

● Apply the brake forcefully for a few seconds and check for fluid leakage around the fittings.

⚠ WARNING

If the brake pedal has a soft or "spongy feeling" when it is applied, there might be air in the brake lines or the brake may be defective. Since it is dangerous to operate the vehicle under such conditions, have the brake system serviced immediately.

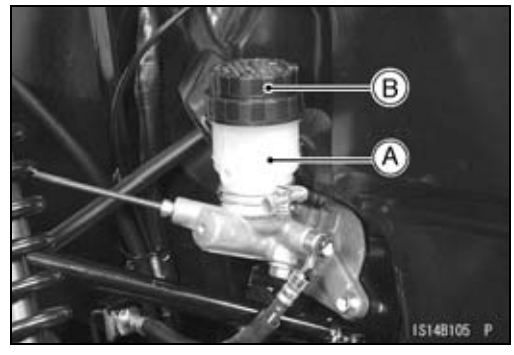
Brake Fluid Change

● Level the brake fluid reservoir [A].

NOTE

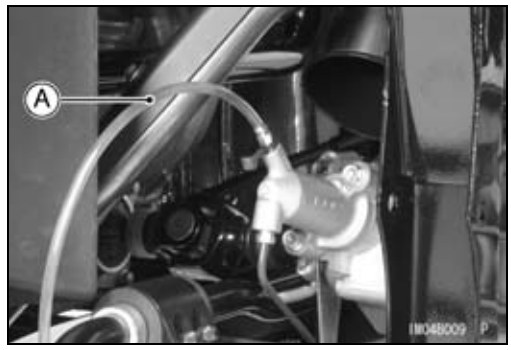
○*The fluid level must be checked several times during the fluid changing and replenished as necessary. If the fluid in the reservoir runs completely out any time during fluid changing, air bleeding must be done since air will have entered the line.*

● Remove the reservoir cap [B].



Periodic Maintenance Procedures

- Remove the rubber cap from the bleed valve on the rear master cylinder.
- Connect a clear plastic hose [A] to the bleed valve, run the other end of the hose into a container.

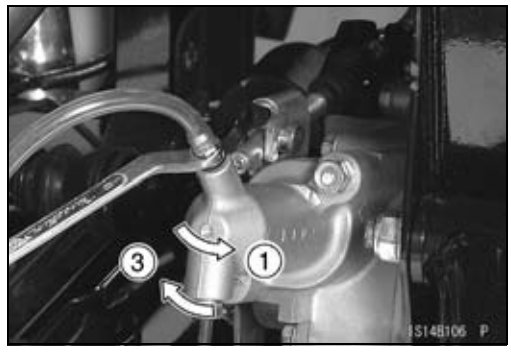


NOTE

○*Start with the rear master cylinder and finish with the front left or right caliper.*

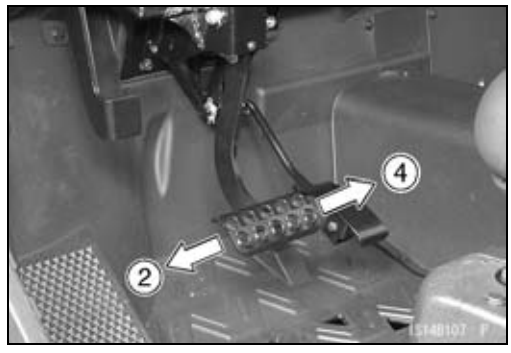
- Fill the reservoir with new brake fluid.
- Change the brake fluid as follows:

1. Open bleed valve.
2. Pump brake pedal and hold it.
3. Close bleed valve.
4. Release brake pedal.



- Repeat the previous step until fresh brake fluid comes out into the plastic hose or the color of the fluid changes.
- Remove the clear plastic hose.
- Tighten:

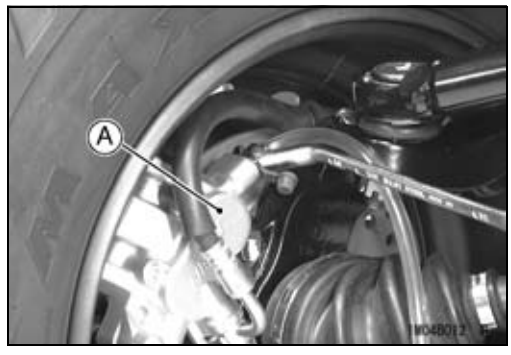
Torque - Rear Master Cylinder Bleed Valve: 5.4 N·m (0.55 kgf·m, 48 in·lb)



- Install the rubber cap on the bleed valve.

- Repeat the previous step for front calipers [A].
- After changing the fluid, tighten the caliper bleed valves.

Torque - Caliper Bleed Valve: 5.4 N·m (0.55 kgf·m, 48 in·lb)



- When brake fluid changing is finished, add the fluid to the upper level in the reservoir.
- Tighten:

Torque - Front Master Cylinder Reservoir Cap: 3.4 N·m (0.35 kgf·m, 30 in·lb)

Periodic Maintenance Procedures

- After changing the fluid, check the brake for good braking power, no brake drag, and no fluid leakage.

★If necessary, bleed the air from the brake lines (see Blake Line Air Bleeding in the Brakes chapter).

⚠ WARNING

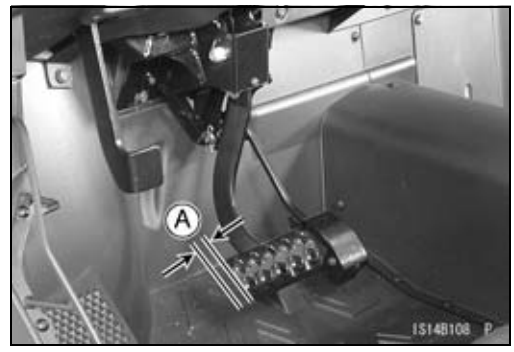
If the brake pedal has a soft or "spongy feeling" when it is applied, there might be air in the brake line or the brake may be defective. Since it is dangerous to operate the vehicle under such conditions, bleed the air from the brake line immediately.

Brake Pedal Play Inspection

- Check the brake pedal play [A].

Brake Pedal Play
Standard: 2 ~ 10 mm (0.08 ~ 0.39 in.)

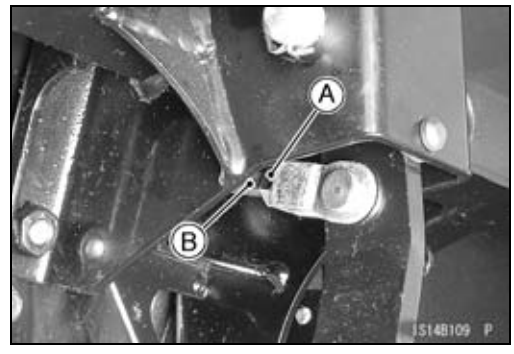
★If the play is not correct, adjust it.



- Loosen the locknut [A] and turn the push rod [B] to obtain the correct amount of free play.
- Tighten:

Torque - Push Rod Locknut: 18 N·m (1.8 kgf·m, 13 ft·lb)

- Check the brake for good braking power and no brake drag.



⚠ WARNING

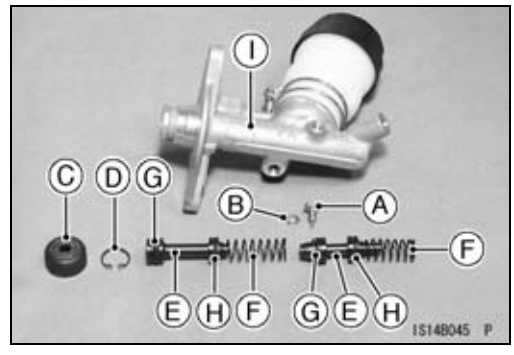
Incorrect adjustment with insufficient free play can cause brake heating and drag. Skidding and loss of control may result.

Brake Master Cylinder Cup and Dust Seal Replacement

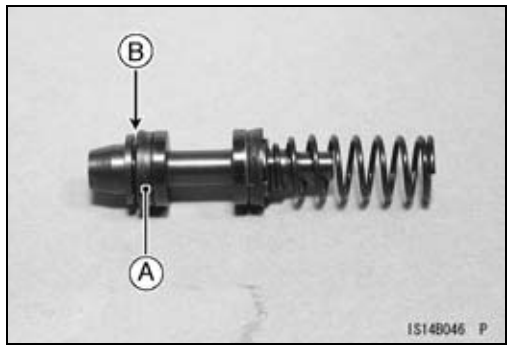
- Remove the front master cylinder (see Front Master Cylinder Removal in the Brakes chapter).
- Remove the piston stop bolt [A] and washer [B].
- Remove the dust seal [C] and then the retainer [D] with the circlip pliers.

Special Tool - Inside Circlip Pliers: 57001-143

○Remove the piston assembly (two pistons) by lightly tap the master cylinder on a wooden block.
Pistons [E]
Springs [F]
Secondary Cups [G]
Primary Cups [H]
Master Cylinder [I]



○Be careful of the secondary cup [A] direction [B].



● Assemble the master cylinder:
○Clean all the parts including the master cylinder with brake fluid or alcohol, and apply brake fluid to the removed parts and the inner wall of the cylinder.

CAUTION

Use only brake fluid, isopropyl alcohol, or ethyl alcohol for cleaning brake parts. Do not use any other fluid for cleaning these parts. Gasoline, motor oil, or any other petroleum distillate will cause deterioration of the rubber parts. Oil spilled on any part will be difficult to wash off completely, and will eventually deteriorate the rubber used in the brake.

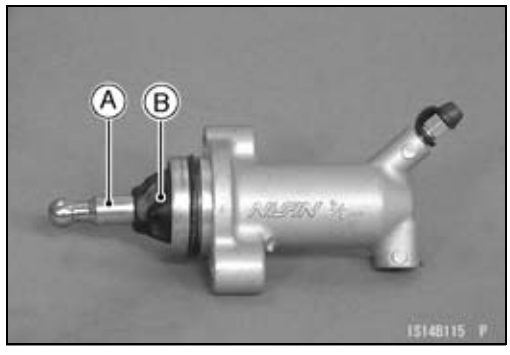
○Push the piston assembly in all the way with a screwdriver and install the piston stop bolt. Use a new aluminum washer.
○Tighten:

Torque - Piston Stop Bolt: 8.8 N·m (0.90 kgf·m, 78 in·lb)
Reservoir Clamp Bolt: 6.2 N·m (0.63 kgf·m, 55 in·lb)

● Install the front master cylinder (see Front Master Cylinder Installation in the Brakes chapter).

Rear Brake Master Cylinder Cup, O-ring and Boot Replace

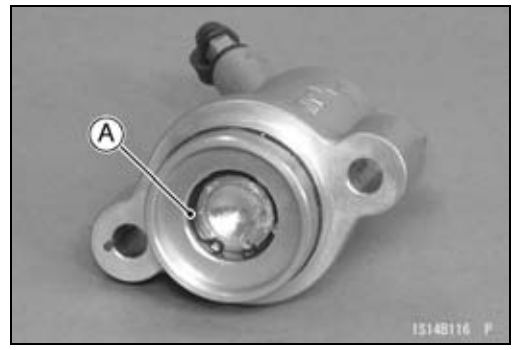
● Remove:
Rear Brake Master Cylinder (see Rear Brake Master Cylinder Removal in the Brakes chapter)
Push Rod [A]
Boot [B]



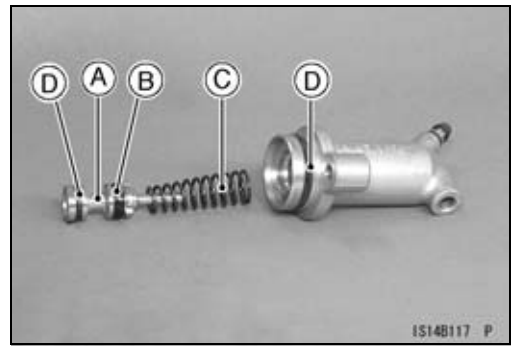
Periodic Maintenance Procedures

● Remove:
Circlip [A]

Special Tool - Inside Circlip Pliers: 57001-143



● Remove:
Piston [A]
Cup [B]
Spring [C]
O-rings [D]

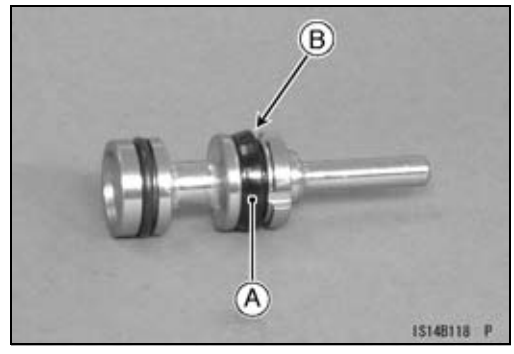


● Assemble the master cylinder.
● Clean all the parts including the master cylinder with brake fluid or alcohol, and apply brake fluid to the removed parts and the inner wall of the cylinder.

CAUTION

Use only brake fluid, isopropyl alcohol, or ethyl alcohol for cleaning brake parts. Do not use any other fluid for cleaning these parts. Gasoline, motor oil, or any other petroleum distillate will cause deterioration of the rubber parts. Oil spilled on any part will be difficult to wash off completely, and will eventually deteriorate the rubber used in the brake.

● Be careful of the cup [A] direction [B].



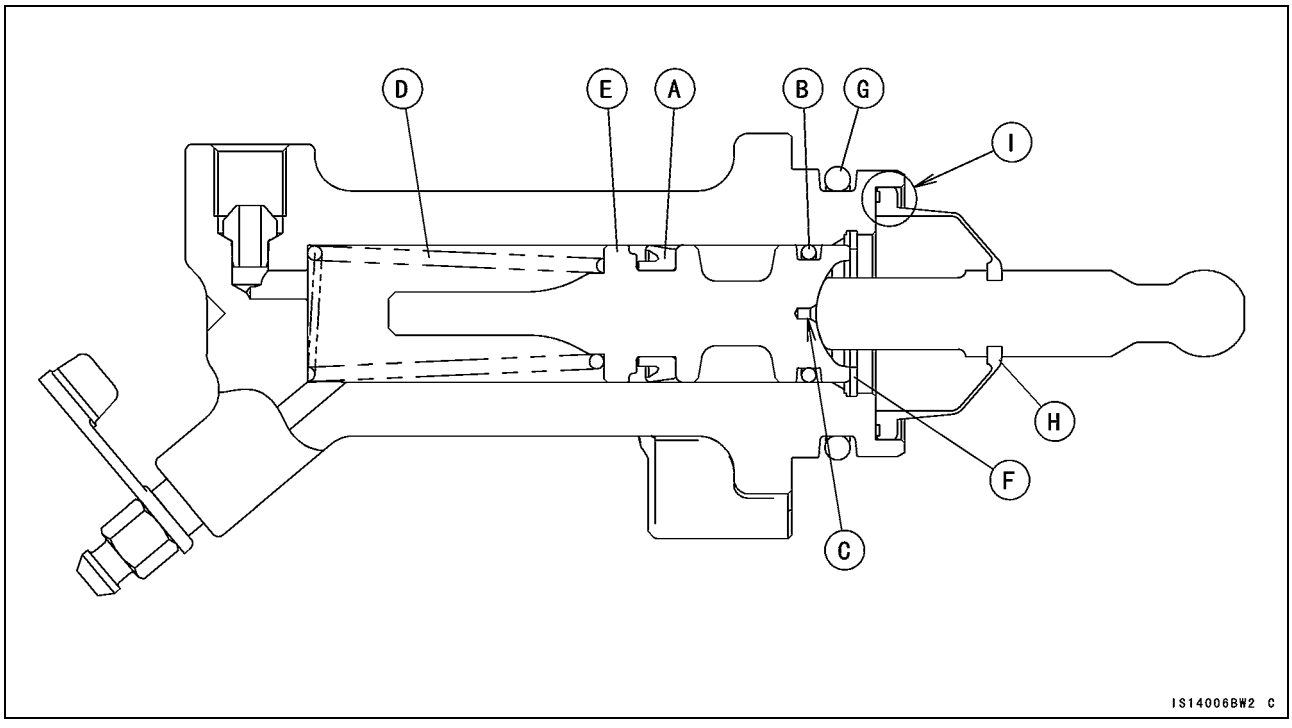
Periodic Maintenance Procedures

- Apply silicone grease:
  New Cup [A]
  New O-ring [B]
  Push Rod End [C]
- Install:
  Spring [D] (as shown in the figure)
  Piston [E]
  New Cup and O-ring
  New Circlip [F]

Special Tool - Inside Circlip Pliers: 57001-143

- Install:
  New O-ring [G]
  Push Rod
  New Boot [H]

○Do not apply oil or grease to the seal part [I] of the boot.



- Install the rear master cylinder (see Rear Brake Master Cylinder Installation in the Brakes chapter).

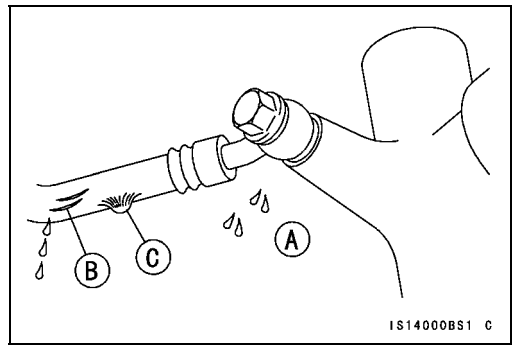
Brake Hose and Pipe Inspection

- The high pressure inside the brake line can cause fluid to leak [A] or the hose to burst if the line is not properly maintained. Bend and twist the rubber hose while examining it.

★Replace it if any cracks [B] or bulges [C] are noticed.

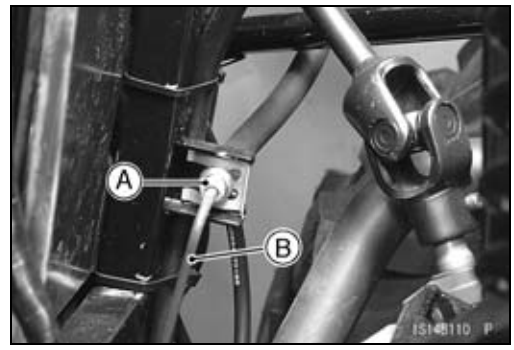
- The metal pipe will rust if the plating is damaged.

★Replace the pipe if it is rusted, cracked (especially check the fittings), or if the plating is badly scratched.



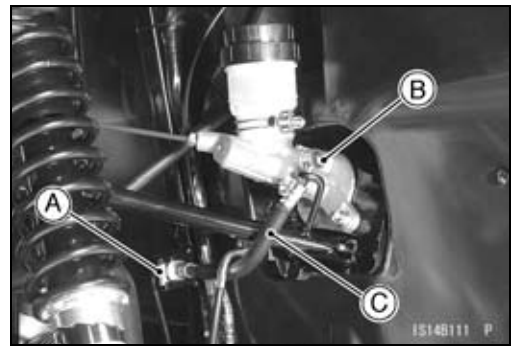
Periodic Maintenance Procedures

Brake Hose Replacement

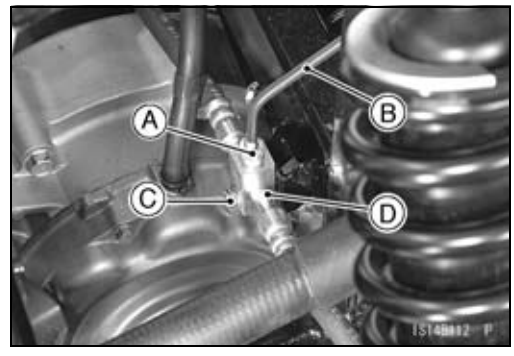


- Lift and hold the front fender (see Front Fender Removal in the Frame chapter).
- Drain the brake fluid.
- Remove:
  Front Wheels (see Wheel Removal in the Wheels/Tires chapter)
- Unscrew the nipple [A] and remove the brake pipe [B].
- Immediately wipe up any brake fluid that spills.

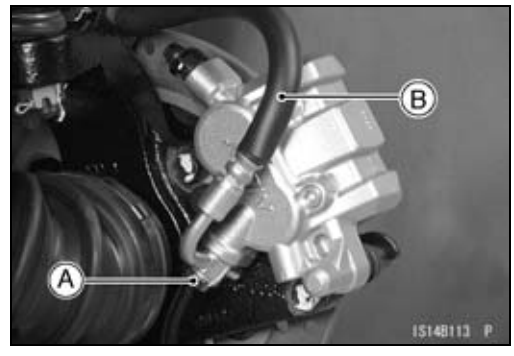
CAUTION
Brake fluid quickly ruins painted surfaces; any spilled fluid should be completely wiped up immediately.



- Remove:
  Retainer [A]
  Banjo Bolt [B], Washers and Brake Hose [C]



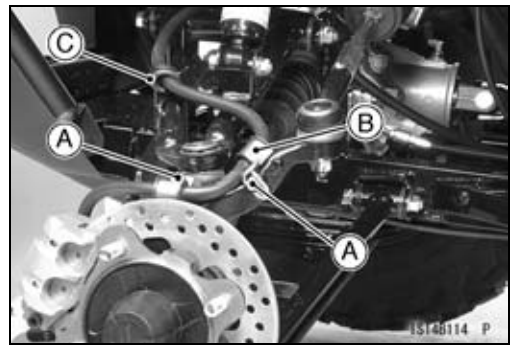
- Remove:
  Nipple [A] (unscrew)
  Brake Pipe [B]
  Bolt [C]
  Joint [D]



- Remove:
  Banjo Bolt [A], Washers and Brake Hose [B]

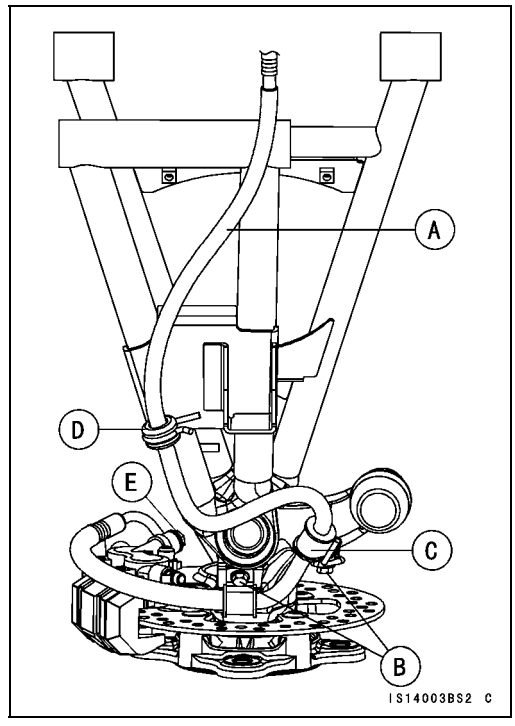
Periodic Maintenance Procedures

● Remove:
Clamp Bolts [A] and Clamp [B] (both sides)
Grommets [C] (both sides)



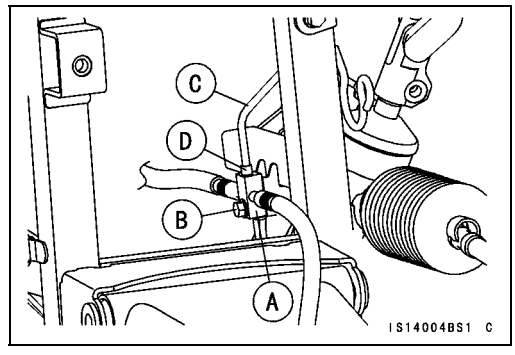
● Install:
New Brake Hose [A]
Clamp Bolts [B] and Clamp [C] (both sides)
Grommets [D] (both sides)
Banjo Bolts [E] and New Washers
● Touch the stopper of the brake hose to the stopper on the calliper.
● Tighten:

Torque - Brake Hose Banjo Bolts: 25 N·m (2.5 kgf·m, 18 ft·lb)

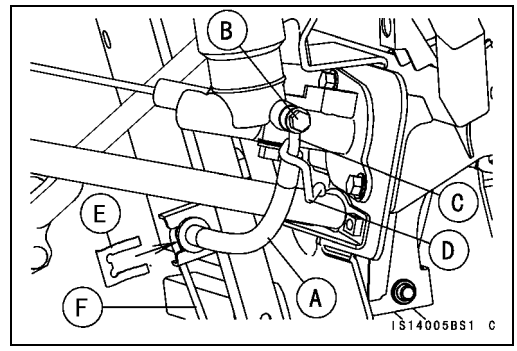


● Install:
Joint [A]
Bolt [B]
Brake Pipe [C]
Nipple [D]
● Tighten:

Torque - Brake Pipe Nipple: 17.5 N·m (1.8 kgf·m, 13 ft·lb)



Periodic Maintenance Procedures



- Install:
  New Brake Hose [A]
  Banjo Bolts [B] and New Washers

○Touch the brake hose clasp [C] to the stopper [D].

- Tighten:

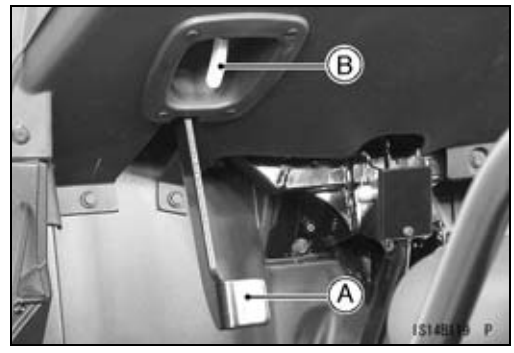
Torque - Brake Hose Banjo Bolts: 25 N·m (2.5 kgf·m, 18 ft·lb)

- Install:
  Retainer [E]
  Brake Pipe [F]
  Nipple
- Tighten:

Torque - Brake Pipe Nipple: 17.5 N·m (1.8 kgf·m, 13 ft·lb)

- Fill the reservoir with new brake fluid (see Brake Fluid Change).
- Check that the brake line has proper fluid pressure and no fluid leakage.
- Install the removed parts.

Parking Brake Pedal Inspection



- Push down the parking brake pedal [A] until it is stopped.

○The vehicle should not roll while parked.

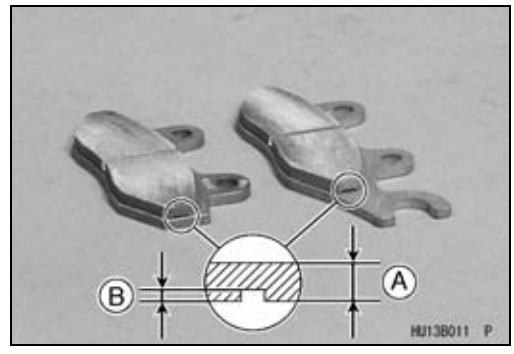
- Pull the parking release lever [B] above and return the pedal to its rest position.

★If the pedal does not work correctly, adjust it (see Parking Brake Cable Installation in the Brakes chapter).

⚠ WARNING

Incorrect adjustment with insufficient free play can cause brakes to overheat and drag. Skidding and loss of control may result.

Front Brake Pad Wear Inspection



- Check the lining thickness [A] of the pads in each caliper.

★If the lining thickness of either pad is less than the service limit [B], replace both pads in the caliper as a set.

Pad Lining Thickness

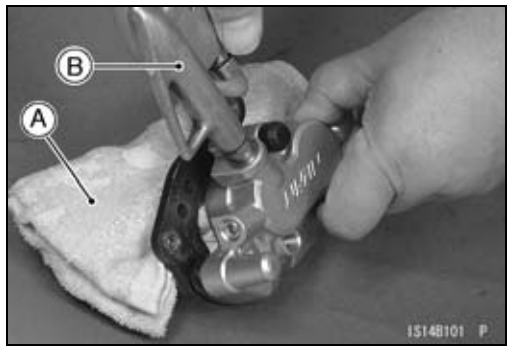
Standard:	**3.9 mm (0.15 in.)**
Service Limit:	**1 mm (0.04 in.)**

Periodic Maintenance Procedures

Front Brake Caliper Piston Seal and Dust Seal Replacement

● Remove:
Caliper (see Front Brake Caliper Removal in the Brakes chapter)
Pads (see Brake Pad Removal in the Brakes chapter)
Anti-rattle Spring

● Using compressed air, remove the piston.
○Cover the caliper opening with a clean, heavy cloth [A].
○Remove the piston by lightly applying compressed air [B] to where the brake line fits into the caliper.



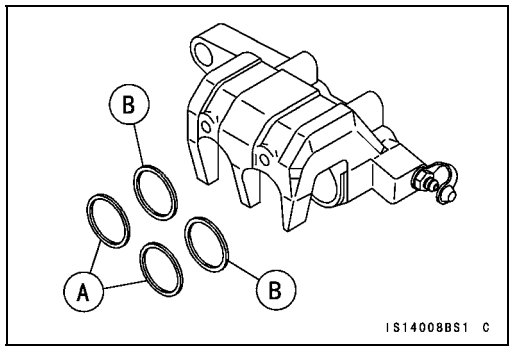
⚠ WARNING

To avoid serious injury, never place your fingers or palm inside the caliper opening. If you apply compressed air into the caliper, the piston may crush your hand or fingers.

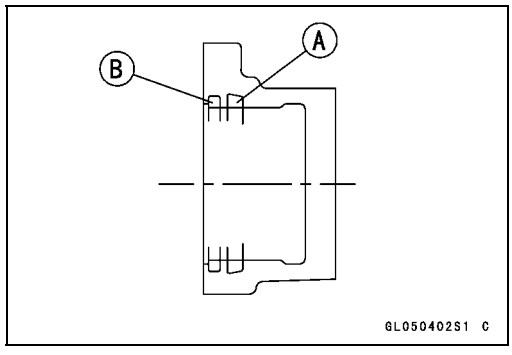
NOTE

○*If compressed air is not available, do as follows with the brake hose connected to the caliper.*
○*Prepare a container for brake fluid.*
○*Remove the pads (see Brake Pad Removal) and anti -rattle spring.*
○*Pump the brake pedal to remove the caliper piston.*

● Remove:
Dust Seals [A]
Piston Seals [B]

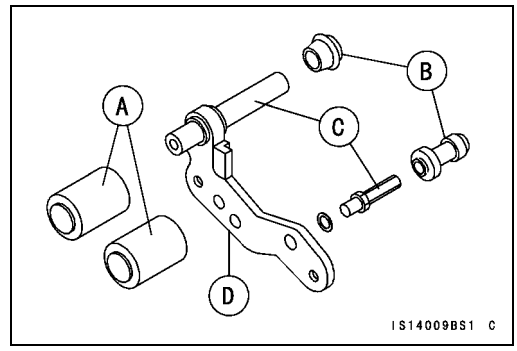


● Replace the piston seal [A] with a new one.
○Apply silicone grease to the piston seal, and install it into the cylinder by hand.
● Replace the dust seal [B] with a new one.
○Apply brake fluid to the dust seal, and install it into the cylinder by hand.

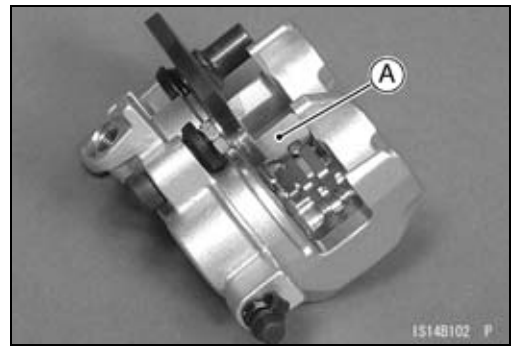


Periodic Maintenance Procedures

- Apply brake fluid to the outside of the pistons [A] and inside of the cylinder
- Push the seals into the cylinder by hand. Take care that neither the cylinder nor the piston skirt gets scratched.
- Replace the rubber boots [B] if they are damaged.
- Apply a thin coat of silicone grease to the caliper holder shafts [C] (Silicone grease is a special high temperature, water-resistant grease).
- Install:
  Caliper Holder [D]



- Install the anti-rattle spring [A] in the caliper as shown.
- Install the pads (see Brake Pad Installation in the Brakes chapter).



Rear Brake Plates Replacement

- Replace the steel plates and friction plates in accordance with the specified interval (see Rear Final Gear Case section in the Final Drive chapter).

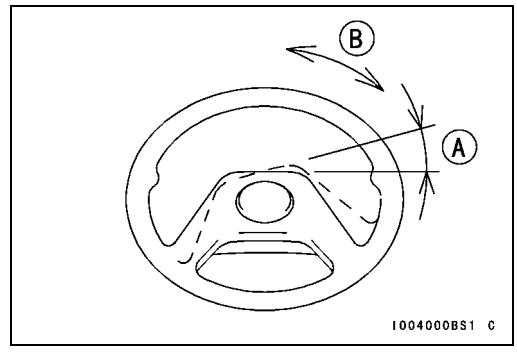
Steering

Steering Inspection

- Check steering wheel free play [A].

○Set the front wheels straight ahead. Gently turn [B] the steering wheel left and right. The steering wheel free play is the amount of travel in the steering wheel, before the front wheels begin to turn.

Steering Wheel Free Play
Standard: 0 ~ 20 mm (0 ~ 0.79 in.)

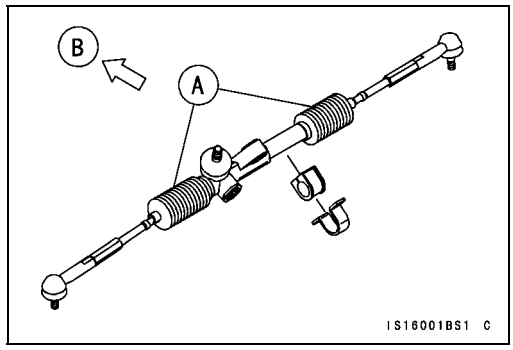


★If steering wheel free play is not correct, inspect the following:
Steering Wheel Mounting Nut (see Steering Wheel Centering in the Steering chapter)
Intermediate Shaft Clamp Bolts (see Steering Shaft Installation in the Steering chapter)
Steering Gear Assembly Bracket Bolts (see Steering Gear Assembly Installation in the Steering chapter)
Steering Gear Assembly Mounting Rubber Dampers
Tie-rod End Nuts (see Steering Gear Assembly Installation in the Steering chapter)

★If the inspections above are good but the free play is out of the specified, the steering gear assembly is damaged and should be replaced as a unit.

Periodic Maintenance Procedures

Steering Joint Dust Boot Inspection

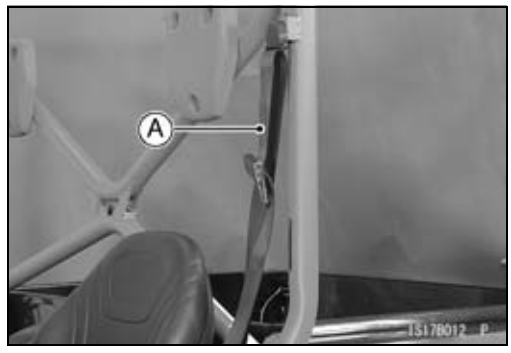


- Visually inspect the dust boots [A] at both the ends of the steering gear assembly.
  Front [B]

★If there is any signs of deterioration, cracks, or damage, replace the steering gear assembly together with these boots.

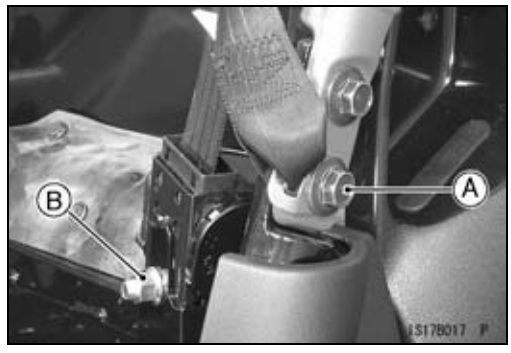
Frame

Seat Belt Inspection



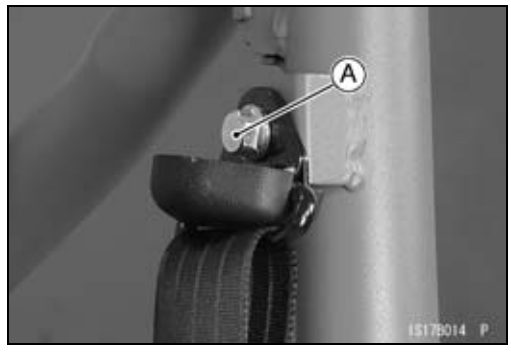
- Check the belt [A] for damage or tear.

★If necessary, replace the belt with a new one.



○Check the tightness torque of the seat belt mounting bolts. (both sides)

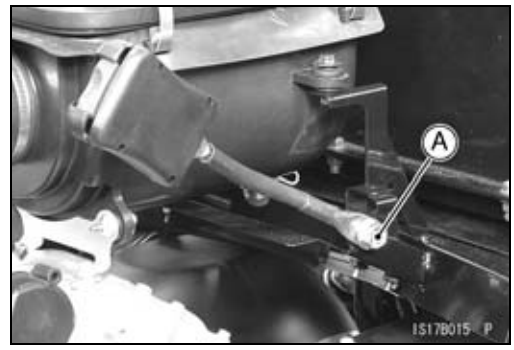
Torque - Right and Left Bar Mounting Bolts [A]: 98 N·m (10 kgf·m, 72 ft·lb)
Seat Belt Case Mounting Nuts [B]: 47 N·m (4.8 kgf·m, 35 ft·lb)



Torque - Seat Belt Mounting Bolt [A]: 42 N·m (4.3 kgf·m, 31 ft·lb)

Periodic Maintenance Procedures

Torque - Seat Belt Buckle Mounting Bolts [A]: 47 N·m (4.8 kgf·m, 35 ft·lb)



- Check the operation of the buckle [A].

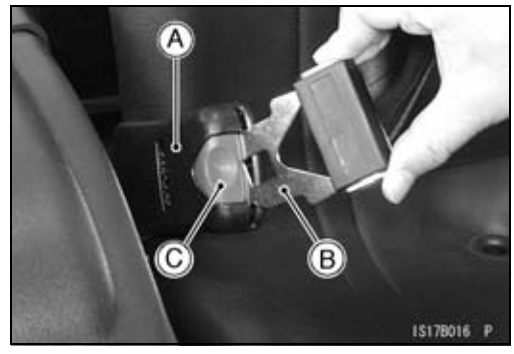
○Set the plate [B] in the buckle, and confirm the plate does not come off when pulling it.

○Set the plate in the buckle, and confirm the plate comes off when the buckle button [C] is pushed.

★If operation is not correct, visually inspect the plate.

★If the plate is damaged, replace the plate assembly with a new one.

★If the plate is not damaged, replace the buckle assembly.



Electrical System

Spark Plug Cleaning/Inspection

- Remove the spark plug (see Spark Plug Removal in the Electrical System chapter).
- Clean the spark plug, preferably in a sandblasting device, and then clean off any abrasive particles. The plug may also be cleaned using a wire brush or other suitable tool.

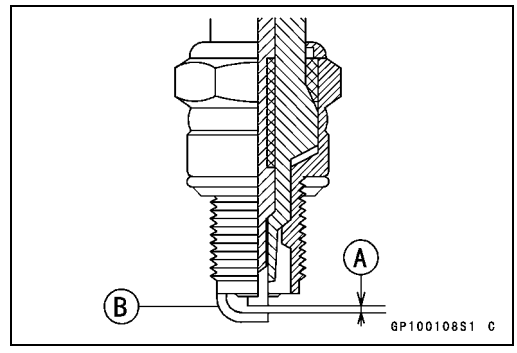
★If the spark plug electrodes are corroded or damaged, or if the insulator is cracked, replace the plug. Use the standard spark plug or its equivalent.

Spark Plug Gap Inspection

- Measure the gap [A] with a wire-type thickness gauge.

★If the gap is incorrect, carefully bend the side electrode [B] with a suitable tool to obtain the correct gap.

Spark Plug Gap
0.7 ~ 0.8 mm (0.028 ~ 0.031 in.)



Brake Light Switch Inspection

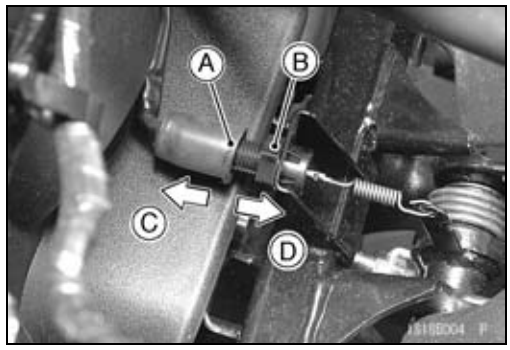
- Turn on the ignition switch.
- Check the operation of the rear brake light switch by depressing the brake pedal.

★If it does not as specified, adjust the brake light timing.

Brake Light Timing
Standard: On after about 10 mm (0.4 in.) of pedal travel [A]

Periodic Maintenance Procedures

Brake Light Timing Adjustment



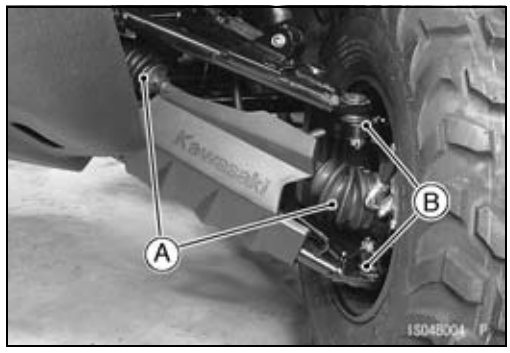
- Lift and hold the front fender (see Front Fender Removal in the Frame chapter).
- Adjust the brake light switch [A] up or down. To change the switch position, turn the adjusting nut [B].
  Light sooner [C]
  Light later [D]

CAUTION

To avoid damaging the electrical connections inside the switch, be sure that the switch body does not turn during adjustment.

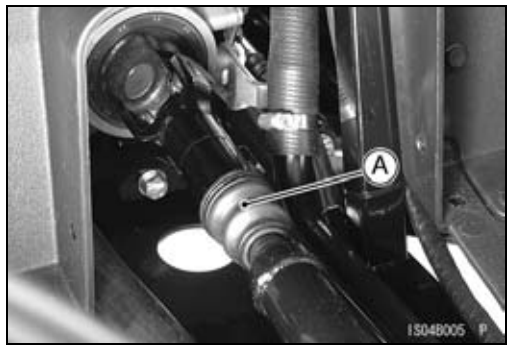
Joint Boots Inspection

Front Axle/Steering Knuckle Joint Boots Inspection



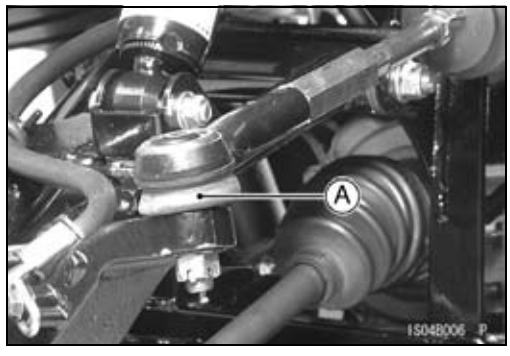
- Visually inspect the front axle joint boots [A].
★If the joint boot is torn, worn, deteriorated, or leaks grease, replace the joint boot or front axle assembly (see Front Axle Joint Boot Replacement in the Final Drive chapter).
- Visually inspect the knuckle joint boots [B].
★If the joint boot is torn, worn, deteriorated, or leaks grease, replace the knuckle (see Steering Knuckle section in the Steering chapter).

Front Propeller Shaft Joint Boots Inspection



- Remove:
  Center Cover (see Center Cover Removal in the Frame chapter)
- Visually inspect the boot [A] of the front propeller shaft.
★If damage, tear or deterioration is found, replace the boots (see Front Propeller Shaft section in the Final Drive chapter).

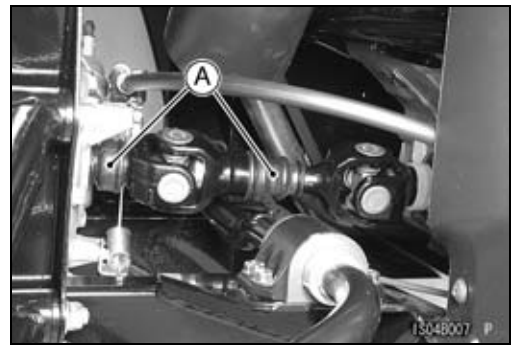
Tie-rod End Boots Inspection



- Visually inspect the tie-rod end boots [A] of the tie-rods.
★If the boot is torn, worn, deteriorated, or leaks grease, replace the tie-rod end (see Tie-Rod End Removal in the Steering chapter).

Periodic Maintenance Procedures

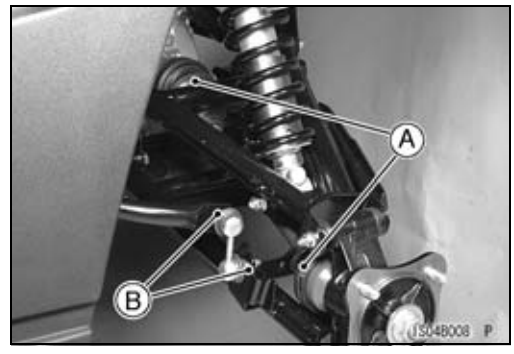
Rear Propeller Shaft Joint Boots Inspection



- Visually inspect the boots [A] of the rear propeller shaft.

★If the joint boot is torn, worn, or deteriorated, replace the joint boot and check the propeller shaft (see Rear Propeller Shaft section in the Final Drive chapter).

Rear Axle/Stabilizer Joint Boots Inspection



- Visually inspect the rear axle joint boots [A].

★If the joint boot is torn, worn, deteriorated, or leaks grease, replace the joint boot or rear axle assembly (see Rear Axle Joint Boot Replacement in the Final Drive chapter).

- Visually inspect the stabilizer joint boots [B].

★If the joint boot is torn, worn, deteriorated, or leaks grease, replace the stabilizer joint (see Stabilizer Removal in the Suspension chapter).

General Lubrication

Lubrication

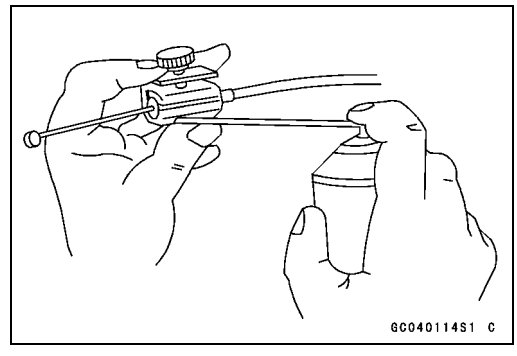
- Before lubricating each part, clean off any rusty spots with rust remover and wipe off any grease, oil, dirt, or grime.
- Lubricate the points listed below with indicated lubricant.

NOTE

○*Whenever the vehicle has been operated under wet or rainy conditions, or especially after using a high-pressure spray water, perform the general lubrication.*

Cables: Lubricate with Cable Lubricant

Rear Brake Inner Cable
Throttle Inner Cable
Choke Inner Cables
Variable Differential Shift Inner Cable
2WD/4WD Shift Inner Cable

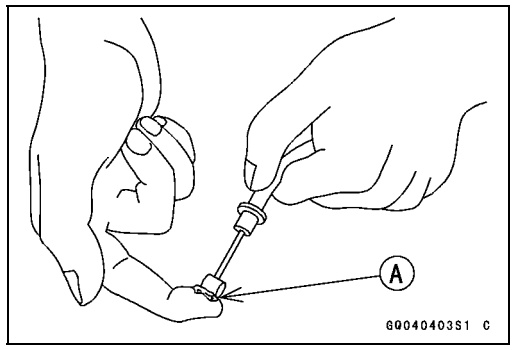


- Lubricate the cables by seeping the oil between the cable and housing.

○The cable may be lubricated by using a pressure cable luber with an aerosol cable lubricant.

Periodic Maintenance Procedures

Points: Lubricate with Grease.
Throttle Inner Cable Upper End [A]
Choke Cable Lower Ends
Brake Cable Upper End
Variable Differential Control Cable Ends
2WD/4WD Shift Cable Ends



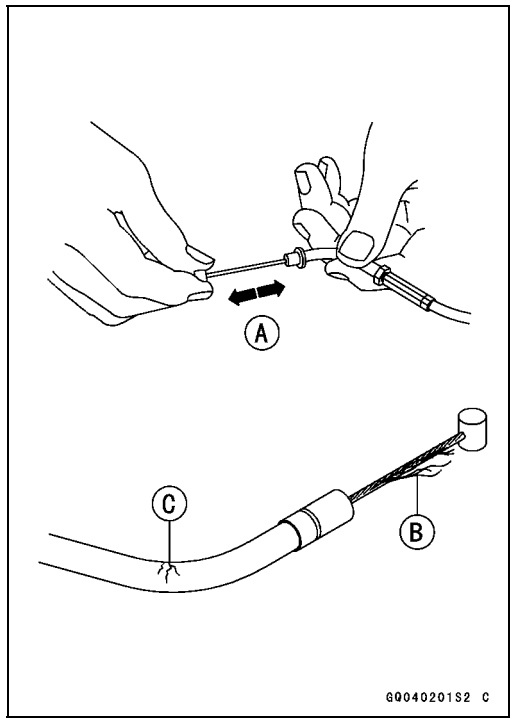
Slide Points: Lubricate with Grease.
Brake Lever
Brake Pedal Pivot Shaft
Throttle Pedal Pivot Shaft

Cables

Inspection

- With the cable disconnected at the both ends, the cable should move freely [A] within the cable housing.

★If cable movement is not free after lubricating, if the cable is frayed [B], or if the cable housing is kinked [C], replace the cable.



Periodic Maintenance Procedures

Bolts and Nuts Tightening

Tightness Inspection

- Check the tightness of the bolts and nuts listed here in accordance with the Periodic Maintenance Chart. Also, check to see that each cotter pin is in place and in good condition.

★If there are loose fasteners, retorque them to the specified torque following the specified tightening sequence. Refer to the appropriate chapter for torque specifications. If torque specifications are not listed in the appropriate chapter, see the Basic Torque Table (see Torque and Locking Agent). For each fastener, first loosen it by 1/2 turn, then tighten it.

★If cotter pins are damaged, replace them with new ones.

Bolts, Nuts, and Fasteners to be checked

Engine:
Engine Mounting Bolts
Engine Bracket Pipe Mounting Bolts
Exhaust Pipe Holder Nuts
Muffler Mounting Bolts
Muffler Clamp Bolt
Spark Arrester Mounting Bolts
Throttle Pedal Pivot Clip
Fuel Tank Holder Bolts and Nuts

Transmission/Final Drive:
Shift Lever Assembly Nut
Shift Shaft Lever Bolt
Transmission Tie-rod Bolt
Tie-rod End Bolt and Nut
Tie-rod End Locknuts
Differential Shift Lever Pivot Clip
Final Gear Case Mounting Bolts
Final Gear Case Bracket Bolts

Wheels:
Axle Nuts and Cotter Pins
Wheel Nuts

Brakes:
Front Master Cylinder Mounting Bolts
Master Cylinder Push Rod Clevis Pin Clip
Rear Master Cylinder Mounting Bolts
Brake Pedal Pivot Shaft Cotter Pin
Front Brake Caliper Mounting Bolts
Parking Brake Lever Assembly Mounting Bolts

Suspension:
Stabilizer Holder Bolts
Suspension Arm Pivot Nuts
Shock Absorber Mounting Nuts

Steering:
Steering Wheel Mounting Nut
Intermediate Shaft Clamp Bolts
Main Shaft Mounting Bolts and Nuts
Tie-rod End Nuts and Cotter Pins
Tie-rod End Locknuts

Periodic Maintenance Procedures

Frame:

Bars Mounting Bolts and Nuts
Front Guard Mounting Nuts
Cargo Bed Mounting Bolts
Cargo Bed Mounting Pin Clips
Seat Belt Mounting Bolts
Battery Holder Nuts

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