ALL TERRAIN VEHICLE

DINLI
Metal Industrial Co., Ltd.

DL-901

Service Manual

(15) Lubrication

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

(16) Direction of Engine Rotation

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

(17) Replacement Parts

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

Always replace these parts with new ones every time they are removed. Although the previously mentioned gasket, O-ring, ball bearing, needle bearing, grease seal, oil seal, cir-clip, and cotter pin have not been so designated in their respective text, they are replacement parts.

(18) Electrical Wires

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

(19) Inspection

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

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

(20) Specifications

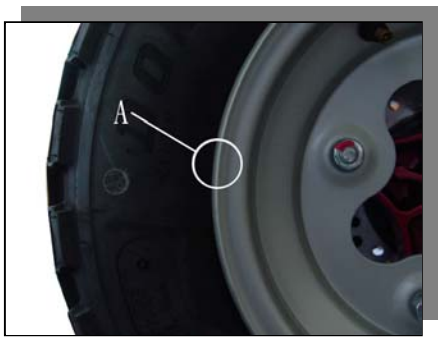
Specification terms are defined as follows:

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

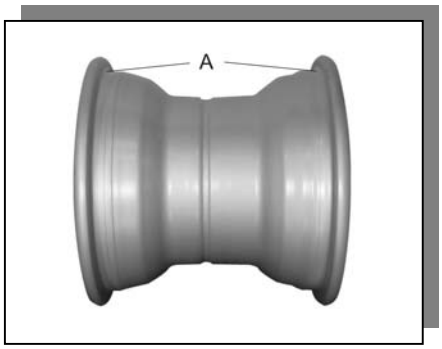
“Service Limits” indicate the usable limits. If the measurement shows excessive wear or deteriorated performance, replace the damaged parts.

Wheel (Rim) Inspection

●Examine both sides of the rim for dents [A]. If the rim is dented, replace it.



●If the tire is removed, inspect the air sealing surfaces [A] of the rim for scratches or nicks. Smooth the sealing surfaces with fine emery cloth if necessary



Wheel (Rim) Replacement

●Remove the wheel (see Wheel Removal)

●Disassemble the tire from the rim (see Tire Removal).

○Remove the air valve and discard it.

CAUTION
Replace the air valve whenever the tire is replaced. Do not reuse the air valve.

●Install a new air valve in the new rim.

○Remove the valve cap, lubricate the stem with a soap and water solution, and pull the stem [A] through the rim from the inside out until it snaps into place.

CAUTION
Do not use engine oil or petroleum distillates to lubricate the stem because they will deteriorate the rubber.

●Mount the tire on the new rim (see Tire Installation).

●Install the wheel (see Wheel Installation).

TIRES

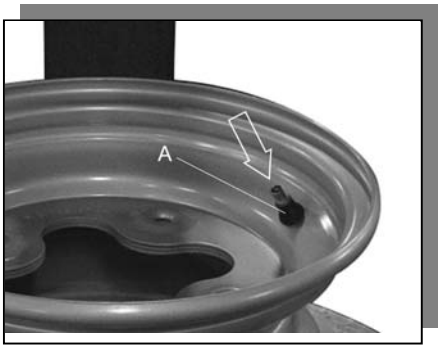
Tire Removal

●Remove the wheel.

●Unscrew the valve core to deflate the tire.

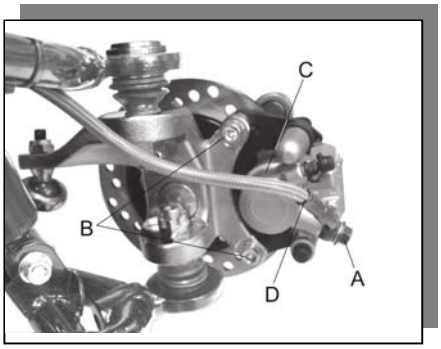
○Use a paper valve core tool.

●Lubricate the tire beads and rim flanges on both sides of the wheel with a soap and water solution, or water. This helps the tire beads slip off the rim flanges.



△WARNING
Do not attempt to drive the vehicle until a full brake level is obtained by pumping the brake level until the pads are against each dis. The brakes will not function on the first application of the level if this is not done.

Caliper Removal



●Removal the front wheel (see Wheels/Tires chapter).

●Loose the banjo bolt [A] at the brake hose lower end, and tighten it loosely.

●Unscrew the caliper mounting bolts [B], and detach the caliper [C] from the disc.

●Unscrew the banjo bolt and remove the brake hose [D] from the caliper.

CAUTION
Immediately wash away any brake fluid that spills.

NOTE

○If the caliper is to be disassembled after removal and if compressed air is not available, disassemble the caliper before the brake hose is removed (see Caliper Disassembly).

Caliper Installation

●Install the caliper and brake hose lower end.

○Replace the washers that are on each side of hose fitting with new ones.

●Tighten:

Torque -Caliper Mounting Bolts:25N-m(2.5kg-m,18.0ft-lb)

Brake Hose Banjo Bolt:25N-m(2.5kg-m,18.0ft-lb)

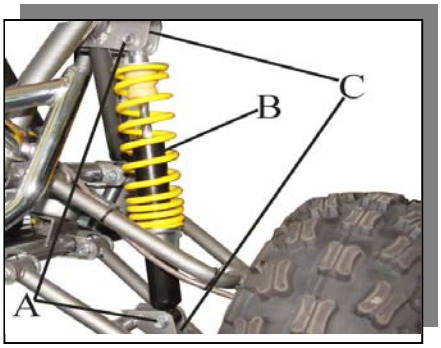
●Check the fluid level in the brake reservoir.

●Bleed the brake line (see Brake Line Air Bleeding).

●Check the brake for good braking power, no brake drag, and no fluid leakage.

△WARNING
Do not attempt to drive the vehicle until a full brake level is obtained by pumping the brake level until the pads are against each disc. The brakes will not function on the first application of the level if this is not done.

Front Shock Absorber Removal



●While supporting the vehicle to up with the jack.

●Remove:

Front Shock Absorber Mounting Bolt and Nut [A]

Front Shock Absorber [B]

Front Shock Absorber Installation

●Insert the shock absorber into the bracket [C].

●Tighten:

Torque - Mounting Bolts and Nuts:

47 N-m (4.8 kgf-m, 35 ft-lb)

●While supporting the vehicle to down with the jack.

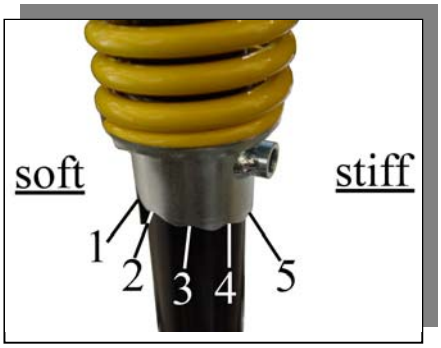
Front Shock Absorber Inspection

Since the front shock absorbers are sealed units, which cannot be disassembled, only external checks are necessary.

★ If one unit is damaged, replace both shock absorbers as a set. If only one unit is replaced and the two are not balance, vehicle at high speed may endanger driver's safety.

Front Shock Absorber Preload Adjustment

The spring adjusting sleeve on rear shock absorber has 5 positions so that the spring can be adjusted for different terrain and loading conditions. If the spring action feels too soft or too stiff, adjust it in accordance with the following photograph.



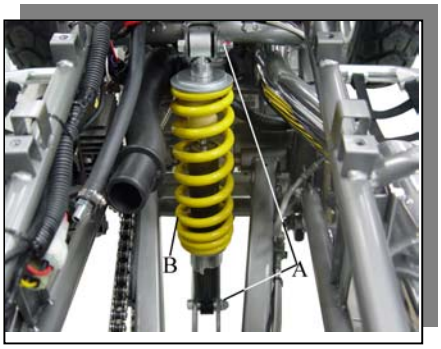
●Turn the adjusting sleeve on front shock absorber to the desired position with the wrench.

Rear Shock Absorber Removal

●Support the vehicle on a stand or the jack so that the rear wheels are off the ground.

●While holding the rear wheels, remove the lower and upper shock absorber mounting bolts [A] and nuts.

●Remove the rear shock absorber [B].



Rear Shock Absorber Installation

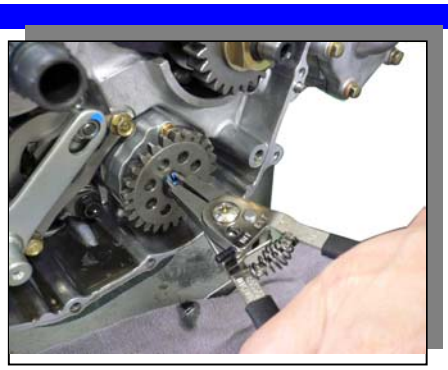
●Tighten-Torque-Rear Shock Absorber Mounting Nuts:

6.2 N-m (6.3 kgf-m, 46ft.lb)

●See the Front Shock Absorber Preload Adjustment.

NOTE:

Oil Pump



- Take out Snap Ring and Oil Pump Gear.
- Remove bolts and take out Oil Pump Case.
- Take out Oil Pump; feed Pump, Scavenging Pump and Oil Pump Shaft etc.
- Take out Shift Shaft CP along with washer.

Note:
Fit the washer onto the Shaft, not to lose it.

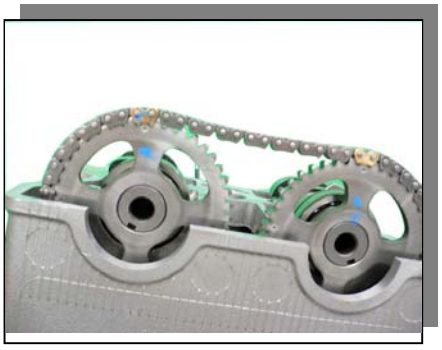
GUIDE PLATE, DRUM SHJIFTER and SHIFT CAM

- Remove Guide Plate, Drum Shifter and Shift Cam.
- Remove Guide Plate and Drum Shifter.

Note:
Pay attention Drum Shifter is not disassembled.

- Take out Shifter Pin and then pull out Shifter Cam.
- Remove Stopper Arm and Spring (Stopper).
- Take out Point (Neutral) along with Spring (Point), and then remove Switch (Position).
- Remove nut and take out washer and Primary Gear.

HEAD COVER



- Remove bolts and take out Rubber Mounts, O-ring and Head Cover.

CHAIN TENSIONER

- Align the TDC, and remove adjusting bolt.
- Remove bolts and tale out Tensioner.

CAM SUPPORT, CAMSHAFTS

- Remove bolts and take out Cam Support
- Tank out intake Camshaft, exhaust Camshaft and Bearing Stoppers.

Note:
Pay attention not to lose Bearing Stoppers.

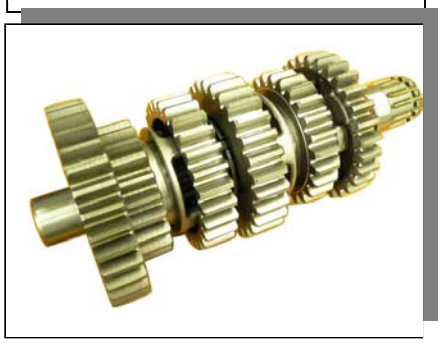
- Take out Crank Sprocket by holding the chain at the upper portion (cylinder head side).
- Take out Timing Chain.

Visual checking – Shift Fork and Drum

- Check for ware and damage.
- If any ware on the Fork craw portion, replace with new one.

Visual checking – Main Shaft and Counter Shaft Assy.

- After disassembling, check for ware and damage on dug clutch portion, gears and spline portions.
- If any ware and damage, replace with new one.



Width of Shift Fork groove

- Check for ware and scratch in the Fork groove.
- Measure the width of Shift Fork groove with caliper gauge.

Width of Shift Fork groove	
Standard	5.10 to 5.17 mm

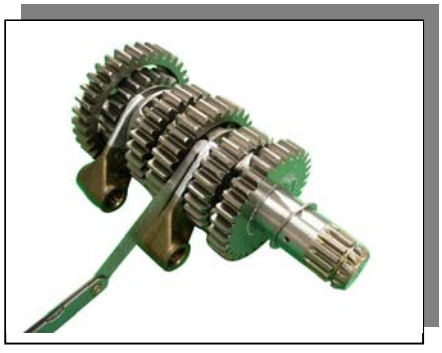
Width of Shift Fork craw

- Measure the width of Shift Fork craw with micrometer.

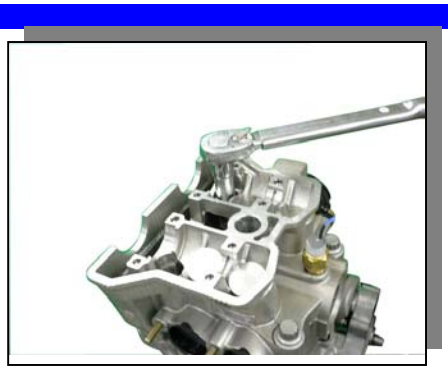
Width of Shift Fork craw	
Standard	4.93 to 5.00 mm

Clearance between Shift Fork and groove

- Measure the clearance between Shift Fork and transmission gear groove, at craw portion, with thickness gauge.



Install Cylinder Head.



- Apply oil to M11 bolts threads and washer, and then tighten them in the following procedure. [As shown in Attachment (5)]

  Fastener : M11 X 198L 4 pcs.

- Tighten M6 bolts.

  Tightening Torque: 9 - 11 N-m
  Fastener : M6 X 40L 2 pcs.

Install Chain Lever with pivot bolt.

  Tightening Torque: 13.5 – 16.5 N-m
  Fastener : M8 X 22.5L Pivot bolt 1 pc.

- Put Timing Chain from the Cylinder Head side and set in position as shown in Attachment (2).

- Fit Crank Sprocket with the chamfer portion inside and with each spline aligned

ATTACHMENT (3)
Matrix Table

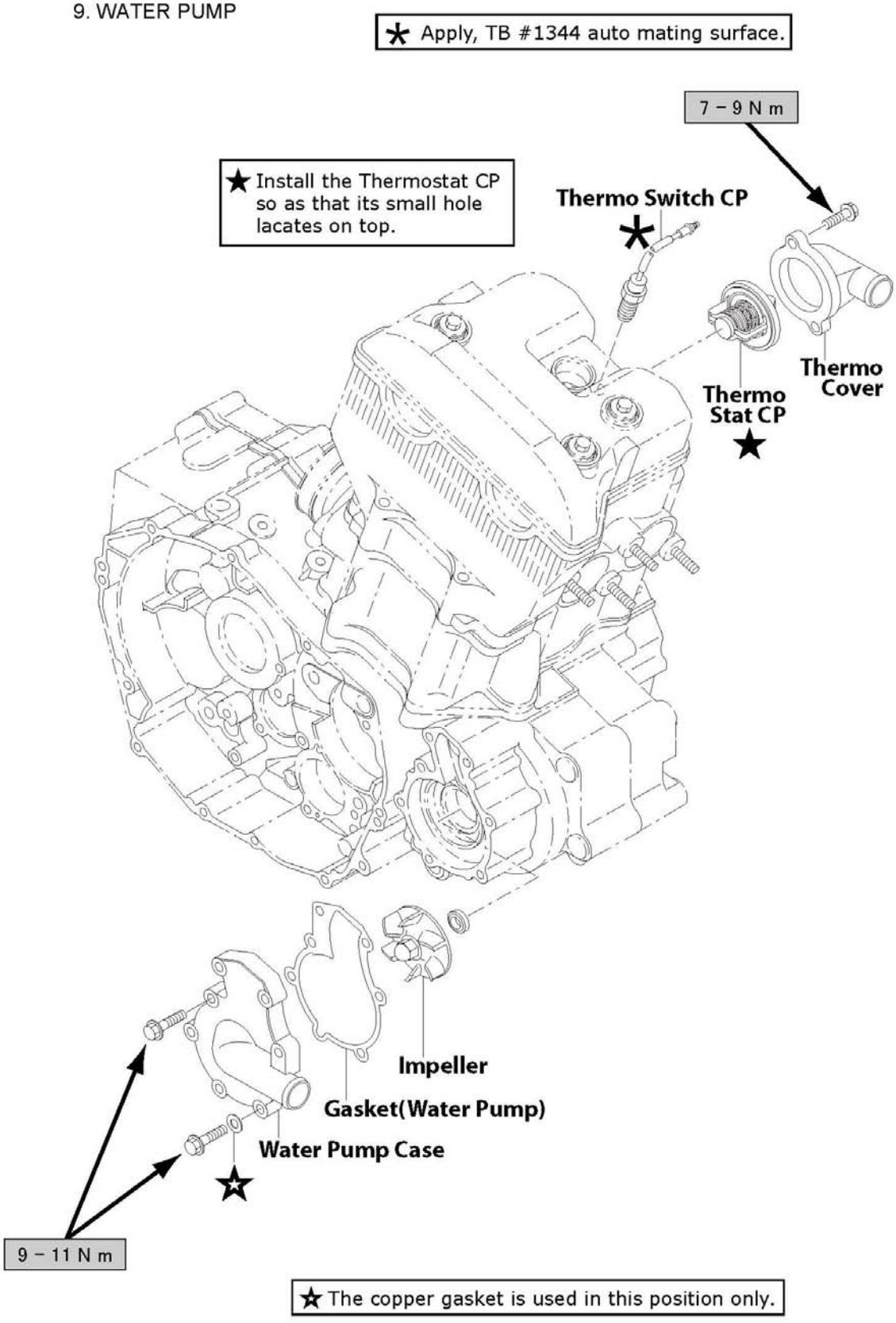
<Intake-Adjusting Pad Selection Matrix>

Valve Clearance Before Adjusting (mm)	Existing Adjusting Pad Marking (numeral mark w/3 digits on Adjusting Pad)																														
	145	150	155	160	162	165	167	170	172	175	■	180	182	185	187	190	192	195	197	200	202	205	207	210	212	215	220	225	230		
	Suitable Adjusting Pad Marking (numeral mark w/3 digits on Adjusting Pad)																														
0.00-0.04			145	150	150	155	155	160	160	152	165	167	170	172	175	177	180	182	185	187	190	192	195	197	200	202	207	212	220		
0.05-0.09		145	150	155	155	160	160	162	165	167	170	172	175	177	180	182	85	187	190	192	195	197	200	202	205	207	212	220	225		
0.10-0.20(=standard)	Existing Adjusting Pad = Suitable Adjusting Pad																														
■	155	160	162	167	170	172	175	177	180	182	■	187	190	192	196	197	200	202	205	207	210	212	215	220	220	225	230				
0.26-0.30	160	162	167	172	175	177	180	182	185	187	190	192	195	197	200	202	205	207	210	212	215	220	220	225	225	230					
0.31-0.35	162	167	172	177	180	182	185	187	190	192	195	197	200	202	205	207	210	212	215	220	220	225	225	230	230						
0.36-0.40	167	172	177	182	185	187	190	192	195	197	200	202	206	207	210	212	215	220	220	225	225	230	230								
0.41-0.45	172	177	182	187	190	192	195	197	200	202	205	207	210	212	215	220	220	225	225	230	230										
0.46-0.50	177	182	187	192	195	197	200	202	205	207	210	212	215	220	220	225	225	230	230												
0.51-0.55	182	187	192	197	200	202	205	207	210	212	215	220	220	225	225	230	230														
0.56-0.60	187	192	197	202	205	207	210	212	215	220	220	225	225	230	230																
0.61-0.65	192	197	202	207	210	212	215	220	220	225	225	230	230																		
0.66-0.70	197	202	207	212	215	220	220	225	225	230	230																				
0.71-0.75	202	207	212	220	220	225	225	230	230																						
0.76-0.80	207	212	220	225	225	230	230																								
0.81-0.85	212	220	225	230	230																										
0.86-0.90	220	225	230																												
0.91-0.95	225	230																													
0.96-1.00	230																														

<Exhaust-Adjusting Pad Selection Matrix>

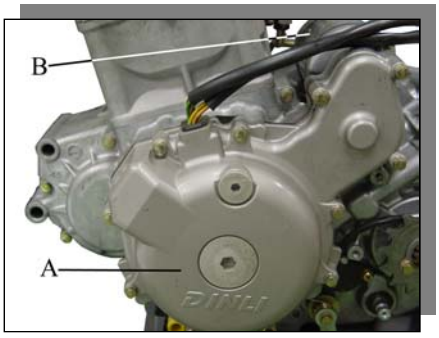
Valve Clearance Before Adjusting (mm)	Existing Adjusting Pad Marking (numeral mark w/3 digits on Adjusting Pad)																														
	145	150	155	160	162	165	167	170	172	175	■	180	182	185	187	190	192	195	197	200	202	205	207	210	212	215	220	225	230		
	Existing Adjusting Pad = Suitable Adjusting Pad																														
0.02-0.06						145	145	150	150	155	155	160	160	162	165	167	170	172	175	177	180	182	185	187	190	192	197	202	207		
0.07-0.11				145	145	150	150	155	155	160	160	162	165	167	170	172	175	177	180	182	185	187	190	192	195	197	202	207	212		
0.12-0.16			145	150	150	155	155	160	160	162	165	167	170	172	175	177	180	182	185	187	190	192	195	197	200	202	207	212	220		
0.17-0.21		145	150	155	155	160	160	162	165	167	170	172	175	177	180	182	185	187	190	192	195	197	200	202	205	207	212	220	225		
0-22-0.32	Std.																														
■	155	160	162	167	170	172	175	177	180	182	■	187	190	192	195	197	200	202	205	207	210	212	215	220	220	225	230				
0.38-0.42	160	162	167	172	175	177	180	182	185	187	190	192	195	197	200	202	205	207	210	212	215	220	220	225	225	230					
0.43-0.47	162	167	172	177	180	182	185	187	190	192	195	197	200	202	205	207	210	212	215	220	220	225	225	230	230						
0.48-0.52	167	172	177	182	185	187	190	192	195	197	200	202	205	207	210	212	215	220	220	225	225	230	230								
0.53-0.57	172	177	182	187	190	192	195	197	200	202	205	207	210	212	215	220	220	225	225	230	230										
0.58-0.62	177	182	187	192	195	197	200	202	205	207	210	212	215	220	220	225	225	230	230												
0.63-0.67	182	187	192	197	200	202	205	207	210	212	215	220	220	225	225	230	230														
0.68-0.72	187	192	197	202	205	207	210	212	215	220	220	225	225	230	230																
0.73-0.77	192	197	202	207	210	212	215	220	220	225	225	230	230																		
0.78-0.82	197	202	207	212	215	220	220	225	225	230	230																				
0.83-0.87	202	207	212	220	220	225	225	230	230																						
0.88-0.92	207	212	220	225	225	230	230																								
0.93-0.97	212	220	225	230	230																										
0.98-1.02	220	225	230																												
1.03-1.07	225	230																													
1.08-1.12	230																														

9. WATER PUMP

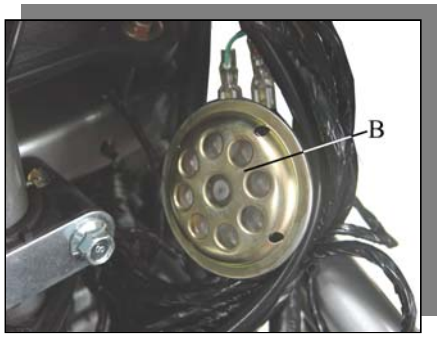

★ Apply, TB #1344 auto mating surface.
7 – 9 N m
★ Install the Thermostat CP so as that its small hole lacates on top.
Thermo Switch CP
Thermo Cover
Thermo Stat CP
Impeller
Gasket(Water Pump)
Water Pump Case
9 – 11 N m
☆ The copper gasket is used in this position only.

Regulator/Rectifier [G]

Magneto CP [A]
Starter Motor [B]



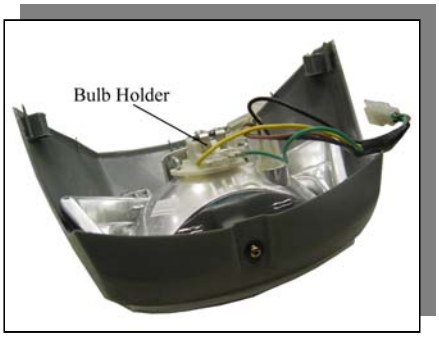
Horn [B]



Temperature Sensor[C]

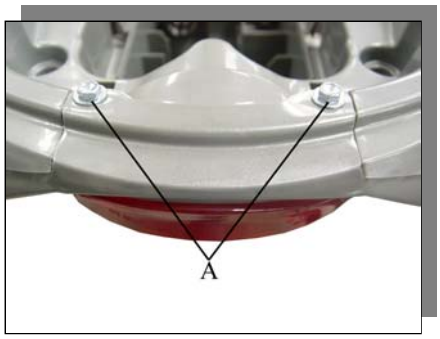
Lighting System

Headlight Bulb Replacement

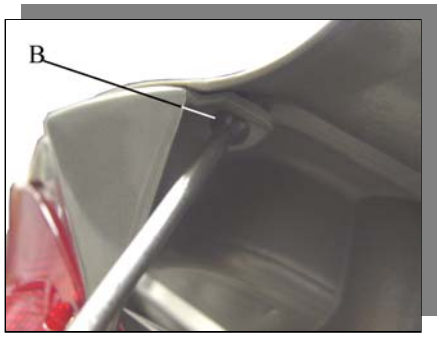


- ● Remove:
  - Headlight Unit. (See Frame Removal Chapter)
  - Bulb Holder
- ● Slide back the dust protection , and remove the bulb from the headlight unit.
- ○ Turn the holder counterclockwise and pull it out.
- ● Be sure the socket is clean.
- ● Insert the new bulb by aligning the tang with the notch in the headlight unit.
- ● Push the holder in, turn it clockwise, and release it, it should lock in position.
- ● Fit the dust cover completely.

Taillight Bulb Replacement



- ● Remove:
  - Taillight Bracket Bolt *2 [A]
  - Taillight Bracket Screw *2 [B]
  - Taillight Unit
- ● Remove:
  - Taillight Screw *4 [C]
- ● Insert the new bulb



Indicator Bulb Replacement

- ● Remove:
  - Indicator Screw [A]
  - Indicator Lens [B]
- ● Insert the new bulb